EXPERT MEETING

"INCAPACITATING CHEMICAL AGENTS"

LAW ENFORCEMENT, HUMAN RIGHTS LAW AND POLICY PERSPECTIVES

MONTREUX, SWITZERLAND
24 TO 26 APRIL 2012

ICRC

REPORT

ICRC

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INTRODUCTION AND BACKGROUND TO THE EXPERT MEETING

The International Committee of the Red Cross (ICRC) convened a second expert meeting on so called "incapacitating chemical agents" from 24 to 26 April 2012 in Montreux, Switzerland. The meeting, "*Incapacitating chemical agents": Law enforcement, human rights law and policy perspectives*, brought together 31 government experts from 13 States, 15 independent experts and representatives from international organisations, and eight ICRC staff members with a wide range of legal, technical, medical, operational and policy expertise.

Noting the interest of some States in the development and use of certain toxic chemicals as weapons– so called "incapacitating chemical agents" – the ICRC had previously held a first expert meeting on this subject in March 2010 to assess the implications for international law. The meeting explored the variety of legal, technical, medical, ethical, and operational issues. The report was published in November 2010 and included final remarks of the ICRC highlighting specific challenges and risks associated with these weapons.[1]

The governments of Switzerland and Finland had also previously hosted a technical workshop on "incapacitating chemical agents" in September 2011 at the Spiez Laboratory in Switzerland to explore the technical aspects in more detail. The report was published in January 2012.[2] Other relevant analyses have been published by the British Medical Association[3] and the Royal Society[4] amongst others. The Scientific Advisory Board (SAB) of the Organisation for the Prohibition of Chemical Weapons (OPCW) has also addressed this topic.[5]

At the first ICRC expert meeting, the Swiss and Finnish workshop, and in subsequent consultations, many experts agreed that certain issues would benefit from further discussion and debate, and that future discussions should engage a broader range of expertise from the law enforcement and human rights law communities.

Noting this feedback, and conscious of the need for discussions to move from a legal and technical assessment of the problem to the development of policy solutions, the ICRC decided to convene this second expert meeting. The first part of the meeting allowed for consideration of additional expert contributions, including from the fields of law enforcement, human rights law and drug control law, and the second part focused on potential options for policy development at the national government level, and in relevant multilateral fora, including the Chemical Weapons Convention and its' Third Review Conference in April 2013.

The ICRC has prepared this report as an additional tool for governments in understanding the complex challenges and risks posed by interest in using toxic chemicals other than riot control agents as weapons for law enforcement. It hopes the insights provided will assist in the development of appropriate and effective policy responses to these risks.

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[1] ICRC (2010) *Report of an Expert Meeting. "Incapacitating chemical agents": Implications for international law*, *Montreux, Switzerland, 24-26 March 2010*, http://www.icrc.org/eng/resources/documents/publication/p4051.htm

[2] Spiez Laboratory (2012) *Technical workshop on incapacitating chemical agents, Spiez, Switzerland, 8-9 September 2011*, Spiez Laboratory, Swiss Federal Office for Civil Protection, January 2012, http://www.labor-spiez.ch/de/dok/hi/pdf/web_e_ICA_Konferenzbericht.pdf

[3] British Medical Association (2007) *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals*, British Medical Association, Board of Science, London, UK, May 2007, http://bma.org.uk/about-the-bma/how-we-work/professional-activities-and-special-interest/board-of-science/board-of-science-publications

[4] Royal Society (2012) *Brain Waves 3: Neuroscience, conflict and security*, Royal Society, London, UK, February 2012,http://royalsociety.org/policy/projects/brain-waves/conflict-security/

[5] E.g. Scientific Advisory Board, OPCW (2011) *Report of the sixteenth session of the Scientific Advisory Board*, SAB-16/1, 6 April 2011.

STRUCTURE OF THE REPORT

This report includes sections on each session of the expert meeting. These comprise summaries of each speaker's presentation and a summary of the ensuing discussions. The summary of each speaker's presentation has been provided by the individual speaker under their responsibility. The ICRC has taken sole responsibility for summarising the discussions.

The discussions are reported in the form of summaries of the dialogue and exchanges between participants. These summaries have been made from notes and transcriptions of the recorded sessions. The aim is to provide both the substantive content of those discussions as well as a flavour for how those discussions proceeded.

The summary provided at the beginning of Session 7 on potential policy options is a background paper that was provided to all participants prior to the expert meeting in order to facilitate policy discussions. It was prepared by Dr Ralf Trapp (International Disarmament Consultant, France) with input and guidance from the Arms Unit in the Legal Division of the ICRC.

The background paper and the policy-orientated sessions enabled a discussion of the relative risks and benefits of different policy approaches. The four broad policy options chosen by ICRC were intended to stimulate discussion. They are not necessarily the only options available and are not necessarily independent of each other. Participants were not asked to decide or agree on a particular policy approach.

The final section of the report is a 'synthesis' written by the ICRC and provided under the ICRC's responsibility. It draws on information from the two ICRC expert meetings as well as other meetings and analyses. It provides a coherent overview of the subject and explains the issue, the toxic chemicals in question, the relevant international law, the main risks, and the broad policy approaches available to States.

The ICRC's synthesis is also available as a separate publication for use by policy-makers and others. It was published in September 2012 in two formats; a six page synthesis and a concise two page summary.[6]

[6] ICRC (2012) *Toxic chemicals as weapons for law enforcement: A threat to life and international law?* Synthesis and Summary, September 2012, http://www.icrc.org/eng/resources/documents/legal-fact-sheet/toxic-chemicals-legal-factsheet-30-09-2012.htm

LIST OF ACRONYMS

ACHR	American Convention on Human Rights
AChHR	Arab Charter on Human Rights
ACHPR	African Charter on Human and Peoples Rights
BTWC	Biological and Toxin Weapons Convention (1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction)
BWC	see BTWC
BZ	3-quinuclidinyl benzilate, an early military "incapacitating chemical agent" that was weaponized but subsequently withdrawn from military arsenals
CNS	central nervous system
CR	dibenz-1, 4-oxazepine, a ‘tear gas’ and riot control agent
CN	chloroacetophenone, a ‘tear gas’ and riot control agent
CS	2-chlorobenzylidene malononitrile, a ‘tear gas’ and riot control agent
CWC	Chemical Weapons Convention (1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction)
ECHR	European Convention on Human Rights and Fundamental Freedoms
ECtHR	European Court of Human Rights
ECOSOC	UN Economic and Social Council
GPC	General purpose criterion, of the CWC
HRL	human rights law
ICCPR	International Covenant on Civil and Political Rights
ICRC	International Committee of the Red Cross
IHL	international humanitarian law
INCB	International Narcotics Control Board
LSD	lysergic acid diethylamide, a drug investigated as a military “incapacitating chemical agent”
NATO	North Atlantic Treaty Organization
OC	oleoresin capsicum, a riot control agent also known as ‘pepper spray’
OPCW	Organisation for the Prohibition of Chemical Weapons
PAVA	pelargonic acid vanillylamide, a riot control agent and synthetic version of OC
RCA	riot control agent
SAB	Scientific Advisory Board of the OPCW
WHO	World Health Organization

SESSION 1:
REPORTS FROM PREVIOUS MEETINGS

Speaker's summary

ICRC EXPERT MEETING. "INCAPACITATING CHEMICAL AGENTS": IMPLICATIONS FOR INTERNATIONAL LAW, MONTREUX, SWITZERLAND, 24–26 MARCH 2010

Neil Davison

Introduction

The first International Committee of the Red Cross (ICRC) expert meeting on this subject was held in March 2010 and entitled *"Incapacitating chemical agents": Implications for international law*. A report of the meeting was published by the ICRC in November 2010.[1]

The meeting and the report covered various aspects of the subject of so called "incapacitating chemical agents" including: history of interest and use; human impact and technical feasibility; ethical issues; operational contexts of use; implications for international law; and strategies for addressing negative implications. The ICRC prepared summary points of discussions and some final remarks regarding the risks and challenges associated with "incapacitating chemical agents" from the perspective of the ICRC.

In the background paper prepared by ICRC in advance of that meeting, and during the meeting itself, four main themes emerged as pertinent to any discussion of "incapacitating chemical agents": definitions, legality, feasibility and desirability. These themes link previous discussions, at the 2010 expert meeting and in other meetings and analyses, with the presentations and discussions at this second ICRC expert meeting in 2012.

The following comments summarise some of the outcomes of discussions to date under the four themes.

Definitions

It was acknowledged at the first ICRC expert meeting that there is no internationally agreed definition of an "incapacitating chemical agent". Indeed, this is one reason why the ICRC always places the phrase in quotation marks.

In a sense, it is easier to describe what we are *not* talking about. It is clear that this issue is not about riot control agents such as CS, CN, oleoresin capsicum (OC), and PAVA. Riot control agents generally cause victims to disperse or be temporarily compromised by the pain and irritation they cause to the eyes, skin and mucous membranes. Their effects generally disappear a short time after exposure and victims normally recover without the need for medical attention.

[1] ICRC (2010) *Report of an Expert Meeting. "Incapacitating chemical agents": Implications for international law, Montreux, Switzerland, 24-26 March 2010*, http://www.icrc.org/eng/assets/files/publications/icrc-002-4051.pdf.

In contrast, the chemicals that have been used or proposed for use as incapacitating weapons in contemporary law enforcement (which are mostly anaesthetic and sedative chemicals) cause victims to collapse and become more vulnerable to their immediate environment due to their degrading effects on the brain and central nervous system. The effects are longer lasting and victims will require medical attention, and perhaps specific antidotes, to recover. Even with medical attention victims may still die or suffer permanent disability, such as brain damage.

One conclusion from the first ICRC expert meeting is that all of these so called "incapacitating chemical agents" are considered as toxic chemicals under the Chemical Weapons Convention (CWC). A real question that arises, then, for our continued discussions is: *Do "incapacitating chemical agents" exist?* This question is not meant in terms of the feasibility of using these types of toxic chemicals as weapons (see *feasibility*). It is meant both from a legal and a technical perspective. I.e. can they be defined distinctively?

From a legal perspective under the CWC there is a clear division between riot control agents which are specifically defined[2], and all other toxic chemicals[3], whatever their intended or actual effects (lethal or incapacitating), and whatever their label - "chemical warfare agent", "incapacitating chemical agent", "knock-out gas", or "calmative".

From a scientific and technical perspective, and this is something that has emerged at the first ICRC expert meeting and further at a 2011 technical workshop held by the Swiss and Finnish governments, there is no dividing line between a toxic chemical that may be called a "chemical warfare agent" and one that is described as an "incapacitating chemical agent". There is no dividing line between a "lethal" agent and an "incapacitating" agent. In fact, some anaesthetic chemicals considered for use as "incapacitating chemical agents" are as toxic as some chemical warfare agents.

A discussion of definitions, therefore, leaves us with a very strange contradiction. That is, in discussing the use of "incapacitating chemical agents" for law enforcement, we are discussing the possibility that it might be acceptable to develop and use toxic chemicals, which may be as deadly as chemical warfare agents, as weapons for law enforcement and policing.

Legality

There has also been significant discussion to date about the legality of "incapacitating chemical agents" under international law. There is an absolute prohibition on the use of any toxic chemical as a weapon in armed conflict under the 1925 Geneva Protocol, the 1993 CWC, and customary international humanitarian law.[4] This includes any toxic chemical described as an "incapacitating chemical agent", which was made clear at the first ICRC expert meeting.

Where there is less clarity is whether the use of toxic chemicals (other than riot control agents) as weapons for law enforcement can be legitimate under international law, bearing in mind discussions about definitions and the lack of distinction between "incapacitating" agents and "lethal" agents.

[2] Chemical Weapons Convention, article II.7, defining riot control agents as: "Any chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure."
[3] Chemical Weapons Convention, article II.2, defining a toxic chemical as: "Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals."
[4] This also includes a prohibition on the use of riot control agents as a method of warfare.

It is clear that riot control agents, as defined specifically in the CWC, are legitimate weapons for law enforcement. However, discussions at the first ICRC expert meeting highlighted the need to further clarify whether other toxic chemicals, including "incapacitating chemical agents", are legitimate under the CWC.

Here there are differing views. Some take the view that the use of toxic chemicals as weapons for "law enforcement including domestic riot control purposes"[5] is limited to riot control agents. Others argue that a wider range of toxic chemicals, including "incapacitating chemical agents", may be permissible. This issue will be further explored during this second ICRC expert meeting with a discussion of what is understood by the "types and quantities" of toxic chemicals that may be consistent with use as weapons for law enforcement.

Another uncertainty raised at the first ICRC expert meeting is what is meant by law enforcement, not only under the CWC but also from a broader perspective. This raises a number of questions that will be explored at this second expert meeting including: How is law enforcement understood by different actors, and how do you distinguish in practice given the often blurred boundaries between law enforcement, peacekeeping, counter-terrorism, and counter-insurgency operations? Which law applies – international humanitarian law or international human rights law – and when?

An initial discussion at the first ICRC expert meeting illustrated that the CWC is not the only body of international law with implications for the legality of using toxic chemicals as weapons for law enforcement. There are least three other legal regimes to consider, which are to be explored in greater detail at this second meeting.

Firstly, there is international human rights law, which governs the use of force and firearms for law enforcement. Secondly, with some speculation about the use of certain biological agents, such as peptides, as "incapacitating agents", there is the Biological and Toxin Weapons Convention (BWC). And thirdly, there are the international treaties that regulate the availability and use of certain narcotic drugs and psychotropic chemicals, a number of which have been considered or used as weapons for law enforcement.

Feasibility

Another theme discussed in some detail at the first ICRC expert meeting is the issue of feasibility. That is, the feasibility of developing a toxic chemical as an "incapacitating chemical agent" that, when used in a tactical situation, causes rapid onset of incapacitation in those targeted with a very low – or zero – level of lethality across a broad range of individuals, and with a very low risk of permanent disability.

A finding from the first ICRC expert meeting was that, despite systematic attempts at development by various countries dating back to the late 1940s, no such safe "incapacitating chemical agent" exists.

What was clear is that any large scale use of these toxic chemicals as "incapacitating chemical agents" will inevitably result in deaths and other injuries, including long term effects such as brain damage. There are many factors that contribute to these dangers including the risk of overdose, airway obstruction, and variations in the target groups health and age. These factors are compounded by the inability to control the amount of chemical received by the victims and the inability to provide continuous medical care, as would be provided when such chemicals (or drugs) are used in medical anaesthesia practice.

[5] Chemical Weapons Convention, article II.9(d).

Discussion of these scientific and technical issues was taken forward in a subsequent technical workshop held by the Swiss and Finnish governments in September 2011, which reviewed these issues in some detail, looking at foreseeable advances in science and technology. We will hear some of the additional findings from this technical workshop at this second meeting.

Given that scientific and technical discussions about feasibility have now been explored in some detail, this second ICRC expert meeting will take as a starting point the fact that there is no such thing as a safe "incapacitating chemical agent". This will enable further discussion of operational issues, legal issues, and policy issues to be based around the known scientific and technical realities – and associated dangers – of using anaesthetic or sedative chemicals as tactical weapons for law enforcement.

Desirability

The final theme raised in preparation for the first ICRC expert meeting is the one that has perhaps received the least attention in discussions to date but it is the theme that gets to the heart of the issue: the desirability of using certain toxic chemicals, including "incapacitating chemical agents", as weapons for law enforcement.

Considerations and conclusions about *definitions*, *legality* and *feasibility* must be incorporated into an assessment that balances any perceived benefits of "incapacitating chemical agents" as weapons for law enforcement against the potential risks posed by their acquisition and use. This then will determine their *desirability*.

In the final comments published in the report of the first expert meeting, the ICRC highlighted a number of risks and challenges associated with the development and use of "incapacitating chemical agents" as weapons for law enforcement. In addition to the serious dangers to life and health, there are four broader risks that should be considered during our discussions.

The first, and major risk, is that the development and use of "incapacitating chemical agents" will undermine the norm against poisoning and the international prohibition of chemical weapons by enabling the re-emergence of the use of toxic chemicals as weapons as a legitimate activity in the conduct of hostilities. With convergence of chemistry and biology this risk could extend to the BWC as well as the CWC.

The second is the risk of proliferation, both within countries and within a wider group of countries, of research, development, stockpiling and use of toxic chemicals (other than riot control agents) as weapons – weapons that are absolutely prohibited in armed conflict – under the banner of law enforcement. And where, even for law enforcement, users of these weapons are likely to be special forces units or military forces rather than traditional law enforcement entities. This proliferation could also extend to criminal and non-state groups.

Third is the increased likelihood that chemical weapons, whether incapacitating or lethal, will find their way back into the conduct of hostilities in armed conflict. This risk is heightened for a number of reasons: the fluid nature of some situations within an armed conflict, which can move rapidly between law enforcement conduct of hostilities; the many incidences, especially during non-international armed conflicts, when it is disputed whether use of force is part of law enforcement or the conduct of hostilities, and where law enforcement carries different meanings for different actors; and the increasing prevalence of military forces carrying out law enforcement-type functions and operations.

Fourth is that any programmes to develop and use these toxic chemicals as weapons for law enforcement will, by default, establish a pathway for the application of scientific advances to the development of new chemical weapons. This would be a classic example of the 'dual-use' problem where scientific research for beneficial civil health purposes will be used to cause harm; drugs will be used as weapons instead of treatments.

Ultimately the question of desirability is a question of policy, although informed by law and science. That is why a large part of this second ICRC expert meeting will be devoted to considering and discussing the risks, benefits and implications of different national policy choices that are available to States on the issue of "incapacitating chemical agents", as well as the opportunities for policy development at the multilateral level.

All these discussions we hope will inform assessments of the desirability of "incapacitating chemical agents" at the national policy level. They will also inform the ICRC's own analysis and conclusions.

Speaker's summary

TECHNICAL WORKSHOP ON INCAPACITATING CHEMICAL AGENTS, SPIEZ, SWITZERLAND, 8–9 SEPTEMBER 2011; "GOOD TO KNOW"

Stefan Mogl

Introduction

This second expert meeting by the International Committee of the Red Cross (ICRC) within two years on the subject of "incapacitating chemical agents" demonstrates that the discussion has gained momentum. A number of activities within the past five years have contributed to this: Bradford University released a substantive report[6] on "incapacitating chemical agents" in 2007 and The British Medical Association issued a report on medical ethics in relation to "incapacitating chemical agents"[7] in the same year. Switzerland introduced a nine thesis paper[8] on "incapacitating chemical agents" and riot control agents (RCA) in 2008 to the second Review Conference of the Chemical Weapons Convention (CWC). Bradford University[9] published a further substantive review of the issue in 2009 and the ICRC held its first expert meeting with a focus on the implications of "incapacitating chemical agents" for international law in 2010[10]. The OPCW Scientific Advisory Board started discussing "incapacitating chemical agents" during 2011[11]. In the same year SPIEZ LABORATORY[12] together with VERIFIN[13] hosted a technical workshop on "incapacitating chemical agents"[14] and just recently, in 2012, The Royal Society issued its report on neuroscience in relation to "incapacitating chemical agents"[15].

The various discussions and reports have shown that using toxicological properties of chemicals to incapacitate people for law enforcement purposes must be addressed under ethical, regulatory, legal and policy perspectives. In order to hold informed discussions however, some underlying technical realities must be taken into consideration. Therefore,

6 Neil Davison (2007) *'Off the Rocker' and 'On the Floor': The Continued Development of Biochemical Incapacitating Weapons*. Bradford Disarmament Research Centre (BDRC), Department of Peace Studies, University of Bradford, UK, August 2007, http://www.brad.ac.uk/acad/nlw/research_reports/docs/BDRC_ST_Report_No_8.pdf.
7 British Medical Association (2007) *The use of drugs as weapons, The concerns and responsibilities of healthcare professionals*. British Medical Association, Board of Science, London, UK, May 2007, http://bma.org.uk/about-the-bma/how-we-work/professional-activities-and-special-interest/board-of-science/board-of-science-publications.
8 Switzerland (2008) *Riot Control Agents and Incapacitating Agents under the Chemical Weapons Convention*, OPCW, RC-2/NAT.12, 9 April 2008.
9 Michael Crowley (2009) *Dangerous Ambiguities: Regulation of Riot Control Agents and Incapacitants under the Chemical Weapons Convention*. Bradford Non-lethal Weapons Research Project, University of Bradford, UK, October 2009, http://www.brad.ac.uk/acad/nlw/publications/BNLWRPDangerous1.pdf.
10 ICRC (2010) *Report of an Expert Meeting. "Incapacitating chemical agents": Implications for international law, Montreux, Switzerland, 24-26 March 2010*, http://www.icrc.org/eng/resources/documents/publication/p4051.htm.
11 OPCW (2011) *Report of the Sixteenth Session of the Scientific Advisory Board*, 6 April 2011, http://www.opcw.org/index.php?eID=dam_frontend_push&docID=14976.
12 Swiss NBC Defense Laboratory in the Federal office for Civil Protection, http://www.labor-spiez.ch/
13 Finish Institute for the Verification of the Chemical Weapons Convention, http://www.helsinki.fi/verifin/VERIFIN/english/.
14 Spiez Laboratory (2012) *Technical workshop on incapacitating chemical agents*, *Spiez, Switzerland, 8-9 September 2011*, Spiez Laboratory, Swiss Federal Office for Civil Protection, January 2012, http://www.labor-spiez.ch/de/dok/hi/pdf/web_e_ICA_Konferenzbericht.pdf.
15 Royal Society (2012) *Brain Waves 3: Neuroscience, conflict and security*, Royal Society, London, UK, February 2012, http://royalsociety.org/policy/projects/brain-waves/conflict-security/.

under the title “Good to know” the following text summarizes some of the results from the technical workshop held in Spiez.

What are “incapacitating chemical agents”?

The term “incapacitating chemical agent” has a different meaning depending on who is using it and in what context. One can describe toxicological effects that will lead to incapacitation – the lack of ability to perform – but agent effects and the intensity of such effects are always dose dependent. The general understanding is that “incapacitating chemical agents” will cause incapacitation by acting on the central nervous system (CNS). Different toxicological effects and potential agent target sites, as well as potential classes or groups of chemicals that could cause incapacitation have been mentioned in publications. However, no specific agent or group of chemicals has been officially proposed or is publicly known as “incapacitating chemical agents” today. While attempts for a definition of “incapacitating chemical agents” have been undertaken many agree that a scientifically sound technical definition of “incapacitating chemical agents” – to differentiate them as “less lethal” toxic chemicals – cannot easily be made (some agents that were discussed as potential “incapacitating chemical agents” seem to be more toxic than certain classic chemical warfare agents). Furthermore, it is not the toxicity alone that makes a substance suitable as “incapacitating chemical agents”. Other criteria, such as dose control ability and the context of use may take priority over the toxicological properties of a substance.

In the context of the CWC, a separate definition for “incapacitating chemical agents” is not required because “incapacitating chemical agents” fall under the definition of toxic chemicals[16] and consequently their use is prohibited except for activities not prohibited by the Convention. “Incapacitating chemical agents” can be differentiated from RCA however: while “incapacitating chemical agents” are toxic chemicals that typically act on the CNS, RCA’s main target is the peripheral nervous system. Furthermore, the CWC contains a separate definition for RCA[17] and puts them under a different legal regime.[18]

The emergence of future “incapacitating chemical agents” intended for law enforcement purposes will largely depend on progress achieved in the research of high potency substances for medicinal purposes. Important in this context are also developments related to the dissemination and application of such substances. Certain research activities conducted for medicinal purposes have therefore – regarding the development of “incapacitating chemical agents” – the potential for dual use.

Considerations of effects

“Incapacitating chemical agents” (will) typically act on the CNS, but any effect is dose dependent. Important for the intensity of an effect is not just the agent concentration achieved in the blood stream but the concentration of the active ingredient at its target site. The agent has to enter a person’s body (by inhalation, transdermal, orally), enter the blood stream, pass through the blood brain barrier to become active in the CNS, and then, reach the target receptor site at the right concentration to cause the intended incapacitating effect(s). Any agent – including “incapacitating chemical agents” – will have side effects. A range of effects should be expected from a drug acting on the CNS especially when considering the complexities of interaction, the pharmacokinetics of an “incapacitating chemical agent” and the metabolic processes that may affect the toxicological properties of

16 Chemical Weapons Convention, article II.2.
17 Chemical Weapons Convention, article II.7.
18 Chemical Weapons Convention, article I.5; article III.1(e).

the chemical. Important to consider is the significant variability in the effects of an agent or drug due to individual susceptibility. Many factors affect the response at the level of the individual, including sex, age, medical predisposition, current health status, etc. Furthermore, it is known from therapeutic drugs that their symptomatology may be affected if they are taken involuntarily. Therefore, the fact that use of an "incapacitating chemical agent" would be non-consensual may cause unexpected effects. A further factor to be considered would be the effects of a 'carrier substance', in case the "incapacitating chemical agent" was distributed with the help of another substance (i.e. in an aerosolized solvent). In conclusion, the problems posed for any possible "incapacitating chemical agents" are the complexity of the chemical actions of the agent in the body, potentially high inter-personal variability and the variability of an individual's response depending on particular circumstances of usage and the current predisposition of the individual, which are unknown to the user of the "incapacitating chemical agents". Skepticism therefore remains whether a 'generally acceptable' agent can be developed with regards to its negative side effects. Whereas 'acceptable' refers to the average rate of people that could be seriously harmed in an incident where the agent was used.

Considerations of use

When attempting a 'knock out' effect with an agent, the challenges are significant because the objective is to provide anesthesia in the field – an activity generally performed in a medical facility under continuous medical supervision. Furthermore, it is not possible to achieve an even distribution of an agent under field conditions and therefore no accurate prediction can be made about the actual dose of an agent a person will receive. This is why over-dosing is a typical occurrence when an agent is used in the field, as is known to happen during field use of RCA. Consequently, an agent for field use will require a very high safety margin in relation to its toxicological effects.

For field use of an agent – outside of medically-controlled circumstances – the issue of safety is much wider than just ensuring a wide therapeutic window for an agent. There are a number of medical issues related to the safe administration of an agent, as well as to the management of complications. This includes the availability of a potential antidote in sufficient amounts and its correct administration, as well as the availability of sufficient personnel at the site of agent release that have been properly trained in the handling of complications.

Any application of an agent in the field requires a suitable distribution or delivery system. There are delivery systems developed and available today for 'non-lethal' payloads that vary greatly in size, payloads and delivery ranges. An interpretation of the types and quantities restriction in the CWC[19] may therefore be critical to the debate, also in relation to the CWC prohibition regarding the development and possession of chemical weapons, as well as military preparation for their use. This furthermore raises the question, whether one can draw a clear line between weapons for military purposes vs. weapons for law enforcement purposes?

A decision to develop, deploy and use "incapacitating chemical agents" would have to be preceded by a risk assessment (performed by whom?). Such risk assessment amongst other things would have to answer when and how to use "incapacitating chemical agents" and what type of risk and how much of a particular risk would be deemed acceptable. Utilization of "incapacitating chemical agents" in the field will lead to casualties including long term damage as well as fatalities. Where would be the 'cut-off' point for an 'acceptable' number of casualties to justify the use of an "incapacitating chemical agent"? Casualties caused by an

19 Chemical Weapons Convention, article II.1.

“incapacitating chemical agent” during a law enforcement operation are likely to trigger cases of litigation. Will the risk of litigation influence the law enforcement community in its acceptance of “incapacitating chemical agents”? Is there a similar risk for litigation for military forces that have been assigned a law enforcement responsibility, and, will this affect their acceptance of “incapacitating chemical agents” in a similar manner? A risk assessment will also have to consider that, should “incapacitating chemical agents” be developed, stockpiled and used, their proliferation to a range of actors will be unavoidable.

The development of a potential “incapacitating chemical agent” has parallels to the development of a therapeutic drug and must balance between desired vs. adverse effects, solve the problem of how to exercise dose control responsibility, and address drug safety etc. Similar regulations would therefore apply to the development of “incapacitating chemical agents” as to the development of pharmaceuticals, including transparency of the process to allow for public scrutiny and hence acceptability.

There is a need for a full spectrum of possible means to respond in the hands of law enforcement. In light of new roles taken on by military forces in the form of peacekeeping operations and similar scenarios, where is the borderline between law enforcement and combat use, can they be clearly distinguished in today’s security environment? While proponents of “incapacitating chemical agents” ‘claim’ that such agents offer a capability between persuasion and lethal force, traditional law enforcement organizations have yet to take a public stance on their requirement for “incapacitating chemical agents”.

In conclusion, from a technical perspective “incapacitating chemical agents” are toxic chemicals that cause effects based on their toxicological properties (the use of such agents must therefore be in line with the provision of the CWC). The extent to which such effects are harmful or fatal will depend on the dose, an individual’s susceptibility and emergency response measures as described above.

SESSION 1 DISCUSSION

Problems with definitions

The discussion among participants following these two presentations focused on definitions, and whether it is necessary, desirable, or even possible to define "incapacitating chemical agents". Some participants thought that an agreed definition would be useful in order to provide clarity on the topic for discussion. It was suggested this would help avoid misunderstandings, both at the meeting itself and in explaining the issue to a wider audience.

However, others argued that we should be cautious in attempting to define "incapacitating chemical agents". It was noted that from a legal perspective "incapacitating chemical agents" do not exist. The Chemical Weapons Convention (CWC) does not provide a definition of "incapacitating chemical agents" but it does distinguish riot control agents from all other toxic chemicals. Therefore, under the Convention, "incapacitating chemical agents" are considered as "toxic chemicals".

From a technical perspective, one participant noted that during the negotiation process for the CWC it was not possible to separate toxic chemicals that might be considered "lethal" from those that might be considered "incapacitating". This is something that has been reiterated in recent technical discussions

Some participants thought that a precise definition of "incapacitating chemical agents" would only be required if States decided to regulate them. It was suggested that it was too early to agree a specific definition as there is still a lack of clarity on the legitimacy of using these toxic chemicals as "incapacitating chemical agents" under international law. A parallel was drawn with the establishment of the Schedules of controlled chemicals in the CWC. When these lists were agreed, it was necessary to determine the rules applying to each Schedule before agreeing which chemicals would be placed on each Schedule.

A number of participants noted that, even if it was too soon to have a precise definition of "incapacitating chemical agents", there are other ways of setting boundaries in order to have clarity about the scope of the discussion.

Existing definitions

Several participants highlighted the NATO definition of an "incapacitating agent"[20], which focuses on the potential effects of the chemicals. The definition emphasises the distinction between riot control agents, the effects of which disappear within a short time following exposure, and "incapacitating chemical agents", whose effects last for hours or days.[21] It was

[20] See: NATO (2012) *NATO Glossary of Terms and Definitions, AAP-006 (2012)*, NATO Standardization Agency, 2012, p 2-I-2, defining "incapacitating agent" as: "A chemical agent which produces temporary disabling conditions which (unlike those caused by riot control agents) can be physical or mental and persist for hours or days after exposure to the agent has ceased. Medical treatment, while not usually required, facilitates a more rapid recovery."

[21] Editor's note: At the first ICRC expert meeting the ICRC noted that the NATO definition of an "incapacitating agent" is in fact not consistent with use of anaesthetic agents as "incapacitating chemical agents" because of the requirement for medical treatment. See: ICRC (2010) *Report of an Expert Meeting. "Incapacitating chemical agents": implications for international law, Montreux, Switzerland, 24-26 March 2010,* p 5, "The NATO definition of an incapacitant indicates that medical treatment is "not usually required" although it "facilitates a more rapid recovery" from the effects that may "persist for hours or days after exposure to the agent has ceased". This is inconsistent with the medical use of anaesthetic agents. Accordingly, any proposal to use anaesthetic agents as

noted that an additional useful distinction is that a person can flee the use of riot control agents but not an "incapacitating chemical agent". Many participants agreed that it would be useful to emphasise this distinction from riot control agents as a negative component of any definition of "incapacitating chemical agents" (i.e. they are not riot control agents).[22]

It was also noted that contemporary interest in the use of toxic chemicals as weapons for law enforcement also provides a basis for discussions. This has focused on acquiring a capability to render people unconscious with particular attention to using certain classes of anaesthetic and sedative chemicals, including opioid analgesics (e.g. fentanyl and derivatives), benzodiazepines (e.g. midazolam), and alpha-2 adrenergic agonists (e.g. dexmedetomidine).

Another participant added that it may also be necessary to consider the situations in which different chemicals may be used because a higher level of fatalities may be accepted in some extreme situations but not in general law enforcement situations. It was noted that the "types and quantities" of chemicals and their means of delivery are also important factors. A parallel was drawn with past consideration of riot control agents for law enforcement. For example, in the United Kingdom the use of CR, a riot control agent with more severe effects than CS, was considered acceptable in hand-held sprays that could be targeted but unacceptable if delivered over a wide area where it may affect a wide group of people including those who were not being targeted.

Scope of the discussion

In summary, several elements emerged as setting the bounds for subsequent discussions at the expert meeting:

- "Incapacitating chemical agents" are toxic chemicals under the CWC;
- "Incapacitating chemical agents" are not riot control agents;
- "Incapacitating chemical agents" have effects that make a person collapse and fall-down, and exposure carries a significant risk of death or permanent injury;
- "Incapacitating chemical agents" that have been investigated are primarily anaesthetic and sedative chemicals.

"incapacitating chemical agents" would seem to require different anaesthetic agents from those currently available, as well as agents that can be safely, or relatively safely, deployed at a distance against multiple individuals, all with their unique states of health and physiologies."

[22] One risk with excluding riot control agents from the discussion was also mentioned. That is the possibility that certain "incapacitating" chemicals may be developed and promoted as 'new riot control agents'.

SESSION 2:
LAW ENFORCEMENT PERSPECTIVES

Speaker's summary

INTRODUCTION OF NEW WEAPONS FOR LAW ENFORCEMENT: THE ASSESSMENT PROCESS AND ISSUES THAT WOULD BE RAISED BY "INCAPACITATING CHEMICAL AGENTS"

Colin Burrows[1]

The process used for the introduction of a new weapon into law enforcement

The ways in which new weapons are introduced into law enforcement differ greatly between and within countries. Although a common regulatory framework is emerging in the United Kingdom and at least one Canadian province, this is not the norm and therefore for the most part there is not a standard systematised approach to weapon selection across law enforcement. However, national threat assessments and international incidents are leading to a shift in types of weapons being acquired by law enforcement. Although there are very different processes by which weapons are introduced into service, there is a great deal of commonality in the types of weapons (including what are often referred to as less lethal weapons[2]) used in law enforcement internationally. This is despite the fact that the nature of armed crime, the number of incidents involving armed suspects, and gun ownership vary considerably between and within nations.

The extent to which local law enforcement is the lead agency in combating armed or terrorist groups also varies considerably, as does the extent to which specialist military groups assist in internal law enforcement. Despite the commonality of clothing, weapons and tactics often used by law enforcement and military specialist tactical units, there are differences in the way each will address a similar operational task. The differences are reflective of their different skill levels based on training and operational experiences, and differing and distinct professional ethos.

There is no single process through which new weapons enter law enforcement nor do law enforcement agencies or departments conform to any one model in terms of organisational framework, governance, accountability or funding.[3] Generally, the policy, safety and ethical issues associated with less lethal weapons are more complex than those associated with the introduction of conventional firearms. Historically and currently there are wide variations in approach to weapon evaluation and selection. Drivers for changes in weapon systems include:

- An event of local, regional, national or international significance;

[1] Disclaimer: The views expressed should not be purported to represent those of any particular government or law enforcement agency.

[2] While there are a number of definitions of "less lethal weapons", the author favours the definition developed by the International Law Enforcement Forum meeting held at Pennsylvania State University in 2003: "The use of technologies, weapons and tactics, which are less likely to result in death or serious injury than conventional firearms". It also is the authors' view that every use of force has lethal potential and the concept of "less lethal" should not ordinarily be separated from firearms and other tactical options.

[3] For example there are approximately 17,000 law enforcement agencies in the US alone, 90% of which have fewer than 24 officers.

- As a result of commissions or reviews relating to weapon use.

Since 9/11 law enforcement has increasingly been seen as the first responders to terrorist events as well as to local critical incidents such as 'active shooter' situations.[4] Strategic threat assessments at the international, national and local level have increasingly been informing the training, weapons and protective equipment provided to local police departments. Drivers for change, especially in relation to less lethal weapons, have included commissions and boards of inquiry at local, regional, national and even international levels. While most law enforcement weapon approval systems do not involve direct interface at the State level two recent exceptions worthy of note are the structured approaches to weapon selection and approval in:

- 2002: UK Home Office Code on Police Use of Firearms and less lethal weapons;
- 2012: British Columbia; Provincial Policing Standards – Policy Directive, Intermediate weapons.

"Incapacitating chemical agents": Questions and issues for governments and law enforcement

Terminology used by law enforcement

The use of potent anaesthetising chemical agents such as those used during the Moscow theatre siege is not a significant area of discussion in mainstream law enforcement. This is due to the fact that most law enforcement agencies are local in nature and would not have a specialist tactical unit with the capability or capacity to address an incident on that scale without recourse to military special forces. Therefore before addressing the questions and issues that the use of an "incapacitating chemical agent" would pose for governments and law enforcement it is useful to provide a brief overview of the terminology used within law enforcement and in their discourse with government departments in relation to "incapacitating" weapons.

Peripheral sensory irritants such as CS and OC (oleoresin capsicum) are widely used within law enforcement. The use of these peripheral sensory irritants is for the most part to enable arrest by patrol officers, to force an aggressor to leave a barricaded building or to afford a tactical advantage to tactical officers entering a building during a siege or hostage situation. Their use for riot control is much rarer. The terms "incapacitating chemical agents" and "riot control agents (RCA)" as referenced in literature related to the Chemical Weapons Convention (CWC) do not form part of the lexicon of law enforcement. The phraseology in respect of less lethal weapons used within law enforcement will often be a mix of loosely defined scientific terms and descriptors of operational intent. Hence the terms, "chemical incapacitants", "less lethal chemical weapons" and "chemical incapacitant sprays" are often used by law enforcement to refer to the range of peripheral sensory irritants which are of a chemical composition and used to have in a loose sense an incapacitating affect in so far as they make it more difficult for a subject to engaging in confrontational or threatening behaviour due to the physiological effects on their respiratory systems and the well-known effects of severe eye, skin and upper respiratory tract irritation, causing tearing sneezing, coughing. While the term "incapacitating" is often used in law enforcement in relation to less lethal weapons, only taser-type technology actually provides instant incapacitation and only then at relatively close distance (under 7 meters) when two barbs successfully make contact with the subject. Consequently, there remains an interest in what tends to be referred to (in

[4] 'Active shooter' is a generic term used in law enforcement to describe a situation where one or more subjects engage in a random or systematic shooting spree with intent to continuously harm or kill others.

research proposals, papers and seminars) as "pharmaceutical based incapacitants" or "calmatives".[5]

Other differences in the terminology and language used by law enforcement as opposed to military units (and those in defence departments) include the following:

- Law enforcement does not refer to the parties caught up in an incident as 'hostiles' and 'non-hostiles' or those affected by use of their weapons as 'victims';
- The descriptors used by law enforcement tend to be: 'suspects', 'aggressors' or 'subjects'; and 'bystanders', 'captives' and 'the public'.

Strategic questions that governments and law enforcement agencies should address

If a chemical agent of any sort was being considered by law enforcement the following strategic questions should be considered by law enforcement officials and potentially by governments:

- Does the weapon which law enforcement is seeking to acquire contain a toxic chemical as defined by the CWC?
- What confidence has the government that the weapon system will be used responsibly and in accordance with operational guidance issued?
- How would acquisition impact on public confidence?
- What 'accountability' and 'oversight' measures are in place?
- What medical assessment of the short and long term medical implications of the weapon system is being proposed?
- Will the medical assessment of the injury and health implications withstand international scrutiny?
- If progressed, can the "incapacitating chemical agents" be obtained, stored and used lawfully in accordance with the CWC restrictions?
- What import control and export restrictions would be pertinent to the chemical weapon system?

If the chemical agent was determined to be a "toxic chemical" as defined by the CWC a key issue would be to determine what the chemical agent was intended to do and why does law enforcement require such a weapon. This would normally be addressed by way of a documented operational capability gap and operational requirement. The following points are relevant:

- Death of a subject can never be a legitimate objective of law enforcement action.[6] It may, however, be an inevitable consequence of certain types of intervention especially those involving the use of firearms. However, once the threat has been neutralized, every effort must be made to preserve life should the subject on whom force has been used survive the initial encounter.
- Apart from conventional ammunition, only taser type weapons offer anything approaching predictable incapacitation. Safe and effective incapacitation using electronic control weapons is currently restricted and limited by range and environment.[7]

[5] For example see: Weiss, D (2008) Calming Down: Could Sedative Drugs Be a Less-Lethal Option? *NIJ Journal*, No 261, October 2008, NCJ 224090, http://www.nij.gov/journals/261/calmatives.htm.
[6] See Patrick, U (1989) Handgun Wounding Factors and Effectiveness. FBI Academy Firearms Training Unit,: http://www.firearmstactical.com/pdf/fbi-hwfe.pdf.
[7] With 'wired' taser-type devices distance is limited by the length of the wires and accurate range over which barbs can be propelled. Inflammable or explosive environments represent high risk environments for use of electrical weapons.

- Currently instant incapacitation,[8] when operationally necessary, can only be achieved by creation of devastating physical injury sufficient to cause immediate disruption of the central nervous system, i.e. what is termed the 'critical shot(s)',[9] usually to the head.

Other relevant questions, therefore, would be: Is the "incapacitating chemical agent" required for immediate incapacitation (in a time scale similar to that achieved by a taser-type technology) as an alternative to a critical (and inevitably fatal) head shot(s)? What level of risk of fatal outcome would be tolerable if this was ever achievable? Is the purpose to induce incapacitation more slowly, not only to a hostile subject but also to others caught up in the incident, in a way which renders all present incapable of resistance? If the intention is to incapacitation more slowly, two key questions would be: In what circumstances and over what time period? It would also be important to specify the extent to which the "incapacitating chemical agent" would be intended to simply provide tactical advantage as an 'enabling technology', i.e. to allow an intervention group the ability to get into a position where they could use other weapons and tactics. Typically gaining tactical advantage would include:

- Reducing alertness, impeding response, concentration or motor skills of the aggressors;
- Changing the tactical balance of the encounter in favour of the intervener.

Central to this discussion would be: is it intended or foreseeable that individuals other than those to be arrested will be exposed? In addressing these issues a primary question would be: does a specific candidate "incapacitating chemical agent" have operational utility in closing or narrowing the capability gap? Even if the weapon system closed or narrowed an envisaged capability gap it would be important to assess the likelihood of an event occurring which merited the holding of an "incapacitating chemical weapon" and operational, social and political impact of its use. The use of a strategic threat and risk assessment to inform the types of weapons and equipment to be obtained has been pioneered in the United Kingdom and has proved helpful in determining the efficacy of weapon selection. Using such a model, a key question would be: is there a strategic threat analysis that underpins an operational requirement for the weapon? This in turn would need to be balanced against the current operational response capability and what other options are available.

The issue of appropriateness is also a key consideration for both law enforcement and governments. This may include identifying:

- Which of the well documented concerns are relevant to this particular weapon?
- What are the international, national and organisational reputation risks involved in:
    - Acquiring this weapon technology?
    - Signalling the perceived 'legitimacy' of use?

Similarly, issues associated with legality of acquisition, storage and use need to be considered. Questions to be addressed include:

- Which of the well documented concerns are relevant to this particular weapon?
- What issues of international law (including particular conventions and declarations) and/or domestic law (criminal and civil) would be raised in the introduction of an "incapacitating chemical agent"?
- To what extent, given the threat analysis and envisaged scenario of use, would the principle of 'proportionality' of response be relevant?
- What operational safeguards would exist to ensure operational use was compatible with human rights standards?

[8] For law enforcement purposes incapacitation needs to render the subject temporarily incapable of response.
[9] For one explanation see: Association of Chief Police Officers (2011*) Manual of Guidance on the Management, Command and Deployment of Armed officers*, Third edition. National Policing Improvement Agency, UK.

Strategic issues which a chief officer team would need to consider if a serious proposal was being made to acquire a specific "incapacitating chemical agent" would include: Who will be issued with the "incapacitating chemical agent"? Would it be first level armed response units, or specialist tactical units at either the local or national level? This in turn would raise considerations of interoperability in terms of protective equipment, weapons and tactics and after care by other law enforcement units and emergency services. Within law enforcement, training standards and accreditation of operational commanders and tactical responders across a range of disciplines is increasingly seen as the norm. While different approaches exist, there would be clearly a need for commanders, tactical officers and those involved in providing support and after care to be trained and aware of all the issues, consequences and potential risks associated with this type of weapon system.

Liability considerations for administrators, commanders and operational officers

The introduction of new weapon systems, and particularly those of a novel or contentious nature, will raise considerations of individual and corporate liability. Increasingly, concepts such as 'corporate homicide' and criminal liability for breach of health and safety legislation mean that officials in police oversight bodies, chief officers and other individual officers may be held personally liable where the standards of care set out in specific legislation are deemed not to have been met. Consideration must therefore be given to:

- What criminal and civil liabilities are likely:
  - If we use this "incapacitating chemical agent" as a weapon?
  - If we do not have the weapon available as an option?
- Either way, what are the corporate liabilities concerning:
  - Duty of care? As a 'public authority' towards the public and as an 'employer' to those who undertake tactical interventions;
  - Health and safety legislation and obligations?

Using a human rights audit framework to inform decision making

Given the complexity of the issues to be addressed, one approach is to use a human rights audit framework such as the one utilised in the UK with respect to less lethal weapons.[10] This would highlight key questions that a law enforcement agency should ask including:

- Which rights is law enforcement seeking to uphold?
- Which rights would be affected, with respect to the:
  - Subject/aggressor?
  - Those who will be harmed if the aggressor is not stopped?
  - Persons caught up in the incident?
  - Tactical officers involved in critical interventions?
  - The families of those affected (secondary, genetic implications)?

Safety considerations including, primary, secondary and tertiary injuries and other health issues

How munitions interact with the body is complex and extremely difficult to model. It was for these reasons that the Himsworth Committee[11] in the United Kingdom recommended that:

[10] See: Northern Ireland Office (2001) *Patten Report Recommendations 69 and 70 Relating To Public Order Equipment. A Research Programme into Alternative Policing Approaches Towards the Management of Conflict*, pp 40-44, http://www.nio.gov.uk/less_lethal_weaponry_steering_group_-_phase_2_report.pdf.

"any chemical agent that might be used for the control of civil disturbances should be studied from the point of view more akin to that from which we regard the effects of a new drug than to that from which we might regard a new weapon".

It would be important that safety concerns and assessment included:

- What are the consequences of use, both short and long term, to subject(s), others caught up in the incident, intervention officers and supporting agencies?
- What is the quantifiable risk of death or serious harm, if the weapon is used:
    - In accordance with tight operational guidance?
    - In an unintended way?
- Are control measures possible to limit unintended uses?
- What are the known long term health risks associated with exposure (physical and psychological)?
- Are there unknown health concerns including issues associated with toxicity, mutagenicity, carcinogenicity etc.?

Having identified safety issues, it would be necessary to carry out an operational risk assessment. Key issues would include:

- Can health risk be operationally assessed?
- Who would carry out the risk assessment?
- Can officers or support staff be trained to carry out this assessment?
- How significant is the increased risk if the physical characteristics and medical history of all of those who are to be exposed is unknown?[12]
- What are the medical, operational and legal implications?
- Do the risks differ across scenarios? e.g.:
    - Subjects in the open, barricaded subjects, and house raids;
    - Hostage situations (captives co-located or held separately), and prison sieges;
    - Prolonged, contained events with detailed information about all involved and intrusive technical monitoring;
    - Active shooters, emotional and mentally distressed subjects, and suicide bomber and critical shot scenarios.

In addition to the primary safety risks there are a range of secondary and tertiary risks which need to be identified if they are to be managed, including:

- Blunt trauma and penetrative injuries (fired projectiles);
- Fragment injuries (airburst projectiles);
- Lack of control of ventilation system or malfunction;
- Any other injury secondary hazards as a result of incapacitation;
- Situational, e.g. falling (from heights);
- Inability to escape other hazards;
- Physical/medical complications, e.g. airway obstruction.

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[11] Himsworth Committee (1971) *Report of the enquiry into the medical and toxicological aspects of CS. Part 2* Cmnd 4775. London, UK: HMSO.

[12] There are some operational situations where a considerable amount of medical history and current knowledge of physical and psychological characteristics would be known with respect to all involved, such as in a prison siege where a prisoner took other prisoners or prison staff hostage.

Having addressed the issues above (all of which have strategic as well as operational and tactical importance) it would be necessary to consider operational issues relevant to the possession, deployment, use and disposal of such weapons. Issues to be considered include:

- What are the storage and disposal issues in respect of the "incapacitating chemical agent"?
- What are the security issues, CWC requirements ("types and quantities"), health and safety regulations, accountancy and stock taking issues, and 'use by' dates (including through life testing)?
- What are the operational deployment issues?
- What are the transport, carriage, and security (theft/loss/accounting) issues?
- What are the tactical deployment issues?
- What risk assessment, protective clothing and respirators, skill levels, competency, and provision of aftercare are required?

Operational and tactical considerations

Central to the operational considerations would be the issue of feasibility of use under operational conditions, including whether officers would have, or could be trained in, the skills necessary to deliver the "incapacitating chemical agent" (mechanical skills / accuracy). In addition, decision makers would wish to know what controls existed over the payload / 'dose' which would be delivered and the 'dose' which would actually be received by the victim. This would vary according to the delivery method and might involve:

- Pre-loaded darts, impregnated wads, or frangible filled projectiles;[13]
- Aerosol burst release vapours, powders or liquids;
- Regulated 'calibrated release' of vapour;
- Charts and tables for assessing the amount of the "incapacitating chemical agent" required in a specific building or area to ensure that all of the intended recipients of the "incapacitating chemical agent" were affected.

Depending on the type of agent being considered and the delivery system being used it would be necessary to consider to what extent the 'dose' could be tailored to each victim. A key issue would be whether there is an "incapacitating chemical agent" that will have the same effect on most adults, and are there particular groups who have increased susceptibility? Other questions that would need to be addressed include:

- To what extent does alcohol, drug consumption or 'excited' emotional state increase risk or change effectiveness?
- Are there groups with heightened tolerance or resistance to the "incapacitating chemical agent"?
- What simple countermeasures could reduce effectiveness?
- What control mechanisms could be adopted to:
    - Ensure that adequate dose is delivered?
    - Avoid overdose?
    - Ensure only intended individuals are exposed?

[13] Reference to pre-loaded darts is not to suggest that this is a feasible method of effective delivery of an "incapacitating chemical agent" to humans but simply to identify the sort of issues which may come forward in such discussions.

Part of the challenge for law enforcement would be determining if there were any factors that affect the operational utility or that would render the specific "incapacitating chemical agent" impractical to use in particular circumstances. This may include any maximum or minimum delivery distance. Also it would be important to determine if there were any factors that would impact on potential effectiveness such as:

- Wet or humid conditions?
- Wind or circulation pockets or barriers?
- Are there any factors that affect the safety risks, e.g.:
    - Potential for feigning effects?
    - Risks posed by presence of explosives?
    - Flammability?
    - Confined spaces?

It is important for law enforcement to consider operational factors across a time line which includes post incident management and post use investigations. Key questions would include:

- What post use emergency aid would be required for persons affected by a candidate "incapacitating chemical agent"?
- Can this be provided by trained officers or support staff?
- To what extent does physical restraint (handcuffs etc.) effect delivery of after care or increase the risk to those affected by an "incapacitating chemical agent"?
- What special training and resources are required by external agencies?
- What technical information about the "incapacitating chemical agent" is required by:
    - Medical authorities?
    - Those tasked with post incident investigations?
    - Does use of the "incapacitating chemical agent" raise health issues at the scene for crime investigators?
    - What evidential issues might be compromised including any significant potential for memory impairments especially among hostages/witnesses?

Ethical and societal issues

There are a range of ethical and societal issues that need to be addressed, which include:

- Would use of an "incapacitating chemical agent" cause conflict between law enforcement and the medical profession, i.e. use of drugs/medicine as weapons?
- Are the safety margins wide enough to countenance potential exposure of officers during training or operational use?
- Would disclosure of the chemical formulation (if easily reproduced) be considered reckless? I.e. openness versus transparency.
- Is failure to explore an "incapacitating chemical agent" which fills an operational capability gap a responsible approach?
- What issues with respect to exposing a non-aggressor to a drug exist, where the individuals are not in a position to provide consent?

Part of the challenge for law enforcement with respect to any novel or contentious weapon system would be how to identify and address the views of the international community

including humanitarian organisations, NGOs and interest groups. It would also be important to identify any international or domestic obligations for:

- Community consultation;
- Community or equality impact assessments;
- Publishing details of the weapon being acquired or held;
- Environmental issues relating to the specific “incapacitating chemical agent”;
- Storage of the “incapacitating chemical agent”;
- Use of the “incapacitating chemical agent”;
- Disposal of the “incapacitating chemical agent”.

Concluding comment

While use of force, including lethal force, is a feature of law enforcement, the vast majority of uses of force are not against organised armed criminals or terrorist groups but involve situations of domestic violence and issues associated with arrest of individuals often in situations involving alcohol, drugs and severe emotional or mental distress. Situations such as the 2002 Moscow theatre siege lay outside the operational capability of most local or regional law enforcement agencies, including those of major city forces. It is most likely that, in situations involving a large number of hostages and that type of threat, military special forces (acting as an aid to the civil power) or a national hostage rescue asset would be tasked.

It is important to note that dynamic intervention as part of hostage rescue is a key role undertaken by specialist tactical units attached to local law enforcement and is a highly specialised role which is only undertaken at the point when negotiation is deemed unlikely to succeed. However, an incapacitating weapon with a wide safety margin in all environments and over a range of distances, whether for use against an individual or group, is not currently available to law enforcement. It is important, therefore, that the approach to weapon selection is structured, strategically directed, subject to medical and ethical assessment and reviewed within a human rights audit framework, and that governments monitor the weapon systems being evaluated by law enforcement.

Speaker's summary

SCIENTIFIC AND MEDICAL ASSESSMENT OF NEW WEAPONS FOR LAW ENFORCEMENT: ISSUES THAT WOULD BE RAISED BY "INCAPACITATING CHEMICAL AGENTS"

Peter Blain

Overview of the process of scientific and medical assessment of less lethal weapons for law enforcement in the United Kingdom

The Patten Report (1999)[14] on policing was an important component of the peace process in Northern Ireland. Recommendations 69 and 70 of the Report required improvements in safety and range of public order equipment used in law enforcement:

> **"69** An immediate and substantial investment should be made in a research programme to find an acceptable, effective and less potentially lethal alternative to the Plastic Baton Round (PBR). [para. 9.15]
>
> **70** The police should be equipped with a broader range of public order equipment than the RUC [Royal Ulster Constabulary] currently possess, so that a commander has a number of options at his/her disposal which might reduce reliance on, or defer resort to, the PBR. [para. 9.16]"

In responding to these recommendations, the UK Government recognised that it needed independent expert advice on the medical implications of existing and new less lethal weapons technologies. Over recent years this advisory group has developed into a Scientific Advisory Committee and been integrated with the other bodies involved in the development of less lethal technologies and their operational use. The role and identity of these bodies are:

- Scientific and technical development and assessment
  – *Defence Science & Technology Laboratory (Dstl);*
- Operational assessment of equipment systems
  – *Home Office Centre for Applied Science & Technology (CAST);*
- Operational guidelines (rules of engagement)
  – *Association of Chief Police Officers (ACPO);*
- Medical assessment of proposed use
  – *Scientific Advisory Committee on Medical Implications of Less-Lethal Technologies (SACMILL).*

Law enforcement

In the development and deployment of *physical* less lethal weapons, such as baton rounds and Tasers, for police law enforcement purposes Dstl provides the scientific data on the physical and physiological effects and SACMILL considers these when making their

[14] Independent Commission on Policing for Northern Ireland (1999) *A New Beginning: Policing in Northern Ireland.* (Also known as the *Patten Report*).

assessment of the potential medical implications of use in civil disorder or riot control. A medical risks statement is produced that is strictly restricted to apply only if the weapon is used within approved "rules of engagement" and is not applicable if the weapon is used outside these rules. The medical statements are available to the public and published in the library of the House of Commons in the UK. Incident reports are provided to SACMILL by the police on the outcomes of deployment and use of these weapons.

In the development and deployment of *chemical* less lethal weapons, including CS and CR (although these tear gases are sensory irritants not "incapacitating chemical agents"), the requirements will differ between police and military applications. Police use would be primarily to "disable" individuals prior to an arrest or, possibly, in the management of civil disorder. The military need for such weapons is to aid hostage rescue or in contained operations such as to incapacitate pirates or terrorists prior to boarding vessels.

"Incapacitating chemical agents"

In the UK, the scientific and medical assessments of chemical agents proposed for deployment as "incapacitating chemical agents" would be informed by data provided by Dstl on:

- mode of action and likely physiological effects;
- dose response relationship – therapeutic index and safe levels;
- potential adverse effects and long term health risks;
- reversibility by medical care and antidote;
- safety of users and bystanders;
- a general assessment of "fitness for purpose".

There are several properties of a chemical that would limit medical acceptance. These include:

- narrow safety margins (closeness of effective dose and lethal dose);
- severity of any adverse side effects;
- lack of an effective antidote for use on site by medical responders;
- evidence of a wide natural variation in individual susceptibility – including the impact of genetics, age and existing illness, on the response;
- any potential collateral effects capable of causing harm or death, such as airway obstruction or increased risk of personal injury due to sudden loss of consciousness or muscle tone;
- level of confidence that agent deployment would always comply with policy and rules of engagement.

There are also some simple practical issues in the deployment of an "incapacitating chemical agent" that might limit its acceptability. These include: whether it is possible to achieve efficiency of targeting such that a safe but effective dose is delivered; and whether the required speed of action can be achieved, and the duration of exposure controlled, given the likely route of delivery through the air. Experience has demonstrated an inevitable problem in controlling exposure because of the steep concentration gradients in generated aerosols and the possible inability of victims to flee and thus limit the dose received. An aerosol is indiscriminate and may compromise the safety of unprotected users and bystanders.

In considering the features of an 'ideal' human incapacitant the following attributes have been suggested:

- it rapidly produces total incapacitation, or disruption of a specific capability, in an individual or group;
- it is reversible in time, or by specific treatment, without any residual adverse effects;
- it produces predictable effects with little variation in extent or nature;
- it does not compromise the survival or safety of an unattended incapacitated individual;
- it is capable of directed deployment and targeted delivery.

These requirements are very demanding and it is unlikely that a chemical demonstrating all of these properties will ever be found. It is possible that future developments in neurosciences may provide greater understanding of the neurochemical basis of consciousness and specific drug effects. However, the interactions and interdependency of neuronal systems suggest it will not be easy, or may even be impossible, to produce one singular effect.

The nature of human physiology, such as the circulation time, limits the speed by which any chemical can reach its target organ. This places an irreducible minimum time limit on chemical action following exposure and this may be the main fundamental restriction on the use of chemicals as "incapacitating chemical agents" in law enforcement, in addition to any legal or political restrictions.

Recent use of "incapacitating chemical agents"

The potential of "incapacitating chemical agents" was demonstrated in October 2002 when these were used to end a siege in the Dubrovka theatre in Moscow. Chechen rebels had taken the audience as hostages and placed explosives, and female suicide bombers, around the auditorium. After several days of standoff all the people in the auditorium were rendered unconscious by the infiltration of a gas into the ventilation system ("I woke up and saw a grey mist coming down," recalls one survivor). The Chechen women were affected along with everyone else in the auditorium. Russian special forces shot those rebels who were not in the main auditorium.

The incapacitated hostages were transported to hospital but, unfortunately, when some hostages had become unconscious their airways became obstructed and they were asphyxiated. Others died from gas-induced respiratory arrest, which implies the gas was potentially lethal at the doses achieved. It is still unclear whether there were too few medical responders in support of the operation or insufficient stocks of an appropriate antidote. Out of over 730 hostages in the theatre (the exact number is unknown), about 120 were suspected to have died as a direct result of the effects of the incapacitating gas.

Following pressure from some governments, whose citizens were among the hundreds of hostages poisoned, Russia eventually confirmed that the chemicals used were derived from fentanyl, a potent opium-based narcotic. The clinical features in the patients admitted to hospital had been clearly of opiate poisoning. There has since been much speculation as to the precise identity of the fentanyl compound(s) and whether another chemical, such as a volatile anesthetic, was also used. The current consensus is that carfentanil, or a close analogue, was probably the principal agent. Whether or not other incapacitants were present

is not known.[15] 3-methylfentanyl, dissolved in halothane (Kolokol-1 gas), has also been suggested as the active product.

To some analysts, this event provided evidence of the potential usefulness of an "incapacitating chemical agent" in a hostage situation. However, others take the opposite view as there was a high death rate in those incapacitated, partly from a failure to get medical treatment rapidly to the hostages while they were still in the auditorium. The gas had quickly induced narcosis in all those exposed without many of them apparently realizing exactly what was happening to them and panicking. None of the suicide bombers had reacted; a response that has not been explained.

Fentanyl was first synthesized by Janssen Pharmaceuticals and found to be more potent than morphine but safer (as it has a higher therapeutic index). It is also more rapidly eliminated from the body, with an elimination half-life varying from 2 to 4 hours. Substitution at the N4 position of the fentanyl molecule produces fentanyl analogues, many of which are even more potent. Some are well absorbed through the skin, mucous membranes or by inhalation as an aerosol, sufficient to achieve effective anaesthesia. Carfentanil is several thousand times more potent than fentanyl, but still has a relatively high therapeutic ratio, and so should be even more effective as an "incapacitating chemical agent". Fentanyls and other opiates are widely used as analgesics in hospital anaesthetic practice, but all have serious adverse effects, such as respiratory depression.

It has been suggested this occurs by direct inhibition of the respiratory rhythm–generating neurons in the pre-Boetzinger complex in the brainstem and that 5-hydroxytryptamine-4α receptors (5-HT4α), on the respiratory pre-Boetzinger complex neurons, are involved in generating the respiratory drive. Selective agonists of these receptors stimulate respiratory activity and rats treated with a 5-HT4α receptor–specific agonist overcame fentanyl-induced respiratory depression and maintained respiratory rhythm, without loss of any analgesic effect.

Conclusion

Despite high potency of some chemical compounds, it will always be difficult to produce safe incapacitation in every exposed individual, not least because of the variability in response within a population due to age, size, existing disease, and other more subtle (or unrecognized) factors. There are also the limitations on effect due to human physiology and the purely physical problem of distributing a gas in a large space quickly and evenly. Despite all these issues, it appears that fentanyl analogues come nearest to fulfilling most of the criteria for an effective "incapacitating chemical agent". This group of chemical compounds could be used as a case study in assessing the constraints of the Chemical Weapons Convention (CWC) and other areas of international law on the use of toxic chemicals as "incapacitating agents" for law enforcement.

[15] Editor's note: A recent scientific analysis concluded that a mixture of carfentanil and remifentanil was used. See: Riches, J, Read, R, Black, R, Cooper, N, Timperley, C (2012) Analysis of clothing and urine from Moscow theatre siege casualties reveals carfentanil and remifentanil use. *Journal of Analytical Toxicology*, Vol 36, No 9, Nov-Dec 2012, pp 647-56.

SESSION 2 DISCUSSION

Is there a demand for "incapacitating chemical agents" from law enforcement agencies?

Part of the discussion among participants focused on whether there is a demand from the law enforcement community for the development of "incapacitating chemical agents". A number of participants noted that there is no real demand from mainstream law enforcement for these types of weapons as the situations in which they might be used would be extremely rare. It is only in very narrow circumstances, such as particular counter-terrorism situations, in which such weapons might be considered for use by special forces or other special police tactical units. It was suggested that it might even be possible to draw up a list of these very limited situations.

Additional reasons for the lack of operational demand were suggested by several participants, including: the dangers associated with the use of these chemicals in terms of the deaths and serious injuries that would result; the fact that they do not provide the instant incapacitation that would be desired; and the lack of cost-effectiveness due to limited potential situations for their use. A participant highlighted that the availability of medical personnel and ability to provide immediate medical treatment after any use would further limit the situations in which these weapons could be considered by law enforcement.

On the other hand, some participants pointed out that there was a lack of means to deal with certain law enforcement situations using existing weapons, and that "incapacitating chemical agents" might provide an additional capability. This would be dependent on the future development of an "incapacitating chemical agent" weapon that could be used relatively safely. However, it was noted that even the risk of death of some innocent bystanders might be accepted in certain situations if the assessment was that the use of a particular weapon could potentially avoid harm to many others.

Several participants highlighted that law enforcement agencies have relatively limited capacity for the development of new weapons. As a result law enforcement generally uses equipment and weapons that are available from commercial or military sources and adapt them for their own needs. As a result the law enforcement community would be less likely to develop "incapacitating chemical agents" themselves. Rather, if these weapons were developed, for example by the military for use by special forces, they might then explore their potential utility in law enforcement.

It was noted that there is a certain paradox of continuing interest and research of "incapacitating chemical agents" given the seemingly low demand for these weapons from the broader law enforcement community.

Risks to life and health associated with the use of "incapacitating chemical agents"

During discussions among participants it was reiterated that there is currently no such thing as a 'safe' "incapacitating chemical agent". Furthermore, several participants noted that the development of such a weapon is very unlikely for a number of reasons. Firstly, the nature of human physiology means that incapacitation will not be instant and that effects can vary greatly among groups of individuals exposed to the same chemical. Ideally an exposure to an "incapacitating chemical agent" would not require medical treatment but this is not realistic if the aim is to induce effects such as unconsciousness. It was emphasised that all

chemicals that inhibit brain function will have a number of adverse effects in addition to the particular intended effect, as well as potential adverse effects on other organ systems in the body.

Several participants noted that the use of "incapacitating chemical agents" in a tactical situation would be likely to cause a significant number of deaths. One study was mentioned which used mathematical modeling to assess the risks of death. It concluded that, in a situation where groups of people were affected, there would be at least 10% fatalities.[16] The reasons for this include: the nature of the toxic effects of the chemical agents; the inability to control exposure and therefore prevent overdose; and the variations in response to chemicals among a mixed group of people.

There was an additional discussion of the potential long-term adverse health effects of "incapacitating chemical agents", including brain damage. A participant noted that it was difficult to predict the exact range of adverse effects that may emerge over long term. In addition, animal testing may not reflect the effects and toxic effects that may be found in humans. A news report was highlighted that featured interviews with survivors of the Moscow theatre incident and reported that all of those interviewed suffered serious health problems following exposure to the toxic chemicals used.[17]

One participant explained that the long term effects may not only be due to the specific toxicity of the chemical used. Other harmful effects are particularly likely where breathing has been adversely affected, as happens with many anaesthetic chemicals, and oxygen levels in the blood have become depleted (hypoxia). Various organs can be adversely affected by this but the brain is particularly vulnerable to hypoxia. Depending on the degree of hypoxia the severity of brain damage will vary. Even relatively minor effects, such as effects on hearing, may only become apparent in the months and years after exposure.

It was also noted that, in general, weapons that cause their injuries through means other than kinetic force are less predictable in terms of their effects. As a result, any new and novel weapons need a rigorous scientific assessment in order to properly ascertain the risks associated with their use and the likely injuries.

Despite these medical realities, some participants argued that even if a 'safe' "incapacitating chemical agent" was not possible with foreseeable advances in science and technology, it was not possible to rule out that such a weapon might be developed in the future.

Several participants made the point that, even if an ideal "incapacitating chemical agent" cannot be found, this would not deter the development and use of toxic chemicals as weapons for law enforcement as a level of risk to those exposed might be assessed differently in different situations.

The risk of "medicalization" of an attack

A number of ethical issues arise in the context of "incapacitating chemical agents" since many of the same chemicals are used as drugs for anaesthesia or sedation in medical practice. One participant noted that the association with medical use risks 'medicalization' of the use of these drugs as weapons. 'Medical' implies acceptability as it is normally used in the context of therapeutic procedures. Where the same chemicals are used as weapons,

[16] Klotz, L, Furmanski, M, and Wheelis, M (2003) *Beware the Siren's Song: Why "Non-Lethal" Incapacitating. Chemical Agents are Lethal,* Federation of American Scientists, http://www.fas.org/bwc/papers/sirens_song.pdf.
[17] Clark, A (2009), *Four years later, Moscow hostages suffering*, 11 February 2009, http://www.cbsnews.com/2100-3455_162-2125085.html.

rather than as treatments, it raises several concerns not least because doctors would need to be involved in the planning of an attack and the provision of treatment, such as antidotes, in the aftermath. This involvement of the medical professionals in any attack would call into question the neutrality of the medical profession.

One participant noted that, in assessing the potential adverse effects of these weapons, it is more accurate to talk about a 'health impact assessment' rather than a 'medical assessment' in part because the latter term implies acceptability. There was some discussion about the availability of effective countermeasures and availability of medical treatment as factors in determining the acceptability of the use of "incapacitating chemical agents". However, a participant noted that it is ill-advised to imply that use of a certain weapon is appropriate because there may be medical treatment available. In a tactical situation other factors, such as one aggressor continuing to use or threaten the use of force, could prevent doctors from providing medical care to those affected by the chemical agents.

Are "incapacitating chemical agents" appropriate weapons for law enforcement?

There was a discussion of whether "incapacitating chemical agents" are appropriate weapons for law enforcement operations. Several participants questioned their suitability because of the significant risks of death to those exposed. It was emphasised that it is very difficult to control the effects of "incapacitating chemical agents", particularly when used against groups of people and as a result they will pose the same risks to aggressors and innocent bystanders alike. In these situations it would be very difficult to target specific individuals who are posing a threat. It was also noted that, in assessing the risks, it is necessary to assess the risks of death and to health associated with causing effective incapacitation. (For example, using a lower concentration of a particular chemical might lower the risks but at the same time might not produce the incapacitation effect desired by the user.)

Some participants, however, noted that there are significant differences between dealing with situations involving isolated individuals and those involving groups of people that might include innocent bystanders (such as hostage scenarios). Therefore the assessment of the suitability of "incapacitating chemical agents" for law enforcement might depend on the particular circumstances of their use and calculations of the risks posed in a given operation. It was suggested that delivery systems might be developed that allowed for more discriminate targeting and control in order to avoid the risks posed when chemicals are dispersed over a large area or within a building.

A number of participants pointed out that the dangers associated with "incapacitating chemical agents", and the limitations in controlling their effects, mean that it would be very difficult to develop them as suitable weapons for law enforcement. Oversight bodies charged with assessing and reviewing weapons for law enforcement would be unlikely to approve them if they presented unreasonable dangers. The greater the risks associated with their use, the more any potential use would be restricted to only the most extreme law enforcement situations.

Some participants noted that, if "incapacitating chemical agents" were approved even for narrow law enforcement situations, it could be difficult to ensure that their use was sufficiently restrained. If "incapacitating chemical agents" became available then there would always be a risk of 'function creep' or 'mission creep' with their use expanding to a wider range of situations, as has been seen with other policing weapons such as the Taser. This is a particular risk with weapons that are presented as or perceived to be (even if incorrectly) less dangerous than conventional weapons. It was also noted by several participants that adoption of these weapons by law enforcement in general could lead to acquisition by private

military and security contractors, which could further complicate any task of restricting their use once acquired.

Another issue raised in relation to the suitability of "incapacitating chemical agents" for law enforcement was the question of liability. It was noted that in many countries chief police officers or commanders are ultimately responsible, and liable, for law enforcement operations and the choice of weapons. This would include situations where the military are tasked with assisting law enforcement in extreme situations. Therefore, police commanders would need to take all relevant factors into consideration associated with a decision to use "incapacitating chemical agents", including the risks to innocent bystanders.

In general it was recognized that police officers face many difficult situations and need a variety of equipment and weapons to carry out their tasks. Therefore, alternative means should be explored. However, a number of participants questioned whether "incapacitating chemical agents" would be a suitable alternative or an improvement upon existing capabilities.

Transparency about weapons development

There was a discussion among participants of other issues that would arise for any development and use of "incapacitating chemical agents" as weapons for law enforcement. One is the question of transparency about weapons development, which would generally be required in the law enforcement sector. Some participants emphasised that information about such weapons and the assessment of their effects would have to be made publicly available if they were to be used in law enforcement. This could of course make countermeasures easier and even present risks of other actors using or misusing the information to develop these weapons. A participant suggested that any weapons development would have to be monitored by an independent body but some information might be kept confidential. However, another participant noted that disclosure of information would be most appropriate since those exposed to toxic chemicals by law enforcement officials would want to have information on the characteristics of the weapon, including the short and long term health risks.

A participant noted that any development and use of these weapons for law enforcement would raise the question of licensing and approval of particular chemical agents. Another participant raised the question of whether a chemical agent used as "incapacitating" weapon would have to be one that had been approved for clinical use in other circumstances. A participant explained that, in the UK for example, any drugs used would have to be licensed for use in humans. In addition, if law enforcement sought to use a drug outside its permitted purpose for medicine, for example as a weapon, they would need to get a specific license to approve any such use. Otherwise, the participant added, there would be a risk of the misuse of chemicals developed for therapeutic purposes, particularly as most chemicals that might be considered as "incapacitating chemical agents" would be likely to have their origin in the pharmaceutical industry.

One participant illustrated the genuine risk of this 'dual-use' issue noting that one report advocating further development of "incapacitating chemical agents" had suggested that potential weapons might be found among those chemical agents that had been rejected by the pharmaceutical industry due to the severity of their side effects.[18] It was also noted that attempts to use such rejected chemicals as weapons, or even to use approved drugs as

[18] Lakoski, J, Murray, W and Kenny, J (2000) *The Advantages and Limitations of Calmatives for Use as a Non-Lethal Technique.* College of Medicine, Applied Research Laboratory, Pennsylvania State University, 3 October 2000.

weapons, would bring unwelcome bad publicity on the pharmaceutical industry as they would not want to be associated with using drugs as weapons to cause harm rather than as treatments.

Are "incapacitating chemical agents" useful from a tactical perspective?

There were different perspectives on the potential tactical utility of "incapacitating chemical agents" as weapons for law enforcement. Several participants noted that it is not possible to cause immediate incapacitation with these chemicals as it takes time for the sufficient concentrations to reach the site of action in the brain. Even if delivered intravenously incapacitation is not immediate. In a tactical situation, where "incapacitating chemical agents" are delivered through the air, it would take a minimum of several minutes to cause incapacitation. This lack of immediacy limits tactical utility in the sense that these weapons would not prevent the target person or persons from using a firearm or detonating explosives.

Other participants argued that the use of "incapacitating chemical agents" could provide a tactical advantage to law enforcement officers in a particular situation, even if they did not cause immediate incapacitation. They might help change the dynamic of a situation to enable law enforcement to use other weapons and tactics more easily.

Another practical difficulty mentioned was the issue of how law enforcement officers would be able to assess whether a target person is fully incapacitated and whether or not they still pose a threat. Such an assessment might require getting very close to that person, which could be difficult in a tactical situation and present additional risks to the law enforcement officers.

SESSION 3:
INTERNATIONAL HUMAN RIGHTS LAW PERSPECTIVES

Speaker's summary

ASSESSING "INCAPACITATING CHEMICAL AGENTS" UNDER HUMAN RIGHTS LAW

Louise Doswald-Beck

The right to life

Human rights provisions

The right to life is protected by every major human rights treaty and is specified as being non-derogable even during emergency situations.[1] All the treaties specify that the right to life "shall be protected by law". However, they also recognise the possibility of having to exceptionally use potentially lethal force.

The International Covenant on Civil and Political Rights (ICCPR), the American Convention on Human Rights (ACHR) and the Arab Charter on Human Rights (AChHR) state that "no one shall be arbitrarily deprived of his life".[2] The African Charter on Human and Peoples Rights (ACHPR) is similarly phrased: after specifying that "[e]very human being shall be entitled to respect for his life", it states that "no one may be arbitrarily deprived of this right".[3] The interpretation of the right therefore hinges on the meaning of the term "arbitrarily".

The European Convention on Human Rights and Fundamental Freedoms (ECHR) is more precise, in that the treaty formulation, without using the word "arbitrarily", in effect spells out when a death will not have been brought about in an arbitrary manner:

> "Deprivation of life shall not be regarded as inflicted in contravention of this article when it results from the use of force which is no more than absolutely necessary:
> (a) in defence of any person from unlawful violence;
> (b) in order to effect a lawful arrest or to prevent the escape of a person lawfully detained;
> (c) in action taken for the purpose of quelling a riot or insurrection." [4]

The requirement that national law prevent the arbitrary deprivation of life means that certain positive steps must be taken to ensure this. The case-law that emerges from all the treaty bodies, both from the UN system and the regional ones, means that the following must be ensured in order to avoid a violation of this right:

1. There must be a national law that effectively prevents arbitrary use of potentially lethal force;

[1] Article 15 makes and exception for "lawful acts of war", which should be understood as referring to international armed conflicts. The African Charter has no derogation possibility.
[2] ICCPR, Article 6(1); ACHR Article 4(1); AChHR, Article 5(2).
[3] ACHPR, Article 4.
[4] ECHR, Article 2(2).

2. Law enforcement and security personnel must be trained in a way that they are able to respect this law;
3. Any operation must be planned to the degree possible to prevent arbitrary loss of life; and
4. An independent investigation must be undertaken when a violation may have occurred, together with the criminal prosecution of those responsible.

Another very important document is the United Nations' *Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*.[5] The document as a whole stresses the need to avoid a disproportionate use of force[6] and that "force and firearms" may only be used "if other means remain ineffective or without any promise of achieving the intended result".[7] The most significant principle on the situations in which potentially lethal weapons may be used is Principle 9:

> "Law enforcement officials shall not use firearms against persons except in self-defence or defence of others against the imminent threat of death or serious injury, to prevent the perpetration of a particularly serious crime involving grave threat to life, to arrest a person presenting such danger and resisting their authority, or to prevent his or her escape, and only when less extreme means are insufficient to achieve these objectives. In any event, intentional lethal use of firearms may only be made when strictly unavoidable in order to protect life."

In other words, potentially lethal force may only be used in order to save life. The understanding in this context is that the force is used against the persons who are threatening the life of others, in order to save the life of those threatened.

It is very important to note that the right to life can be relevant even if a person has not actually died. In other words, the use of force that is potentially lethal is enough to make this right relevant and possibly violated.[8]

Does an "incapacitating chemical agent" count as a "lethal" agent?

The purpose of this question is to see whether case-law relating to the right to life is relevant for the use of "incapacitating chemical agents", in much the same way as the use of firearms. From the available literature it is clear that, because "incapacitating chemical agents" act on the central nervous system, it is impossible to gauge what a safe dosage could be outside a controlled hospital setting. In particular, there will be an uneven dosage in contexts where the agent is used against several persons and in addition the effect will vary depending on the age and state of health of the persons inhaling the gas. The fact that "incapacitating chemical agents" adversely affect normal breathing means that a crucial function of life is at risk. Studies have shown that the minimum death rate that can be expected when an "incapacitating chemical agent" is used against a crowd is in the order of 10%.[9] Therefore it is evident that the right to life is relevant whenever it is used, even if death does not occur.

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[5] *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, adopted by the Eighth UN Congress on the Prevention of Crime and the Treatment of Offenders and welcomed by UNGA Res. 45/166, 18 December 1990.
[6] *Ibid*. Principle 5(a) and (b).
[7] *Ibid*. Principle 4.
[8] In the case of *Makaratzis v. Greece*, the European Court decided that Article 2 of the ECHR was pertinent because potentially lethal force was used against the applicant even though, by chance, the person endangered by such force was not killed: ECtHR, *Makaratzis v. Greece,* Judgment, 20 December 2004, § 49. The same approach was made by the African Commission in the case of *Kazeem Aminu v. Nigeria*, where a violation was found because a person was in genuine fear for his life from police forces: AComHPR, *Kazeem Aminu v. Nigeria*, Com. 205/97, 11 May 2000, § 18.
[9] Klotz, L, Furmanski, M, and Wheelis, M (2003) *Beware the Siren's Song: Why 'Non-lethal' Incapacitating Chemical Agents are Lethal,* Federation of American Scientists, March 2003.

Demonstrations and riots

Policing violent demonstrations is a context where the principle of absolute necessity and proportionality of force apply. The UN Basic Principles state that:

> "In the dispersal of violent assemblies, law enforcement officials may use firearms only when less dangerous means are not practicable and only to the minimum extent necessary. Law enforcement officials shall not use firearms in such cases, except under the conditions stipulated in principle 9."[10]

Case-law stresses the need to avoid lethal force for the purpose of quelling a violent demonstration. One example is the case of *Güleç v. Turkey* which concerned an illegal and violent pro-PKK demonstration. Security officers sent in armoured vehicles, one of which fired a machine gun into the crowd. In finding a violation, the European Court stressed that a balance had to be struck between the aim pursued and the means employed, and criticised the lack of alternative means such as riot shields, water cannon, rubber bullets or tear gas.[11] A similar point was made by the African Commission in the case of *Mouvement Burkinabé des Droits de l'Homme et des Peuples v. Burkina Faso* concerning the death of two students during a demonstration. The Commission stressed that: "those responsible for public order must make an effort … to cause only the barest minimum of damage … to respect and preserve human life."[12]

It would not be possible to justify the use of "incapacitating chemical agents" as "absolutely necessary" and causing the minimum damage possible as the result would be more dangerous than that caused by other commonly-used riot control measures.

Arrest

All treaty bodies stress that if it is possible in practice to effect an arrest, then this should be done rather than using lethal force.[13] Even though the European Convention states that force may be used to "effect a lawful arrest" (provided it is absolutely necessary), the Court decided, in the case of *Nachova v. Bulgaria*, that potentially lethal force may only be resorted to if the person to be arrested presents a danger to life.[14]

Even in instances where the persons to be arrested are clearly dangerous and may well be armed, the European Court has insisted that planning must be such that it could allow for the possibility of arresting at least one or more of the suspects. An example is the case of *Erdogan and Others v. Turkey* where no instructions seem to have been issued as to how to capture and detain suspects alive or as to how to negotiate a peaceful surrender.[15] All ten alleged members of the criminal group were killed (including shots in the back).[16] In the light of the inadequate planning of this operation, the European Court found a violation of Article 2.

It is often the case that an arrest has to be effected of a dangerous person, or group of people who are themselves using firearms. It is clear that in such a context the use of force

[10] *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, 1990, Principle 10.
[11] ECtHR, *Güleç v. Turkey,* Judgment 27 July 1998, § 71.
[12] AComHPR, *Mouvement Burkinabé des Droits de l'Homme et des Peuples v. Burkina Faso*, Com. 204/97, 7 May 2001, para. 43.
[13] See, e.g. UN Human Rights Committee, *Guerrero v. Columbia,* Com.No. 45/1979, Views 31 March 1982.
[14] ECtHR, *Nachova and Others v. Bulgaria*, Judgment, 6 July 2005, para. 95. See also ECtHR, *Beyazgül v. Turkey*, Judgment, 22 September 2009, paras. 54-56.
[15] ECtHR, *Erdogan and Others v. Turkey*, Judgment, 25 April 2006, para. 76.
[16] *Ibid*. §§ 78-79.

may well be unavoidable. In such cases it is generally understood that surprise and speed by the security forces are crucial if unnecessary deaths are to be avoided. "Incapacitating chemical agents" would not be suitable in such a context as they take time to have an effect, and, once they do, deaths are likely. This is unlikely to respect the conditions for the lawful use of force.

Planning and rescue

An important part of case-law concentrates on the planning that is required for any operation in order to ensure avoiding using lethal weapons, if at all possible,[17] or at least limit their use if unavoidable.[18] The importance of rescuing injured people is stressed in cases of riots[19] and also hostilities.[20] It is indeed on this basis that the Court found a violation in the Moscow theatre *Finogenov* case, namely, a lack of adequate planning and insufficient rescue operations.[21]

Hostage-taking

Apart from the *Finogenov* case, the only other case that I am aware of is that of *Guerrero v. Columbia* decided by the UN Human Rights Commission. The case concerned a suspicion by the government that an ambassador had been taken hostage by a group of rebels. Security forces shot the rebels when they approached the house where the hostage was supposed to be. The Commission found a violation because no attempt at arrest had occurred, even though this was possible in the circumstances. As it turned out, the hostage was not there, but that did not have an effect on the decision by the Commission.[22]

The *Finogenov* case is unusual in that a potentially lethal agent was used against persons that were no threat to life i.e. the audience at the theatre. The major difference between this and other contexts, where weapons may be used against people who are not themselves a threat to life, is that the latter concerns violent demonstrations and riots. In such contexts, the weapons to be used are required to be as harmless as possible in order to achieve the objective of dispersing the crowd. In other words, the *Finogenov* case is the only one where potentially lethal force was used against persons who were wholly innocent. The assumption was that the chemical agent was supposed to be "non-lethal". Even if the European Court judges gave the Russian government the benefit of the doubt as to the expected effect of the gas in that instance, it is clear that for the future this cannot be done again. It is now known that such a chemical agent is lethal for at least 10% of those affected. In other words, this case cannot be seen as approving the use of such agents in the future.

Avoidance of potentially lethal "incapacitating weapons"

The UN Basic Principles do suggest the use of incapacitating weapons, but this reference could be misunderstood. It is important to note the exact wording in the context of the aim of the suggestion. When referring to the need to develop a range of means to deal with law enforcement needs, Principle 2 reads as follows:

[17] E.g. ECtHR, *McCann and others v. United Kingdom*, Judgment, 5 September 1995; ECtHR, *Makaratzis v. Greece*, Judgment, 20 December 2004; *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, 1990, Principle 2.
[18] E.g. IACtHR, *Zembrano Velez et al. v. Ecuador*, Judgment, 4 July 2007; *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, 1990, Principle 5.
[19] E.g. IACtHR, *Neira Alegria et al. v. Peru*, Judgment, 19 January 1995.
[20] E.g. ECtHR, *Özkan and others v. Turkey*, Judgment, 6 April 2004.
[21] ECtHR, *Finogenov and Others v. Russia*, Judgment, 20 December 2011, paras. 243-266.
[22] UNHRCte, *Guerrero v. Columbia,* Com.No. 45/1979, Views 31 March 1982, para. 13.2.

> "These should include the development of non-lethal incapacitating weapons for use in appropriate situations, with a view to increasingly restraining the application of means capable of causing death or injury to persons."[23]

Principle 3 then directly addresses the issue of bystanders:

> "The development and deployment of non-lethal incapacitating weapons should be carefully evaluated in order to minimize the risk of endangering uninvolved persons, and the use of such weapons should be carefully controlled."[24]

It is evident that using "incapacitating chemical agents" does not "minimize" a risk to others, as a death rate of at least 10% is to be expected. Additionally, the requirement under Principle 2 to restrain the use of "means capable of causing death or injury" means that "incapacitating chemical agents", which inevitably cause death and injury of a substantial proportion of all those in the vicinity, would not be acceptable.

It needs to be noted that the European Court, in the *Finogenov* case, took into account the fact that the government believed the gas to be safe at the time, but was able to find a violation because of lack of proper planning and rescue. It is often the case that the Court will be generous in its evaluation on one count, if a violation is evident for another reason. However, now that the inevitable toxic effects are known, the situation is different. "Incapacitating chemical agents" cannot be classed as "non-lethal" and therefore do not even fall within the terms of Principles 2 and 3 of the UN Basic Principles. Rather they should be seen as lethal in the same way as firearms for the purpose of interpretation of the legal standards required. As such, it is evident that lethal agents cannot be used against persons that are not themselves a danger to life.

The Inter-American Court has expressly stated the same principle as regards potentially lethal force: "in peacetime situations, state agents must distinguish between persons who, by their actions, constitute an imminent threat of death or serious injury and persons who do not present such a threat, and use force only against the former".[25]

Prohibition of inhuman or degrading treatment

Human rights provisions

All the general human rights treaties absolutely prohibit inhuman and degrading treatment and this prohibition is non-derogable, even in an emergency situation. The ICCPR expresses the prohibition as follows:

> "No one shall be subject to torture or to cruel, inhuman or degrading treatment of punishment…"[26]

The other treaties have either identical or virtually identical wording.[27] The prohibition is not limited to treatment inflicted on persons in detention or even under the control of authorities.[28]

[23] *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, 1990, Principle 2 (extract).
[24] *Ibid*. Principle 3.
[25] IACtHR, *Zembrano Vélez et al. v. Ecuador*, Judgment, 4 July 2007, para. 85.
[26] ICCPR, Art. 7.
[27] ECHR, Art. 3; ACHR, Art. 5(2); ACHPR Art. 5; AChHR, Art. 8(1).
[28] It has been applied e.g. to the suffering of relatives of people who had been forcibly disappeared, or whose houses had been burned down.

The prohibition of inhuman treatment is potentially relevant for the use of "incapacitating chemical agents" in any kind of context. In the case of interrogation, the use of any chemical agent would also involve the prohibition of degrading treatment.

Definition of inhuman treatment

This notion has been defined as treatment that causes "severe suffering, mental or physical, which, in the particular situation, is unjustifiable".[29] This has been said to include treatment that results in "either bodily injury or intense physical or mental suffering".[30]

It does not have to be shown that authorities intended the treatment to result in severe suffering, but only that the treatment was inflicted with this likely result. Thus, for example, many cases of poor detention conditions, which were common to the countries in question, were found to amount to inhuman treatment.[31]

The fact that such severe suffering, or bodily injury, must not be "justifiable" has been interpreted strictly. Thus physical force must not be used against prisoners unless it is unavoidable to bring them under control, or to prevent escape, as a result of their own conduct.[32] The use of truncheons against non-violent demonstrators was similarly found to amount to inhuman treatment.[33]

"Incapacitating chemical agents" and inhuman treatment

Apart from the number of deaths recorded in the *Finogenov* case, serious long-term health problems have been (and continue to be) suffered by many survivors. This is recorded in paragraph 24 of the *Finogenov* case. It includes reports of multiple hospitalisations and also a case of a survivor who lost her hearing as a result. This is not surprising as damage can occur as a result of loss of oxygen to the brain and other organs.[34] A subsequent report, published in 2009, shows that large numbers of the survivors have significant health problems, including organ failure.[35]

There can be no doubt that such health problems represent "severe suffering or bodily injury", thus falling within the definition of "inhuman treatment". It is inconceivable that intentionally inflicting such treatment on non-violent people can be considered "justifiable". As already mentioned above, any use of force can only be justifiable if it is required by the behaviour of the people at the receiving end of such force. It is the inevitability of significant proportions of deaths and serious long-term injuries that distinguishes the use of "incapacitating chemical agents" from tear gas.

The use of firearms in a raid would be aimed at the hostage-takers, not at the hostages. This may well also result in unintended collateral injuries, depending on the circumstances and

[29] European Commission of Human Rights, *Greek case*, 1969, and followed in subsequent cases by the Court.
[30] ECtHR, *Öcalan v. Turkey*, Judgment, 12 May 2005, para.181.
[31] E.g. UNHRCte, *Mukong v. Cameroon*, Com.458/1991, Views, 21 July 1994, § 9.3;IACtHR, *Montero-Aranguran et al. (Detention Center of Catia) v. Venezuala*, Judgment, 5 July 2006, § 85; ECtHR, *Ilascu and Others v. Moldova and Russia*, Judgment, 8 July 2004, §§ 438-440.
[32] E.g. ECtHR, *Tomasi v. France*, Judgment, 1992, paras. 113-115 ; *Antipenkov v. Russia*, Judgment, 15 October 2009, paras. 57-60 ; AComHPR, *International PEN, Constitutional Rights Project, Interrights and Civil Liberties Organisation (on behalf of Ken Saro-Wiwa Jr.) v. Nigeria*, Coms. 137/94, 139/94, 154/96 and 161/97, 31 October 1998, §§ 79-81.
[33] ECtHR, *Balçik and Others v. Turkey*, Judgment, 29 November 2007, §§ 30-34.
[34] See, e.g. BBC News (2002) Q&A : What is Fentanyl, *BBC News*, 31 October 2002, http://news.bbc.co.uk/2/hi/health/2380661.stm.
[35] Clark, A (2009) 4 Years Later, Moscow Hostages Suffering, *CBS News*, 11 February 2009, http://www.cbsnews.com/2100-18563_162-2112859.html. This is a report of the effects of the gas on the 100 hostages that the reporter was able to find. Almost all of them developed significant health problems since the event.

expertise of the rescue team. Aiming at everyone with "incapacitating chemical agents", knowing that this will result inevitably in significant numbers of deaths and serious long-term injuries is worse. It is indeed the long-term poisonous effects of chemical weapons that led to their banning in 1925 in the Geneva Gas Protocol, as these effects were considered crueler than those of firearms.

Definition of degrading treatment

Degrading treatment is defined as treatment that "grossly humiliates [an individual] before others or drives him to act against his will or conscience". This latter aspect includes treatment that "adversely affect[s] his or her personality…"[36]

Such treatment can only be considered "justifiable" if a person's own behaviour requires some force. Force used against persons already under control of the authorities is automatically considered to be degrading treatment. Physical force can therefore not be justified for the purposes of interrogation.[37]

Use of chemical agents during interrogation

The use of chemical agents that adversely affects how a person decides what to say will automatically fall within the definition of degrading treatment because it "drives him to act against his will or conscience".

This view is shared by at least two States, the highest courts of which have declared such use unacceptable. Thus the Indian Supreme Court decided in the case of *Smt.Selvi & Ors. v. State of Karnataka* that the involuntary administration of, *inter alia*, narcoanalysis amounted to "cruel, inhuman and degrading treatment" and thus contrary to the Constitution.[38]

The United States Supreme Court has come to the same conclusion in the case of *Townsend v. Sain.* It decided that a drug-induced statement was inadmissible because it was "coerced" and the individual's "will was overborne". As such the confession was not "the product of rational intellect and free will" so that the defendant was the equivalent of "insane at the time".[39]

This decision, like that of the Indian Supreme Court, was technically based on the prohibition of forcing someone to testify against themselves. In practice, this is closely linked to the prohibition of degrading treatment, as indicated by the wording of the judgments.

[36] EComHR, *Denmark, Sweden, Norway and the Netherlands v. Greece*, Report of the Commission, 5 November 1969, p.186; ECtHR, *Öcalan v. Turkey*, Judgment, 12 May 2005, § 181.
[37] E.g. ECtHR, *Tomasi v. France*, Judgment, 27 August 1992, paras. 113-115.
[38] Supreme Court of India, *Smt.Selvi & Ors. V. State of Karnataka*, Criminal Appeal No. 1267, Judgment, 5 May 2010.
[39] U.S. Supreme Court, *Townsend v. Sain*, 372 U.S. 293, Judgment, 18 March 1963, Opinion of the Court delivered by Chief Justice Warren.

Speaker's summary

THE EUROPEAN COURT OF HUMAN RIGHTS' JUDGMENT IN THE CASE OF *FINOGENOV AND OTHERS V. RUSSIA*

Vesselina Vandova

Introduction

The applicants in this case were a group of 64 family members of hostages who died during the rescue in the Moscow theatre crisis. On 23 October 2002, over 900 people were taken hostages by a group of about 40 Chechen rebels. The rebels released some hostages but continued to hold more than 730 people. Three days into the siege after negotiations had allegedly failed the Russian forces pumped an unidentified toxic gas into the main auditorium through the building's ventilation system. Later it transpired that the gas was a derivative of fentanyl, a toxic chemical agent, but the precise formula still remains undisclosed.

The toxic gas did not have an immediate effect. All those inside the theatre were capable of smelling and seeing the gas for some time before they were rendered unconscious. A special squad of the FSB stormed the building and shot most of the unconscious suicide bombers positioned among the hostages. Others who had tried to resist were killed in the ensuing gunfire.

As a result of the rescue operation the majority of the hostages were freed. However, a large number died during or soon after the rescue. Many of the hostages who survived continued to suffer serious health problems, and some were hospitalised again a week after the rescue. The subsequent criminal investigation conducted by the Moscow City Prosecution Office concluded that 102 hostages died on the scene, 21 died during transportation to hospital, and 6 people died in hospital.

The Strasbourg Court found that the primary cause of death of a large number of the hostages was the toxic gas.[40] The Court held that "the gas was probably not intended to kill the terrorists or hostages … [and] was therefore closer to "non-lethal incapacitating weapons" than to firearms."[41] However, in further instances the Court referred to this toxic gas as *"dangerous, and potentially lethal,"* and this seemed to be the preferred formulation.[42] The two main findings of the Court relate, on the one hand, to the planning and implementation of the rescue operation and, on the other, to the decision to use the gas.

Planning and implementation of the rescue operation

The Court held that the rescue plan was flawed in the following ways. It did not provide for on-site coordination of the different rescue services such as doctors, rescue workers, paramedics and so on. Each of these groups had their own chain of command but there was no hub between them. The Court further found that the evacuation plan did not contain instructions regarding exchange of information about the condition of individual victims between members of the various rescue services. The consequence of this was that some of the victims received no treatment at all while some probably received injections of an

[40] ECtHR, *Finogenov and Others v. Russia*, Judgment, 20 December 2011, § 202.
[41] *Ibid*.
[42] E.g. §§ 232 and 235 of the judgment.

antidote two or three times, which in itself was dangerous. The Court also found that the plan failed to provide for medical assistance on the buses used for transportation of victims to hospital and that there was no plan for the distribution of victims amongst various hospitals. All this led to delays in providing of medical care for the victims, with some of them left for over an hour to lie in front of the theatre without appropriate medical treatment on the site.

In addition, the original plan was prepared on the assumption that the hostages would be wounded by an explosion or gunshots and not by toxic gas. For example, the reinforcement of hospitals had consisted mainly of surgeons prepared to treat gunshot or explosion wounds rather than toxicologists. Rescue workers and doctors had no specific instructions how to deal with poisoned people.[43] Also, heavy trucks and bulldozers stationed near the theatre blocked the ambulances and made a makeshift hospital on site impossible.

Secrecy of the gas

With respect to the secrecy of the chemical gas formula and the appropriate antidote, the Court acknowledged the need to keep certain aspects of the security operation secret. Nevertheless, it criticised the Russian authorities for not giving information to the medics about the potentially lethal gas and the treatment *shortly before or at least immediately after* the use of the gas. The Court found that the FSB did not inform the medics about the gas until the evacuation was almost over.[44] The Court found that the lack of information about the use of gas may have raised the mortality rate amongst the hostages, since the majority of the victims were placed on the floor in a face-up position, which increased the likelihood of suffocation by vomiting or from a swollen tongue.[45]

The Court further noted that the mass evacuation started at least an hour and 20 minutes after the gas has been pumped into the building, and that therefore the authorities had sufficient time to prepare antidotes, to give more specific instructions to the medics and generally to adjust the plan to provide sufficient care of the intoxicated people. The Court also questioned the delays in the start of the evacuation. Most of the unconscious hostages remained exposed to the gas and without medical assistance for more than one hour and this prolonged exposure was a factor likely to have increased the mortality rate among the hostages.

The Court was likewise critical about the lack of information concerning the treatments and drugs administered on the scene and during transportation. Naloxone, an alleged antidote for the gas in question, was administered on the spot but it appears that there was a shortage. About 60 of the people who died did not have any trace of any medication/antidote when they were admitted to hospital.[46] It was also disputed whether naloxone was an effective drug in any event: for example, the Chief Anaesthesiologist claimed it was not an effective antidote in this case.

On the basis of these deficiencies, the Court found that Russia had failed to take all feasible precautions in the choice of means and methods of a security operation with a view to avoiding incidental loss of civilian life. Therefore, there was a violation of the obligation to protect life under Article 2 of the European Convention. The Court afforded compensation to each of the applicants in the range of 9,000 to 66,000 euros.

[43] § 253 of the judgment.
[44] § 254 of the judgment.
[45] § 255 of the judgment.
[46] § 260 of the judgment.

Decision to use toxic gas

The applicants claimed that the toxic gas was a lethal weapon that was used indiscriminately against both terrorists and innocent hostages. The Court put great emphasis on the fact that the gas was not intended to kill, in contrast, as the Court said, to bombs and missiles. The Court then held that the gas was not used indiscriminately "as it left the hostages a high chance of survival, which depended on the efficiency of the authorities' rescue efforts."[47]

The Court also noted that although the toxic gas did not have immediate effect, it eventually rendered most of the terrorists unconscious, and no explosion followed. Therefore, the Court held, the gas was capable of facilitating the liberation of the hostages and reducing the likelihood of explosion.

The Court rejected the claim that the concentration of the gas had been miscalculated, and noted that the Russian Government had calculated the gas dosage on the basis of an "average person's reaction," and that even that dose turned out to be insufficient to send everybody to sleep. In the context of all of these exceptional circumstances, the Court concluded that the use of gas during the storming was not a disproportionate measure.

The applicant's request for referral to the Grand Chamber

In March 2012 several applicants requested a referral of the case to the Grand Chamber of the Court.[48] The applicants before the Grand Chamber were the relatives of three deceased hostages who were foreign citizens, one of them a 13-year-old girl. An only child, she was killed together with her father, who was a citizen of the USA. Her mother, and the parents of another foreign hostage, also an only child, argued that the Chechen rebels had declared that they would release the foreign citizens at 10.00 am during the morning of 26 October 2002. They claimed that by hastily storming the theatre at 5.00 am the same day the Russian government had not given the hostage-takers a chance to comply with their previous agreement to release the foreign citizens, and they consequently died from gas intoxication.

The applicants challenged the Court's finding that the gas was closer to a "non-lethal incapacitating weapon" than to firearms, and compared the respective lethality rates of both and find them similar (bullets and bombs produce 8–30% lethality). They also disputed the Court's ruling that although the legislative framework for the use of gas is unclear, its use was justified. In this way, the applicants argued, the Court legitimised the use of any chemical agent, including those prohibited under the Chemical Weapons Convention (CWC).

The applicants also challenged the Court's conclusion that the gas was an adequate means of achieving the goal of saving hostages' lives. In this respect the applicants relied on the expert opinion of Mark Wheelis, who participated in the first expert meeting organised by ICRC in 2010. According to this opinion the fentanyl derivative used in Moscow did not act rapidly enough to be effective, and at the same time had a level of lethality (15–20 %) that was unacceptable for law enforcement purposes. In comparison, the applicants stated, in the incident that gave raise to another Strasbourg case, *Isayeva*, where an aerial bomb killed 4 of the 28 persons in a mini-van, the lethality rate was 14 %, which is lower than the lethality rate of the gas used in the Moscow theatre.

The applicants further disagreed with the Courts finding that the gas was not used indiscriminately, and stated that, when used against in mixed populations, the gas is

[47] § 232 of the judgment.
[48] Editor's note: On 4 June 2012 the Grand Chamber panel of five judges decided to reject the request for referral of the case. Therefore the judgment of the Chamber is now final.

fundamentally much more indiscriminate type of force than weapons such as firearms. The applicants also disagreed that the use of gas reduced the likelihood of explosion. They argued that it remains unclear why the suicide bombers did not activate their explosive devices. What was clear and undisputed was that they had the time to do so before they fell unconscious but for some reason chose not to.

Conclusion

Several very important findings follow from the *Finogenov* judgment as regards the use of toxic chemicals in law enforcement operations. *Firstly*, although the European Convention on Human Rights does not regulate what types of chemical weapons are permissible during law enforcement activities, it clearly requires that the chosen weapons and their use be authorised by the applicable national and international laws.

Secondly, the indiscriminate use of lethal chemical agents against a group consisting of both hostages and hostage-takers is inconsistent with the obligation to protect life. Based on the specific factual circumstances in this case, the Court found the gas was not used indiscriminately, but reaffirmed its well-established principle that the massive use of indiscriminate weapons in counter-terrorist operations is a violation of the right to life. This principle is supported by other regional and international human rights bodies that allow the use of potentially deadly force in certain narrow circumstances only against the source of threat, and clearly prohibit the use of deadly force against innocent people who are not sources of threat.[49]

Thirdly, there is an obligation on states to provide adequate medical assistance to those affected by the use of the toxic chemical agents. This obligation places a significant practical burden on the authorities. They have to deploy a large number of qualified doctors and medical workers to the site in position to act within minutes of the use of the toxic chemical agents, to provide them with sufficient information about the nature of the toxic chemical agents used and the antidote, to provide them with the necessary equipment on site, to secure rapid transportation of victims to hospitals and to provide medical assistances during the transportation, and to provide enough staff and beds in hospitals to be able to deal with the arrivals. The question that arises is how realistic it is to provide such complete medical care in situations where there are a large number of intoxicated people.

[49] See for example the Inter-American Court of Human Rights, *Zambrano Vélez et al. v. Ecuador*, Judgment of 4 July 2007, I/ACtHR, *Series C, No. 166* (2007), § 85: "[i]n peacetime situations, state agents must distinguish between persons who, by their actions, constitute an imminent threat of death or serious injury and persons who do not present such a threat, and use force only against the former."

SESSION 3 DISCUSSION

Compatibility of "incapacitating chemical agents" with international human rights law?

A participant explained that certain characteristics of "incapacitating chemical agents" mean that their use cannot be compatible with international human rights law. One is that when these toxic chemicals are used as weapons against groups of people they are indiscriminate and so will also affect people who are not posing a threat. Another is that, in addition to immediate health risks to all those exposed, these toxic chemicals will also result in significant long term health effects, including for those not posing a threat. Given that these risks are known in advance, they must be taken into account in any assessment under international human rights law.

Another participant suggested that, given these realities, and obligations in terms of health and safety, planning and training, it would not be advisable for a country to use "incapacitating chemical agents" as weapons for law enforcement. However, another participant suggested that this conclusion might be different if it were possible to direct these weapons at an individual person without posing risks to bystanders, and if the risks of death were minimised.

The right to life and potentially lethal force

A participant explained that the right to life becomes relevant when potentially lethal force is used, regardless of whether those affected are killed. Rather, a definite risk of death is sufficient for there to be a violation of the right to life under international human rights law. A key question, therefore, in relation to "incapacitating chemical agents" is whether these weapons are to be considered as "lethal" weapons. While any weapon can be lethal, the participant noted that the use of these toxic chemicals has been judged to present at least a 10% risk of death among those exposed. As a result, these weapons must be considered as potentially lethal and consequently the rules derived from the right to life, which limit the use of force, will be relevant. The participant added that this would be the case even if the authorities did not foresee that a given weapon would cause deaths. The European Court of Human Rights has confirmed this approach and a similar approach is taken with other human rights treaties.

One participant raised the question of how a definite risk of death is determined and whether a certain percentage risk makes it potentially lethal. Another participant explained that some uses of force, such as the use of a firearm, are taken for granted as potentially lethal. In the case of *Makaratzis v. Greece* at the European Court of Human Rights it was assessed that the right to life was relevant when a firearm was aimed (but not fired) at a person. In other cases, the use of weapons that are not intended or designed to kill have been judged to violate the right to life, such as the use of CS (tear gas) in enclosed spaces, which is known to be potentially lethal in such contexts. The participant explained that there is no specific percentage risk that determines whether the use of a weapon is potentially lethal, but rather it will depend on the specific context of use. However, overall the threshold is quite low as to what may be considered potentially lethal.

The participant added that the level of planning and training for an operation is also taken into account. If deaths occurred solely due to lack of proper training and planning of an operation, then this may be judged as a violation of the right to life.

Use of force when there are uncertainties about who is posing a threat

One participant highlighted that difficulties can arise in some situations – such as hostage scenarios – in determining who poses a threat and who is uninvolved. The approach taken by law enforcement or the military in such situations is to treat all those present as potentially hostile. A common procedure is to search and handcuff everyone until it has been ascertained who poses a threat. Where uncertainty exists, it is sometimes necessary to use force and expose uninvolved persons to the use of force. Depending on the situation such force may include weapons such as 'stun' grenades but may also include potentially lethal force.

Another participant explained that any use of potentially lethal force, including "incapacitating chemical agents", would only be justified if absolutely necessary in the given situation. These restrictions prevent law enforcement officials from entering a hostage situation and using firearms indiscriminately against everyone present, for example. Even though it is not always easy to judge who is posing a threat, it is well established under human rights law, and confirmed by jurisprudence, that in situations where potentially lethal force may be used, such force may only be directed at the person(s) posing a threat to life. In addition, potentially lethal force may only be used if the operation has been properly planned.

Comparison of "incapacitating chemical agents" with other weapons

There were differing views expressed on the potential value of "incapacitating chemical agents" as alternatives to other weapons. One participant argued that it was important to take into account the consequences of not intervening in a given situation (e.g. risking the lives of hostages) and also the consequences of using other means or weapons that could result in greater loss of life. In response, another participant noted that under international human rights law there is an obligation to avoid affecting uninvolved persons, which appears very difficult with "incapacitating chemical agents". It was emphasised that the use of "incapacitating chemical agents" would also bring additional risks, such as the long term adverse health effects associated with exposure to these toxic chemicals.

Adverse health effects and the prohibition of cruel, inhumane or degrading treatment

Several participants highlighted the uncontrollable variables associated with the use of "incapacitating chemical agents" as weapons, which make it difficult to assess or manage the risks involved. For example, the risks will be dependent to a significant extent on the amount of the chemicals to which victims are exposed, the duration of exposure, and the individual characteristics of the victims, none of which can be controlled. One participant asked what the implications would be with respect to the prohibition of cruel, degrading and inhumane treatment. Another participant explained that the long-term injuries, such as permanent brain damage, caused by the use of "incapacitating chemical agents" may be considered as inflicting inhuman treatment if the effects were not justifiable. The participant noted that what is justifiable is interpreted very restrictively and that the concern over long-term adverse effects of "incapacitating chemical agents" was an area in need of more attention and emphasis.

One participant said that discussion should not be limited to chemicals that cause incapacitation through anaesthesia and sedation, explaining that incapacitation could be caused by chemicals with a range of effects including, for example, causing convulsions.

Depending on the effects caused, the participant suggested, use of such chemicals might be considered as cruel, inhuman or degrading treatment.

Discussion of the *Finogenov and others v. Russia* case at the European Court of Human Rights

There was considerable discussion among participants about the European Court of Human Rights 2011 judgment, *Finogenov and others v. Russia*, concerning the use of toxic chemicals during the siege of a Moscow theatre in 2002. One participant highlighted three main issues with the conclusion reached in this case. Firstly, as is common practice at the European Court of Human Rights, when the Court can find a clear violation of the right to life on one issue, it may let other issues pass without further judgement. In the *Finogenov* case, the Court found a violation with respect to insufficient planning and implementation of the rescue operation and therefore did not need to find a violation with respect to the use of the toxic chemicals themselves.

Secondly, with respect to the consequences of their use, the Court gave the Russian authorities the benefit of the doubt. Given that this was the first large scale use of "incapacitating chemical agents" as weapons and therefore information about the consequences of their use was limited prior to this incident, it was reasonable to conclude that the Russian authorities believed these toxic chemicals were safe enough to use in that situation. However, this allowance may not be made for any future uses since the significant dangers have now been demonstrated in practice.

Thirdly, it appears that the European Court of Human Rights was misled in reaching the conclusion that good organisation of the operation and improved medical care could have prevented the deaths that resulted. Technical assessments at this expert meeting and in previous discussions have shown that it is very difficult if not impossible to provide the required medical care that would reduce these risks in a tactical situation. Therefore, in the future, the use of "incapacitating chemical agents" should be seen as deadly force and therefore too dangerous to consider in such situations, especially given the risks posed to uninvolved persons.

Intent and indiscriminate weapons

There was discussion about the European Court's assessment of whether the use of "incapacitating chemical agents" by the Russian authorities was indiscriminate. The Court concluded that it was not indiscriminate because the toxic chemicals were not intended to kill the hostages. A participant highlighted concerns with this assessment because, as a general rule, in law enforcement operations under human rights law you cannot target persons who do not pose a threat. In addition, some weapons would never be considered acceptable in a law enforcement situation as they would be considered indiscriminate. For example the use of machine guns or bombs would not be permitted even if the intent were only to target hostage takers. The participant noted that intent could be an important factor if using a weapon that can be used in a discriminate manner, such as a firearm or a stun grenade. A firearm can be used to target a person posing a threat and may unintentionally harm an uninvolved person. However, since "incapacitating chemical agents"are both potentially lethal and indiscriminate when used against groups of people, it is difficult to make the argument that they were not likely to kill.

Another participant suggested that the European Court of Human Rights, when judging that the use of toxic chemicals was not intended to kill, were considering the degree to which the Russian authorities were responsible beyond reasonable doubt for the deaths of the hostages. Two participants emphasised that the Court decided on the basis of this very high

standard of proof, which is one of the reasons that they judged the use of the toxic chemicals did not violate the right to life, but rather it was the lack of planning and implementation of the rescue operation. Also, the lack of planning of the rescue operations was the focus of the applicants in the case. As a result, a participant explained, the authorities were given the 'benefit of the doubt' by the European Court of Human Rights, who judged that the Russian authorities believed they could have saved all the hostages by using the toxic chemicals. The participant pointed out, however, that the problem with this conclusion by the Court is that it was based on the premise that these chemicals can be used as weapons safely, which is now known to be false.

Use of toxic chemicals under international human rights law

There were differing views on whether the use of "incapacitating chemical agents" in the Moscow siege incident was a violation of international human rights law. One participant was of the view that the use of toxic chemicals was reckless and did not respect the duty to safeguard life. Both the Russian authorities and the European Court of Human Rights assumed that it is possible to use these toxic chemicals safely, which the participant emphasised was an incorrect assumption. Another participant took a different view, stating that the presumption of recklessness must be placed in the context of the extreme nature of the situation. In addition, the participant added that it would be wrong to conclude that the use of the toxic chemicals represented "lethal" force used indiscriminately against all hostages because it still represented an attempt to save lives.

Provision of adequate medical treatment

Several participants questioned the assumption implicit in the European Court of Human Rights judgment that provision of better medical care would have prevented the deaths of the hostages in Moscow. One participant noted that, by definition, it is not possible to provide adequate medical treatment in a tactical situation of the type that would be required when such anaesthetic chemicals are used in a medical setting. In addition, the participant emphasised that the ability of medical professionals to provide timely medical care in a tactical situation will be entirely dependent on the situation. It will only be possible to provide it once the situation is under control and once fighting has ceased, which will vary according to the particular situation.

Several participants expressed surprise at the implication from the European Court of Human Rights judgment that these weapons could be used safely if only planning and medical care was adequate. A participant noted that the use of toxic chemicals such as fentanyl derivatives against a group of people would inevitably result in some fatalities. In addition, the expectation of providing adequate medical treatment is unrealistic in fast moving tactical situations and in the light of all the uncontrollable variables associated with the use of "incapacitating chemical agents" as weapons. From a medical perspective, the participant added, the *Finogenov* judgment raises questions about the medical advice the Court received.

The relationship between the Chemical Weapons Convention and international human rights law

There was also discussion about the relationship between international human rights law and the Chemical Weapons Convention (CWC). A participant explained that some observers were disappointed that the European Court of Human Rights did not refer to the CWC regime in the *Finogenov* judgment. However, several other participants questioned whether that would have been desirable, noting that the Court does not have the relevant expertise and so may not have reached an accurate legal conclusion. One participant took the view that it is

uncertain whether comments about the CWC would have had an impact on the CWC regime because the judgment was limited in its scope to international human rights law. But another participant stated that the failure of the Court to find a violation for the use of toxic chemicals itself could be seen as justifying the use of these weapons.

The discussion touched briefly on whether the use of toxic chemicals during the Moscow theatre siege was a violation of the CWC. (See also Session 5 for a more detailed discussion). One participant put forward their view that it did not represent a violation of the CWC since the action fell under the law enforcement provision. The participant said that the OPCW had solicited views from various countries after the incident and had also reached this conclusion. The participant added that this did not exclude the possibility that other relevant international law had been transgressed.

Another participant emphasised that the toxic chemicals that have been considered as "incapacitating chemical agents" cannot be distinguished on a technical basis from chemicals that have been developed in the past as chemical warfare agents, asking whether this was relevant for any assessment under international human rights law. Another participant replied that it was not useful to mix the application of human rights law with the CWC since judgments under the former are highly dependent on the context. The important question, this participant emphasised, was whether States think it is reasonable to develop such weapons knowing that they are potentially lethal and will affect innocent persons, and given that international human rights law does not accept the intentional use of potentially lethal weapons against uninvolved persons.

Relevance of the UN Basic Principles on the Use of Force and Firearms

There was a discussion among participants about the regulation of the use of force by law enforcement officials under the *UN Basic Principles on the Use of Force and Firearms*. These principles were adopted in 1991 and do not have treaty status but are regularly referred to by human rights treaty bodies in connection with the right to life. It was noted that Principles 2 and 3 address the development and use of so called "non-lethal incapacitating weapons" and encourage the development of these weapons. Some participants expressed unease that this could be interpreted as encouraging the development of "incapacitating chemical agents" as weapons. In response, another participant highlighted two reasons why this interpretation would be incorrect. Firstly, "incapacitating chemical agents" must be considered as potentially lethal force and cannot be categorised as "non-lethal incapacitating weapons". Secondly the primary purpose of the Principles is to help avoid the risk to life and the risk of injury. Therefore, if the Principles are interpreted in good faith then they do not encourage the development and use of "incapacitating chemical agents" given the associated risks to life and health.

Definitions of 'force' and implications under human rights law

There was a short discussion among participants of how 'force' is defined and the potential implications for assessments of different weapons. One participant argued that, from a scientific perspective, a distinction should be made between the use of kinetic force (e.g. firearms or blunt force) and intoxication or poisoning (e.g. toxic chemicals). The participant argued that the use of toxic chemicals should not be considered as use of force but as enabling the use of force, adding that it is important to consider how the use of "incapacitating chemical agents" changes the way in which conventional force is used. The participant pointed out that the "lethality" associated with the use of "incapacitating chemical agents" it is not only a result of their direct adverse health effects but also the additional adverse effects from the use of conventional force on those who have been poisoned.

Other participants stressed, nevertheless, that poisoning a person is technically an assault and is a legal concept. It was noted that the law makes its own definitions, even if these are not accurate from a scientific point of view, and so the use of conventional force and the use of toxic chemicals as weapons would both fall under the 'use of force' for the purposes of international human rights law. One participant gave the example of so called "truth drugs", the use of which has been judged as coercion even though it does not represent coercion in the physical sense. It was added that the right to life and the rules on the use of potentially lethal force would apply regardless of the type of force used (e.g. conventional force or toxic chemicals). Another participant stated that, from the perspective of the CWC, the concern is about the hostile use of toxic chemicals as weapons and it does not matter whether this is considered as 'use of force' or 'poisoning'.

SESSION 4:
WHAT IS LAW ENFORCEMENT?

Speaker's summary

DISTINGUISHING LAW ENFORCEMENT FROM THE CONDUCT OF HOSTILITIES

Cordula Droege

Introduction

As armed conflicts become more complex, with battlefields not being clearly defined and moving into civilian areas, and civilians becoming intermingled with fighters, the distinction between the so-called law enforcement regime and the conduct of hostilities regime in the use of force is a subject of much debate.[1]

In this presentation, the relevance of the distinction and its legal implications with respect to the use of so called “incapacitating chemical agents” will be discussed. The starting point for the discussion is the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (hereinafter Chemical Weapons Convention or CWC). What is presented here is merely an overview of the questions raised and the consequences of differing legal positions, it does not aim to give definite answers to these questions.

An exception for law enforcement under the Chemical Weapons Convention?

“Incapacitating chemical agents” are toxic chemicals that fall, in principle, under the definition of chemical weapons.[2]

However, the Convention makes an exception to the definition of chemical weapons for those toxic chemicals that are "intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes". Article VI.1 of the CWC also states that "[e]ach State Party has the right, subject to the provisions of this Convention, to develop, produce, otherwise acquire, retain, transfer and use toxic chemicals and their precursors for purposes not prohibited under this Convention". Article II.9(d) then defines as one of the purposes not prohibited under this Convention "law enforcement including domestic riot control purposes."

This has given rise to differing interpretation among States and other observers as to whether the law enforcement provision is limited to the use of riot control agents or whether it permits the use of a wider range of toxic chemicals for law enforcement up to but not including those toxic chemicals listed in the CWC’s Schedule 1.[3]

[1] The ICRC held an expert meeting on this subject in January 2012. This overview draws in part on the background paper that was drafted for that meeting. A report on the meeting will be published in due course. [ICRC (forthcoming, 2013) *Report of an Expert Meeting*, *The Use of Force in Armed Conflicts: Interplay between the Conduct of Hostilities and Law Enforcement Paradigm*, Report prepared by Dr Gloria Gaggioli).
[2] Article II.1(a) CWC.
[3] See Verification Annex VI A.2.(a).

The situation for “incapacitating chemical agents” is less clear than for riot control agents, because the CWC makes clear that riot control agents are prohibited "as a method of warfare"[4] (as distinct from law enforcement).

Germany has taken the position that the provision only covers riot control agents.[5] The United Kingdom also originally took this view, but it may have changed its position recently.[6] Some argue that “any toxic chemical used for law enforcement purposes has to have the same properties as a riot control agent”.[7] It has also been questioned whether there exist, at this stage, “incapacitating chemical agents” of the type that are consistent with law enforcement.[8] Others, on the other hand, have rejected such a narrow interpretation, claiming that the provision is not limited to riot control agents but applies to all toxic chemicals, with the only exception being the chemicals listed in the CWC’s Schedule 1.[9] It is also suggested that the CWC allows for the use of toxic chemicals for capital punishment, which may support the argument that the provision goes beyond riot control agents.[10] Furthermore, the practice of one State (Russia during the Moscow hostage crisis) indicates that it both viewed the situation to be law enforcement and viewed the use of toxic chemicals other than riot control agents to be permitted.

In sum, it is controversial whether “incapacitating chemical agents” do actually fall under the law enforcement provision of the CWC. Only if one takes the position that they do, does the distinction between law enforcement and the conduct of hostilities become relevant. If one takes the position that “incapacitating chemical agents” do not fall under the law enforcement provision then their use would in any case never be lawful.

Before turning to the distinction between law enforcement and the conduct of hostilities, another caveat should be mentioned: the Chemical Weapons Convention is not the only international legal regime that might restrict the lawfulness of the use of “incapacitating chemical agents” for law enforcement purposes. Other regimes, such as international law on drug control and international human rights law (HRL) are also relevant. In particular, the restrictions imposed by human rights law must be carefully taken into account. As Louise Doswald-Beck explains in her paper,[11] the current inability to know and to control and contain the effects of “incapacitating chemical agents” raises strong concerns about their use with respect to the right to life, the right to health and the prohibition of cruel, inhuman or

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[4] Article I.5 CWC; Article II.7 CWC defines riot control agents as "any chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation of physical effects which disappear within a short time following termination of exposure".

[5] See article 1(2)(b) of the German Act Implementing the Convention of 13 January 1993 on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, http://www.bafa.de/bafa/en/export_control/cwc/legislation/cwc_act_implementing_convention.pdf.

[6] Mr Douglas Hogg, Minister of State, Foreign & Commonwealth Office, written response to a Parliamentary question from Mr Macdonald to the Secretary of State for Foreign & Commonwealth Affairs, 7 December 1992, *Hansard (Commons)* Vol 215 No 89 cols 461-462, http://www.publications.parliament.uk/pa/cm199293/cmhansrd/1992-12-07/Writtens-1.html;
UK Secretary of State for Foreign and Commonwealth Affairs, response to the Fourth Report from the Foreign Affairs Committee (Session 2008-09), Cm 7692, August 2009, p 22, http://www.publications.parliament.uk/pa/cm200809/cmselect/cmfaff/222/response.pdf.

[7] See for example: Wagner, A (2007) Toxic Chemicals for Law Enforcement Including Domestic Riot Control Purposes Under the Chemical Weapons Convention, in Pearson, A, Chevrier, M and Wheelis, M (eds) *Incapacitating Biochemical Weapons: Promise or Peril?* Lexington Books, 2007, pp 195-207.

[8] See the discussion in Fidler, D (2005) The meaning of Moscow: “Non-lethal” weapons and international law in the early 21st century, *International Review of the Red Cross,* Vol 87 No 859, September 2005, p 537.

[9] Fidler, D (2007) *Incapacitating and Biochemical Weapons and Law Enforcement Under the Chemical Weapons Convention*, Pearson, A, Chevrier, M and Wheelis, M (eds) *Incapacitating Biochemical Weapons: Promise or Peril?* Lexington Books, 2007, pp 173-174.

[10] A counter-argument is that the use of chemicals for capital punishment may not be considered comparable to the use of a weapon in the same way that the use of riot control agents or “incapacitating chemical agents” or chemical warfare agents can be considered as chemical weapons.

[11] See the section of this report covering Session 3 of the expert meeting.

degrading treatment or punishment – and makes them unlikely lawful weapons in most law enforcement situations.

- If it is accepted that "incapacitating chemical agents" can fall under the law enforcement provision of the CWC, then this would mean that, while they could not be used as weapons in the conduct of hostilities, they could possibly be used in law enforcement (subject to the limitations imposed by human rights law and other legal regimes).
- Conversely, riot control agents cannot be used "as a method of warfare" (Article I.5 CWC) but can be used in law enforcement.
- Then it is crucial to know whether a situation amounts to law enforcement or conduct of hostilities.

What are the applicable legal regimes in terms of the use of force?

Before mentioning the defining features of each regime, it must be emphasised that a situation of conduct of hostilities, governed by international humanitarian law (IHL), can only arise in a situation of armed conflict. Thus, the need to identify whether State security forces act in the framework of the conduct of hostilities or law enforcement only arises in a situation of armed conflict. Short of armed conflict, any use of force employed by the State authorities falls under law enforcement and is governed by domestic law and, at the international law level, by human rights law.

There is no definition of either concept in public international law. However, there are indications in soft law instruments and other commentaries, in particular with respect to law enforcement.

Indeed, some human rights soft law instruments define the concept of "law enforcement officials". The most relevant international instruments in this regard are the *UN Code of Conduct for Law Enforcement Officials*[12] and the *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*,[13] which define when and how law enforcement officials are permitted to use force. In these two instruments, law enforcement officials are defined as including "all officers of the law, whether appointed or elected, who exercise police powers, especially the powers of arrest or detention. In countries where police powers are exercised by military authorities, whether uniformed or not, or by State security forces, the definition of law enforcement officials shall be regarded as including officers of such services."[14] Put simply, law enforcement is the exercise of police powers in order to maintain or restore public security, law and order.

"Hostilities" are also not defined in international law treaties. In the ICRC's *Interpretive Guidance on the Notion of Direct Participation in Hostilities*, "hostilities" are defined as "the (collective) resort by the parties to the conflict to means and methods of injuring the enemy".[15] Thus, the conduct of hostilities, unlike law enforcement, is commonly associated with combat operations - confrontations between the parties to the conflict.

For determining whether an operation is carried out as law enforcement or as hostilities, it is immaterial who is conducting the operation – the police or the armed forces. In some States

[12] *UN Code of Conduct for Law Enforcement Officials*, adopted by UN GA 34/169 of 17 December 1979
[13] *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, adopted by the 8th UN Congress on the Prevention of Crime and the Treatment of Offenders, Havana, Cuba, 27 August to 7 September 1990.
[14] *UN Code of Conduct for Law Enforcement Officials,* commentary to article 1.
[15] ICRC (2009) *Interpretive Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*. Geneva: International Committee of the Red Cross, p 43.

police forces, or certain special police forces, have powers to combat insurgents and might therefore be involved in the conduct of hostilities between the State and an organised armed group. In many States, military forces have powers to engage in law enforcement, including against demonstrations, etc. In such situations, they are given law enforcement powers.

Law enforcement

In principle, the use of force in law enforcement is governed by international human rights law, first and foremost the protection of the right to life, physical and mental integrity and health. In terms of the use of force, there is by now a considerable body of soft law instruments[16] and jurisprudence, and it is accepted that human rights law imposes broadly the following restrictions on the use of force: the use of force must be gradual (escalation of force) and subject to necessity and proportionality; the use of firearms should be avoided, and only be used as a last resort when other measures are insufficient;[17] the use of lethal force is limited to situation of self-defence or defence of third persons when strictly unavoidable to protect life or physical integrity.[18]

The use of alternative weapons to firearms is encouraged in human rights soft law and jurisprudence.[19] The *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials* stipulate that:

> "Governments and law enforcement agencies should develop a range of means as broad as possible and equip law enforcement officials with various types of weapons and ammunition that would allow for a differentiated use of force and firearms. These should include the development of non-lethal incapacitating weapons for use in appropriate situations, with a view to increasingly restraining the application of means capable of causing death or injury to persons. For the same purpose, it should also be possible for law enforcement officials to be equipped with self-defensive equipment such as shields, helmets, bullet-proof vests and bullet-proof means of transportation, in order to decrease the need to use weapons of any kind.
>
> The development and deployment of non-lethal incapacitating weapons should be carefully evaluated in order to minimize the risk of endangering uninvolved persons, and the use of such weapons should be carefully controlled."

In this respect, it should be emphasised that whereas riot control agents would fall under the category of "non-lethal incapacitating weapons" that are employed with the purpose of minimizing the risk of endangering uninvolved persons, this is not the case for "incapacitating chemical agents". Although any weapon can cause death or serious injury depending on the context of its use, certain weapons have been considered to carry significantly less risk of death or serious injury than firearms if used within narrowly defined parameters. Thus, while the terminology "non-lethal" or "less-lethal" weapons is misleading, they are commonly understood to include plastic bullets (or other specific projectiles), riot control agents (e.g. CS, PAVA, pepper spray), and electrical weapons (e.g. Taser).

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[16] In particular the *UN Code of Conduct for Law Enforcement Officials; UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.*

[17] Principle 9 of the *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.*

[18] *Ibid.*

[19] For the case law, see among many other examples: *Burrell v. Jamaica*, Human Rights Committee (HRC), 18.7.96, §9.5; *Mc Cann v. United Kingdom*, European Court of Human Rights (ECtHR), 27.9.95, §§211-212; *Güleç v. Turkey*, ECtHR, 27.7.98, §71 ; *Hamiyet Kaplan and others v. Turkey*, ECtHR, 13.9.05, §51; *Montero-Aranguren et al v. Venezuela*, Inter-American Court of Human Rights (IACtHR), 5.7.06, §§77-78 ; *Zambrano Vélez et al. c. Equateur*, IACtHR, 4.0.07, § 87.

"Incapacitating chemical agents", on the contrary, present a significant risk of death and serious injury among those affected due to uncontrollable variables; carry additional health risks due to increased vulnerability of the victims while incapacitated; unlike riot control agents, require medical attention for victims to recover, including an agent-specific antidote and medical monitoring. Thus, "incapacitating chemical agents" cannot be understood to fall under the "non-lethal incapacitating weapons" encouraged by the *Basic Principles on the Use of Force and Firearms*.

Conduct of hostilities

The conduct of hostilities regime - including the rules of distinction, proportionality and precaution - stems from IHL.[20] While human rights law continues to apply, IHL is the *lex specialis* regarding the conduct of hostilities.[21]

The IHL basic rules governing the conduct of hostilities were crafted to reflect the reality of armed conflict. They are based on the assumption that the use of lethal force is inherent to waging war because the ultimate aim of military operations is to prevail over the enemy's armed forces. Parties to an armed conflict are thus permitted, or at least are not legally barred from, attacking each other's military objectives, including enemy personnel.

Furthermore, there are numerous regulations of means and methods of warfare. The first consists of general principles and rules that apply to all means and methods of warfare, in particular the prohibition of weapons, projectiles and materiel, of a nature to cause superfluous injury or unnecessary suffering or which are indiscriminate.[22] The second consists of international agreements which ban or limit the use of specific weapons. The use of chemical weapons, including "incapacitating chemical agents", and riot control agents as a method of warfare is prohibited by the Chemical Weapons Convention and customary international law.[23]

Law enforcement and conduct of hostilities: Two situations to illustrate the importance of the distinction

In terms of the potential application of "incapacitating chemical agents", two situations in particular illustrate how the differentiation between law enforcement situations and conduct of hostilities situations might become difficult not only as a matter of law, but also in practice. Even in such complex scenarios, there is no alternative but to determine clearly the legal regime governing the use of force, and the possibility of using "incapacitating chemical agents" in particular. Indeed, without clarity on the legal framework, it will be impossible to define the mission of the forces and to give clear instructions on the type and amount of force that may be used.

[20] First among the basic IHL rules on the conduct of hostilities is the principle of distinction. According to this principle, parties to an armed conflict must at all times distinguish between civilians and civilian objects on the one hand and combatants and military objectives on the other hand, and direct their attacks only against the latter; Art. 48 API; Henckaerts, J-M and Doswald-Beck, L (2009) *Customary International Humanitarian Law: Rules*, vol. 1, International Committee of the Red Cross. Cambridge: Cambridge University Press, Rules 1-10 [hereinafter ICRC Customary IHL Study].
[21] *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, I.C.J. Reports 1996, §25.
[22] Article 35 AP I; Rules 70, 71 of the ICRC Customary IHL Study.
[23] Article I CWC; Rules 74, 75 of the ICRC Customary IHL Study.

Hostage taking scenario

In principle, in a situation in which State forces use force against members of an organised armed group of a party to a non-international armed conflict, this would be regulated by IHL, i.e. the rules on the conduct of hostilities would apply. However, situations in which the applicable legal framework has been discussed controversially are situations in which the confrontation appears like a relatively isolated incident, possibly at a long distance from the battlefield, and less like a battlefield situation.

One such scenario is that of an operation to liberate hostages who are taken by members of an organised armed group. This type of situation occurred during the hostage crisis at the Japanese residence in Lima in 1996/1997 in which the hostage takers were members of the MRTA, an organised armed group involved in an armed conflict with the government of Peru. A more recent example is that of the storming of the Nord-Ost theatre in Moscow in 2002 by Russian special forces to free hostages who were taken by members of a Chechen separatist group – since "incapacitating chemical agents" were used in this example, it illustrates the potential use of such "incapacitating chemical agents" as well as the legal questions that arise.

There are, broadly speaking, two possible legal views on such a situation:

According to one view, the legal framework would consist of the IHL rules governing the conduct of hostilities because of the fact that the confrontation takes place with members of an organised armed group. In this view, the framework on the use of force is determined by the "status" of the hostage-takers,[24] because they are members of an organised armed group belonging to a party to the conflict. The hostage taking has a nexus to the conflict.

The legal consequences of this position would be the following:

- The use of force is governed by the IHL rules on the conduct of hostilities, that is primarily the principles of distinction, proportionality and precaution;
- Since as members of the organised armed group the hostage-takers are legitimate military targets, lethal force can be used against them. There is no obligation, in principle, to plan the operation in order to carry out an arrest (subject to the principles of military necessity and humanity according to which the kind and degree of force which is permissible against these persons must not exceed what is actually necessary to accomplish the legitimate military purpose in the prevailing circumstances – and which in certain circumstances could entail an obligation to capture[25]);
- Civilian casualties as collateral damage are not in themselves unlawful (as long as the principles of IHL are respected (in particular the principles of distinction and proportionality), but precautions must be taken to avoid, or at least minimize, them;[26]
- There is no obligation under IHL to conduct an investigation in case of death, unless there are allegations of serious violations of IHL;[27]
- Riot control agents cannot be used as they would be used as method as a method of warfare.

[24] Since there is no status with the corresponding privilege as such (combatant, prisoner of war) in non-international armed conflict, the term status is used here in a non-technical sense to mean that it is the membership in an organised armed group that defines the legal relationship between the confronting forces.
[25] ICRC (2009) *Interpretive Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*. Geneva: International Committee of the Red Cross, pp 77 *et seq*.
[26] Article 57 AP I; Rules 15, 17 of the ICRC Customary IHL Study.
[27] Article 49 and 50/ 50 and 51/ 129 and 130/ 146 and 147 of the four Geneva Conventions. *See also* Articles 11 and 85/86 of API.

- "Incapacitating chemical agents" cannot be used because they are toxic chemicals under the CWC and therefore chemical weapons if used for the conduct of hostilities.

Another view is that the legal rules on law enforcement govern the situation because it is not a situation of hostilities comparable to a battlefield situation. It is an isolated event in this particular area in which the government forces are generally in control (Lima; Moscow), and there is no justification from departing from the higher standards of law enforcement to protect the right to life of all persons affected.

The legal consequences of this position would be the following:

- The use of force by the State forces is governed by the rules on law enforcement, derived mainly from general principles of international law and human rights law, with the overarching obligation to protect the right to life of everyone, that is not only the hostages but also the hostage-takers;
- The State forces have an obligation to plan the operation in order to arrest the hostage takers and avoid the use of lethal force;[28]
- Lethal use of force is a measure of last resort, allowed in particular if the hostage-takers pose an imminent threat to the lives of the hostages or the state security forces;[29]
- Civilian casualties must be avoided (but are not necessarily unlawful if, as a consequence of lethal force used as a last resort, they were inevitable); there is also an obligation to provide positive protection to the civilians;
- There is an obligation to conduct an investigation in case of death, either of the hostage-takers or of civilians;[30]
- It is lawful (and even recommended in order to minimize the risk of endangering uninvolved persons) to use riot control agents;[31]
- It might be possible under the Chemical Weapons Convention to use "incapacitating chemical agents" (if one follows the interpretation that the law enforcement provision is not only reserved for riot control agents); the use of "incapacitating chemical agents" is subject to human rights law, especially the rules set out above.

Violent riots or demonstrations in the context of armed conflict – fighters are among the crowd

Another context in which the distinction between law enforcement and the conduct of hostilities can be difficult, in particular in the case of belligerent occupation or non-international armed conflict, is an armed conflict situation in which there might be civilian unrest, violent riots or demonstrations. If fighters become intermingled in the crowd, and especially if they attack the state security forces, the question arises which legal framework prevails and how it can be differentiated in practice. For instance, there have been riots or demonstrations in contexts like the West Bank, Afghanistan, Yemen, or Syria, in which it is alleged that fighters are intermingled with the civilian crowd.

[28] See, *eg*, *Mc Cann v. United Kingdom*, ECtHR, 27.9.95 §§ 202-214.
[29] Principle 9 of the *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*.
[30] *See* Article 22 of the *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*: "In cases of death and serious injury or other grave consequences, a detailed report shall be sent promptly to the competent authorities responsible for administrative review and judicial control". *See* also *Code of conduct, supra* note 13, commentary (c) to article 3; *Mc Cann v. United Kingdom*, ECtHR, 27.9.95, §161; *Mapiripán Massacre v. Colombia*, IACtHR, 15.9.05, §§ 216ff; *Commission nationale des droits de l'homme et des libertés v. Chad*, African Commission on Human and Peoples' Rights, 1995, §22.
[31] Principle 3 of the *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.*

If only civilians are present, the situation is governed by law enforcement even if the unrest takes place in the overall context of an armed conflict. This is because even if civilians are demonstrating violently, they remain civilians, and cannot be directly targeted under IHL, unless and for such time as they directly participate in hostilities.[32] Participation in civil unrest – even if in support of a party to the conflict and even if violent (e.g. throwing stones) – does not amount to direct participation in hostilities. Indeed, direct participation in hostilities requires a belligerent nexus, i.e. the act must be specifically designed to weaken the enemy's military capacity or inflict death or injury or destruction to protected persons or objects. This is not the case for civil unrest, the primary purpose of which is to express dissatisfaction.[33] Thus, any use of force against civilians is governed by law enforcement, that is there must be an escalation of force procedure, and lethal use of force is only allowed in self-defence or defence of others against imminent threats to life or physical integrity. The use of riot control agents and "incapacitating chemical agents" is subject both to the constraints of the Chemical Weapons Convention, which requires the "types and quantities" of toxic chemicals held and used for law enforcement to be consistent with those purposes, and to the limitations imposed by HRL.

If, on the other hand, fighters are among the crowd, the situation is more complex. Against the civilians, the law enforcement rules continue to apply. Against fighters, however, in particular if they are attacking the state security forces, the rules on the conduct of hostilities would generally apply. In such a case, the use of riot control agents and "incapacitating chemical agents" would not be lawful with respect to these fighters, as they would constitute a method of warfare in the case of riot control agents, and toxic chemicals used as chemical weapons in the case of "incapacitating chemical agents".

This complex factual situation leads to a rather unsatisfactory result: different legal regimes would apply to different people in a same crowd. In practical terms, it will often be impossible for the security forces to identify the individuals in the crowd; it is also difficult to envisage realistic instructions for the security forces; indeed it appears difficult to design rules and instructions whereby the forces must apply a self-defensive HR regime and an offensive IHL regime in parallel to people in the same crowd. Especially in terms of riot control agents or "incapacitating chemical agents" this cannot be carried out in practice, as they are not discriminate enough in a crowd.

To choose a mere conduct of hostilities model would not solve the problem. It would allow the security forces to target the fighters, but with respect to civilians, it would only say that they cannot be targeted. If the security forces want to proceed against the civilians who are violent (for instance to arrest them), they would still have to apply law enforcement rules.

Thus, there are only two possible options:

- Either a mixed model in which law enforcement rules and conduct of hostilities rules are used in parallel, depending on the individuals in the crowd (and those individuals about which there is a doubt must be considered civilians[34]).
- Or, probably more realistically, a model in which law enforcement is resorted to as an overall framework for all persons in the crowd, as a matter of precaution, since its rules are more restrictive than the conduct of hostilities rules. The question then would be whether such an approach, which is overall more restrictive with respect to the use of force, would lead to an acceptance of riot control agents and possibly "incapacitating chemical agents" also against the fighters among the crowd, subject to

[32] Article 51(3) AP I; Rule 6 of the ICRC Customary IHL Study.
[33] ICRC (2009) *Interpretive Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*. Geneva: International Committee of the Red Cross, p 63.
[34] Article 50(1) AP I.

HRL – despite the fact that in principle this would contradict the CWC. Arguably, this would be the logical consequence of using an overall law enforcement model.

Conclusion

To conclude, it should be recalled that, with respect to "incapacitating chemical agents", the need to differentiate between law enforcement action and the conduct of hostilities only arises if one accepts that the Chemical Weapons Convention allows for their use in law enforcement situations. This remains a matter of dispute since it is unclear whether "incapacitating chemical agents" can be used in types and quantities that would be consistent with law enforcement purposes, as required by the Convention, or indeed whether the use of toxic chemicals as weapons for law enforcement is limited to riot control agents only.

If it were the case that "incapacitating chemical agents" could be used as weapons for law enforcement situations within the wider context an armed conflict, then their use in such situations would be governed by human rights law in addition to other applicable law. However, while human rights law does not *per se* prohibit the use of "incapacitating chemical agents", and thus would appear to open a small window to the use of such weapons, great caution is required. Firstly, human rights law imposes rather strict limitations on the use of weapons that are likely to have lethal consequences, and so the resort to "incapacitating chemical agents" might well be unlawful in many law enforcement situations.[35] Secondly, as has been shown above, there are a number of situations which are not easily classified as either law enforcement or conduct of hostilities, or indeed they are mixed situations. In such situations, if these toxic chemicals were used, there is a risk that chemical weapons could be reintroduced into armed conflict situations, which is precisely what the 1925 Geneva Protocol and the Chemical Weapons Convention seek to avoid.

[35] See the contribution by Louise Doswald-Beck in this report (Session 3), which provides a detailed assessment of "incapacitating chemical agents" under human rights law.

SESSION 4 DISCUSSION

Mixed law enforcement and armed conflict situations

There was a discussion among participants highlighting difficulties that may arise in situations where law enforcement operations take place in the context of an armed conflict in establishing the applicable legal regime, whether international humanitarian law or international human rights law, and the implications for the use of riot control agents or other toxic chemicals.

At the outset it was noted that if one adopts a narrow view of the law enforcement exception of the CWC – that only riot control agents may be used for these purposes – then there is not an issue because "incapacitating chemical agents" would be prohibited regardless of the situation. It was noted that the question of which legal regime applies in a given situation must also be addressed with respect to riot control agents, which under the CWC may only be used for law enforcement purposes and not as a method of warfare.

Several participants raised questions about situations, such as in Afghanistan and Kosovo, where armed conflict and law enforcement operations take place at the same time, or where peacekeeping or peace enforcement operations are carried out. There is the question of which law is applicable to a situation but also which law is being enforced by those carrying out the law enforcement activities. One participant asked whether it would be legitimate to use riot control agents in a situation that was mixed in character, such as a peace operation to distribute food that became violent. Another participant suggested that in such a situation it could be useful to look at the mandate of the peacekeeping troops. If they had the mandate to defend the food supplies being distributed then it would probably be classed as law enforcement and international human rights law would apply, therefore permitting the use of riot control agents.

One participant noted that the issue of applicable legal regime was difficult with respect to riot control agents because on the one hand there is a need to uphold the prohibition on the use of toxic chemicals in armed conflict, including riot control agents, but on the other hand there are also certain mixed situations where riot control agents might present an alternative to using conventional force.

Another participant added that such mixed situations are very complex and it can be difficult to get clear legal answers about when military forces can legitimately use riot controls agents. The participant explained that strict rules of engagement were in place for their military forces to help ensure that riot control agents were not used in an armed conflict.

Determining the applicable legal regime

Approaches to determining the applicable legal regime in a given situation were discussed among participants. One participant mentioned a general approach discussed at another ICRC expert meeting on the use of force[36], which was to distinguish between different targets; applying international humanitarian law to combatants and international human rights law to violent civilians (e.g. during violent riots in which civilians demonstrate violently and

[36] ICRC (forthcoming, 2013) *Report of an Expert Meeting*, *The Use of Force in Armed Conflicts: Interplay between the Conduct of Hostilities and Law Enforcement Paradigm*, Report prepared by Dr Gloria Gaggioli.

fighters intermingle). However, difficulties could arise with this approach in the use of chemical agents since, taking the example of riot control agents dispersal devices, their effects are not easily confined to a specific person or small group.

One participant suggested that one approach could be to consider which regime the person using the weapon would be prosecuted under if they transgressed the law. For example, if it would be under domestic law as a law enforcement official then this would qualify as a law enforcement situation. However, another participant noted that this could only be an indicator and not an absolute criterion since there could be situations where military forces are carrying out law enforcement activities but are prosecuted under military courts rather than civilian courts.

Risks of a 'slippery slope' to the use of chemical weapons in armed conflict

Several participants highlighted the risks in these mixed situations, where there is a sliding scale of applicable legal regimes depending on a situation is classified by States, of a 'slippery slope' leading to the use of chemical weapons in armed conflict.

One participant noted that the risk of the law enforcement provision being used to mask the use of chemical weapons in armed conflict was discussed in relation to riot control agents during the negotiation of the CWC. A subsequent risk is of retaliation and escalation to "lethal" chemical warfare agents if riot control agents are used in armed conflict. It was noted that the underlying concerns are the same with "incapacitating chemical agents" but, as one participant noted, these risks are much greater due to the nature of these toxic chemicals, their more severe effects, and their lack of distinction from traditional chemical warfare agents.

One participant noted that the difficulties in distinguishing between law enforcement and conduct of hostilities, and the applicable legal regimes, illustrated a need to return to basics when considering the issue of "incapacitating chemical agents". While recognising that different bodies of law are applicable to the use of toxic chemicals in different situations, the participant urged the group to re-focus on the basic concepts underlying the CWC in order to achieve greater clarity on what is lawful or not. One of these basic concepts, found in the preamble, is that the CWC was designed, intended and negotiated to protect the individual against toxicity and the damage that toxic chemicals can cause. The participant argued that limiting the use of toxic chemicals for law enforcement to riot control agents only – as Germany has done and the UK has stated in the past – is perfectly consistent with this basic concept of protection from toxicity. However, when one moves away from this basic principle to a broader interpretation of the CWC's law enforcement provision allowing the use of a range of toxic chemicals, then it places you at the top of a very 'slippery slope' at the bottom of which is the reintroduction of chemical weapons in to armed conflict.

The CWC's law enforcement provision

There was also a brief discussion among participants about the CWC's law enforcement provision. (This is also discussed in the summary of Session 5.) Several participants noted that, during the negotiation of this text, the only considerations were of the use of riot control agents for law enforcement and the use of other chemical agents for capital punishment. The use of "incapacitating chemical agents" as weapons for law enforcement was not raised or discussed. Another participant noted that discussions had also focused initially on specifying that the provision would apply only to domestic law enforcement, given concerns about a potential 'slippery slope', but this was not included in the final text of the treaty.

Another participant noted that discussions among participants had so far only considered the *use* of "incapacitating chemical agents" under international humanitarian law and international human rights law, but drew attention to the fact that the CWC not only prohibits use of chemical weapons but also research, development, production, and stockpiling of these weapons. The participant added that different legal regimes treated this issue of possession differently, and so a violation under one legal regime may not necessarily be considered a violation under another legal regime.

SESSION 5:
INTERNATIONAL ARMS CONTROL AND DRUG CONTROL FRAMEWORKS

Speaker's summary

CONSTRAINTS OF THE CHEMICAL WEAPONS CONVENTION ON THE USE OF TOXIC CHEMICALS FOR LAW ENFORCEMENT: WHAT IS UNDERSTOOD BY "TYPES AND QUANTITIES" CONSISTENT WITH THESE PURPOSES?

Alexander Kelle

The Chemical Weapons Convention (CWC) contains a generic prohibition of toxic chemicals when used as weapons. From this very broad prohibition the Convention then exempts certain permitted purposes, one of which is the use of toxic chemicals for law enforcement purposes in Article II.9(d). The possibility that not just riot control agents (RCAs), but so-called "incapacitating chemical agents" might be employed for this purpose has increasingly caused concern among some CWC states parties and observers.[1] Such concerns seemed warranted especially after the October 2002 Moscow theatre siege, during which Russian security forces used a fentanyl derivative to incapacitate the hostage takers before storming the building. Despite the perceived legal uncertainty in the CWC surrounding "incapacitating chemical agents" and the question of which types and quantities would be consistent with their use for law enforcement purposes, this issue has received surprisingly little attention in the policy making organs of the Organisation for the Prohibition of Chemical Weapons (OPCW), that is in its Conference of States Parties and Executive Council. However, the Scientific Advisory Board (SAB) of the OPCW has recently started to look into scientific and technical issues related to "incapacitating chemical agents".[2] Scientific and technical assessments conducted so far have concluded that currently, and in the foreseeable future, no toxic chemical will be available that will meet the criteria of a "good" "incapacitating chemical agent".[3] This evaluation was supported by the recent Royal Society study "Brain Waves", which in addition has cautioned that

> "while advances in neuropharmacology and drug delivery are opening up improved therapeutic options, there are considerable technical challenges involved in applying these developments in the operational context of military or law enforcement use …

[1] Dando, M (2003) *The Danger to the Chemical Weapons Convention from Incapacitating Chemicals*, First CWC Review Conference Paper Series, No 4, March, Bradford: University of Bradford; Wheelis, M and Dando, M (2005) Neurobiology: A case study in the imminent militarization of biology, in *International Review of the Red Cross*, No 87, September, pp 553-568; Crowley, M (2009) *Dangerous Ambiguities: Regulation of Riot Control Agents and Incapacitants under the Chemical Weapons Convention*, Bradford Non-lethal Weapons Research Project, October, Bradford: University of Bradford; Switzerland. 2008. *Riot Control and Incapacitating Agents under the Chemical Weapons Convention*, document RC-2/NAT.12, The Hague: OPCW, 9 April; ICRC (2010) *Report of an Expert Meeting. Incapacitating Chemical Agents. Implications for International Law, 24-26 March 2010, Montreux, Switzerland*, www.icrc.org/eng/assets/files/publications/icrc-002-4051.pdf; Spiez Laboratory (2012) *Technical workshop on incapacitating chemical agents, Spiez, Switzerland, 8-9 September 2011*, Spiez Laboratory, Swiss Federal Office for Civil Protection, January 2012, http://www.labor-spiez.ch/de/dok/hi/pdf/web_e_ICA_Konferenzbericht.pdf.

[2] Scientific Advisory Board (2011) *Report of the Seventeenth Meeting of the Scientific Advisory Board*, OPCW document SAB-17/1, The Hague, 23 November.

[3] Spiez Laboratory (2012) *op. cit.*

> Even if the technical challenges could be overcome, a host of legal, ethical and policy challenges remain."[4]

Before discussing different interpretations of the CWC law enforcement provision it is worth recalling the relevant stipulations of the Convention. According to CWC Article I.5 state parties undertake not to use RCAs as a method of warfare. In Article II.7 RCAs are defined as "[a]ny chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure." However, neither "method of warfare" nor "law enforcement" are defined in the CWC, nor are "the types and quantities consistent with these purposes". These ambiguities have led to a range of interpretations, the most restrictive of which has been put forward by Ambassador von Wagner[5] who on the basis of his experience negotiating the CWC has argued that law enforcement is limited to the use of riot control agents and to capital punishment (for which other toxic chemicals are employed). In von Wagner's view law enforcement qualifies the conditions under which riot control measures shall be applied.[6] He also cautions that the special case of capital punishment cannot serve as a tool for a wider interpretation of the term law enforcement.[7] This reasoning leads von Wagner to conclude with a view to the 2002 Moscow theatre siege that "Russian security forces … acted in violation" of the CWC.[8] Directed against the wider interpretations of the law enforcement provision contained in the CWC (such as the ones discussed below), von Wagner argues that "state practice in breach of international law cannot heal the illegality of such violation … even if such illegal state practice is repeated several times and by several states".[9]

A slightly more permissive position is taken by Chayes and Meselson, according to whom CWC Article II.9(d) permits "actions taken within the scope of a nation's 'jurisdiction to enforce' its national law" and actions under UN authority to be covered, as long as these do not constitute a method of warfare.[10] With respect to toxic chemicals permitted for law enforcement purposes they posit that "such chemicals must be 'not listed in a Schedule' and must 'produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of the exposure'. However, any chemical not on Schedule 1 may be used in carrying out the sentence of a duly constituted tribunal against a natural person".[11] In other words, they widen the area of law that is applicable, but follow von Wagner's narrow interpretation of the chemicals that are permissible.

David Fidler[12], in contrast, adopts a much more permissive interpretation of the law enforcement clause in the CWC. He argues that the narrow interpretation allows for capital punishment, so a limitation for law enforcement to 'RCAs only' cannot be proposed in any seriousness. Secondly, in his view CWC Article II.1(a) and II.2 allow for toxic chemicals other than RCAs to be used under the provision of Article II.9 (d). Furthermore, he posits that given the nature of the different schedules in the CWC's Verification Annex, those toxic chemicals

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[4] Royal Society (2012) *Brain Waves 3: Neuroscience, conflict and security*, The Royal Society, London, UK, February 2012, p 15, http://royalsociety.org/uploadedFiles/Royal_Society_Content/policy/projects/brain-waves/2012-02-06-BW3.pdf.
[5] Von Wagner, A (2007) Toxic Chemicals for Law Enforcement Including Domestic Riot Control Purposes Under the Chemical Weapons Convention, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lanham: Lexington Books, pp195-207.
[6] *Ibid*, p 198.
[7] *Ibid*, p 199.
[8] *Ibid*, p 202.
[9] *Ibid*, p 203.
[10] Chayes, A and Meselson, M (1997) Proposed Guidelines on the Status of Riot Control Agents and Other Toxic Chemicals under the Chemical Weapons Convention, *Chemical Weapons Convention Bulletin*, No 35, March, pp 13-18 (p 13).
[11] *Ibid*, p 17.
[12] Fidler, D (2007) Incapacitating Chemical and Biochemical Weapons and Law Enforcement Under the Chemical Weapons Convention, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lanham: Lexington Books, pp 171-194.

listed on Schedules 2 and 3 are permissible for law enforcement purposes.[13] Lastly, Fidler disagrees with the above interpretations on Russia's use of a fentanyl derivative in the 2002 Moscow theatre hostage taking by arguing that "the acquiescence of other CWC states parties"[14] constitutes the very state practice that is permissible under international law on treaty interpretation. However, this wider interpretation of the law enforcement provision by Fidler is moderated by the types and quantities of toxic chemicals he regards as permissible under Article II.9(d): "The more difficult it is to control the effects of the use of a chemical or biochemical in a law enforcement operation, the more suspect such use becomes in terms of the agent being of a type and quantity consistent with a law enforcement purpose".[15] This interpretation raises at least two rather thorny issues: first of all it introduces a huge grey area in terms of decision-making on the last point. Who decides when a situation is so dire and that sufficient precautions have been taken to justify the use of toxic chemicals in a law enforcement situation? One could almost get the impression that the problems surrounding law enforcement have just been reformulated, but not solved. More importantly though, Fidler's assertion that Schedule 2 and 3 chemicals are permissible for law enforcement purposes leads to the peculiar situation that toxic chemicals that are prohibited for armed conflict would be allowed for law enforcement if the situation is grave enough. One wonders how this is compatible with the object and purpose of the CWC, as expressed in paragraph 6 of its preamble, i.e. "to exclude completely the possibility of the use of chemical weapons, through the implementation of the provisions of this Convention."

It has been nine years since a few CWC states parties and the International Committee of the Red Cross sought to insert this issue in the agenda of the First CWC Review Conference in 2003. With all the academic and policy work that has been expended to clarify scientific, technical and legal issues since then, the time is now ripe for "incapacitating chemical agents" to move onto the OPCW's official agenda. This move appears all the more urgent as the recent definition of "incapacitating agents" in the 4th edition of STANAG 2451, "Allied Joint Doctrine for CBRN Defence", as published by the NATO Standardization Agency in 2012, flatly states that "Incapacitating agents are not, by their legal definition, considered to be chemical agents when used for law enforcement purposes, such as riot control."[16] If adopted by NATO member states, this would seem to pre-empt a meaningful discussion on "incapacitating chemical agents" among CWC States Parties.

[13] *Ibid*, p 174.
[14] *Ibid*.
[15] *Ibid*, p 175.
[16] NATO Standardization Agency (2012) *Allied Joint Doctrine for CBRN Defence*, Brussels, 30 March, http://nsa.nato.int/nsa/nsdd/listpromulg.html.

SESSION 5 DISCUSSION, PART 1

The status of "incapacitating chemical agents" under the CWC

A number of participants reiterated that "incapacitating chemical agents" are considered as toxic chemicals under the CWC and this was not disputed by anyone.[17] Their use as weapons in armed conflict is absolutely prohibited since they would be considered as chemical weapons in the same way as any other toxic chemical used as a weapon. All the requirements under the CWC – including non-possession and destruction – would apply to "incapacitating chemical agents" as they would to traditional chemical warfare agents.

The discussion of "incapacitating chemical agents" under the CWC, as one participant noted, relates solely to their potential use of law enforcement. An important question is which "types and quantities" of toxic chemicals are consistent with use for law enforcement. As noted in the speaker's presentation, there is clear agreement that riot control agents are permitted but some disagreement on whether other toxic chemicals, such as "incapacitating chemical agents", are permitted.

Lessons from the CWC negotiations on riot control agents

Comments made by participants about the consideration of riot control agents during the negotiation of the CWC provided some insights. One participant noted that a concern for many States was to ensure that riot control agents would not be used again as a method of warfare, as they had been during the Vietnam War. At the same time States recognised that they may need to retain riot control agents for use during riots or civil disorder in their own domestic contexts.

The solution, the participant noted, was to clearly prohibit the use of riot control agents as a method of warfare and to carefully draft a definition of riot control agents that clearly distinguished them from other toxic chemicals. This would ensure the CWC's aim to prohibit the use of chemical weapons in any context, including outside armed conflict. The participant added that a paradox of considering a wider range of toxic chemicals for law enforcement, such as "incapacitating chemical agents", would be that "lethal" chemicals could be used as weapons for law enforcement, which was not the intention of the negotiators.

Another participant explained that there were diverse views about the treatment riot control agents among States during the negotiations, ranging from their inclusion with all other toxic chemicals as chemical weapons to the exclusion from the CWC entirely. There were also different views about the acceptable uses of riot control agents and quantities required for use in internal security. A compromise was reached on their status and use, meaning that they were considered differently to other toxic chemicals but were prohibited as a method of warfare. To resolve differences on acceptable quantities, it was agreed that declarations would be limited to the types of agents held and not the quantities or specific weapon systems.

The participant noted it was envisaged that States would raise concerns if unusual chemicals were declared as riot control agents. Furthermore, the CWC's Schedules of controlled

[17] Under the CWC a toxic chemical is: "Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals."

chemicals would be used to ensure that the exemption for riot control agents would not be used as a means of developing chemical weapons. Several participants added that it would therefore not be acceptable to use any chemical on one of the CWC's Schedules as a weapon for law enforcement.

'Types and quantities' consistent with law enforcement purposes

The use of riot control agents for law enforcement purposes is also subject to the CWC's restriction that the 'types and quantities' of chemicals and delivery systems must be consistent with those purposes. One participant noted that, even if it were assumed that "incapacitating chemical agents" could be permitted for law enforcement, their acquisition and use would still be subject to these types and quantities restrictions. Therefore, if "incapacitating chemical agents" were to be used for law enforcement it would be necessary to determine criteria for assessing 'types and quantities' that would be permitted.

One participant suggested that it might be possible to define acceptable types and quantities; for example small quantities of certain toxic chemicals in short range delivery systems might be considered acceptable for law enforcement but longer range or wide area delivery systems and projectiles clearly would not. However, another participant noted that some delivery systems – such as grenade dispersal devices – may be harder to define as they could be used in a range of contexts, ranging from law enforcement to armed conflict.

A participant argued that in practice it may not be possible to define acceptable 'types and quantities' of "incapacitating chemical agents". This is because they are not riot control agents and it is not possible to draw a line between toxic chemicals that are "incapacitating" and those that are "lethal".

Another participant explained that monitoring compliance with the 'types and quantities' provision is problematic even for riot control agents because of limited transparency measures. Since there is only an obligation to declare the types of chemicals held as riot control agents, and not the quantities or types of munitions, it is difficult to assess whether the 'types and quantities' held by States are consistent with law enforcement. Another participant noted that there has not been any initiative by States to expand declaration requirements for riot control agents in order to increase this transparency.

State practice with respect to "incapacitating chemical agents"

There was also a discussion about existing State practice with respect to "incapacitating chemical agents" and the potential implications for assessing their status or legitimacy for law enforcement under the CWC. One participant pointed out that one single incident of use (e.g. the Moscow theatre siege incident) was not sufficient to establish State practice and agreement with the interpretation of a treaty. It was noted that for a customary international law norm to emerge State practice must be widespread and virtually uniform. Several participants added that the absence of practice is also relevant, and can be considered as relevant State practice provided it stems from a conscious legal obligation.

A participant asked whether State practice should include circumstances where a State has considered but then rejected the use of "incapacitating chemical agents". Specific reference was made to a hostage crisis at the Japanese embassy in Peru in 1997, where the Peruvian government apparently consulted US authorities, who advised that that the use of fentanyl-type toxic chemicals would be too dangerous. Another participant suggested that in such circumstances the States might already be acting in a way they considered consistent with their obligations under the CWC.

With respect to State practice and the Moscow theatre siege incident, one participant noted that the use of toxic chemicals may not have been officially contested through formal OPCW channels but that that concerns have been raised by some States informally about whether the use was consistent with CWC obligations. The participant added that it would now be a good moment for those States to take a more public stance, either individually or collectively, as to their interpretation of the law enforcement provision of the CWC. States could make a statement at the CWC indicating which types and quantities of toxic chemicals they considered acceptable for law enforcement and which they did not. A participant added that this discussion could lead to an agreed statement by CWC States Parties, or a decision at a Review Conference, clarifying the types of toxic chemicals that are acceptable for law enforcement.

Several participants noted that any such discussion would need to keep in mind the basic objectives of the CWC to prevent the use of toxic chemicals as weapons, and to prevent the acquisition and possession for chemical weapons. One participant noted that without formal action by States there is a risk that the use of toxic chemicals other than riot control agents as weapons could slowly become legitimised, thereby undermining the main objective of the CWC.

Speaker's summary

CONSTRAINTS OF THE BIOLOGICAL WEAPONS CONVENTION ON THE USE OF BIOLOGICAL AGENTS AND TOXINS

Ngoc Phuong Huynh

Introduction: BWC facts and figures

The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction is commonly known as the Biological Weapons Convention (BWC) or Biological and Toxin Weapons Convention (BTWC). It opened for signature in 1972 and entered into force in 1975. It was the first multilateral disarmament treaty banning an entire category of weapons. It effectively prohibits the development, production, acquisition, transfer, retention, stockpiling and use of biological and toxin weapons and is a key element in the international community's efforts to address the proliferation of weapons of mass destruction. The BWC is one of the three fundamental pillars of the international community's effort against WMD, along with the Nuclear Non-proliferation Treaty and the Chemical Weapons Convention. The BWC currently has 165 States Parties and 12 signatories. There are 19 states that have neither signed nor ratified the Convention.

Intersessional programmes

A BWC intersessional programme 2012-2016 was adopted by the Seventh Review Conference in December 2011, with two meetings every year. This year, the Meeting of Experts will be held from 16 to 20 July 2012 and the Meeting of State Parties from 10 to 14 December 2012. The purpose of the intersessional programme is to discuss, and promote common understanding and effective action on specific topics related to better implementation of the BWC and identified by this Seventh Review Conference.

Understandings and agreements

The BWC (annual) Meetings do not take binding decisions, but do reach "common understandings" on key areas for "effective action" (de facto guidelines). The BWC meetings aim to share information and experience, identify best practices, and improve effectiveness of the BWC. The reports of the Meetings of States Parties are a useful resource for BWC national implementation efforts. BWC Review Conferences (every 5 years) take "additional understandings or agreements" which:

- interpret, define or elaborate the meaning or scope of a provision of the Convention; or
- provide instructions, guidelines or recommendations on how a provision should be implemented.

Text of the Convention: Article I

"Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

(1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;
(2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."

Additional understandings and agreements reached by Review Conferences

The following quotations are from the final documents of BWC Review Conferences. They illustrate the additional understandings and agreements reached by States Parties on the comprehensive scope of the Convention:

"The Convention unequivocally covers all microbial or other biological agents or toxins, naturally or artificially created or altered, as well as their components, whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes." (2nd, 3rd, 4th Review Conferences)

"…consequently, toxins (both proteinaceous and non-proteinaceous) of a microbial, animal or vegetable nature and their synthetically produced analogues are covered." (2nd Review Conference)

"The Convention is comprehensive in its scope and that all naturally or artificially created or altered microbial and other biological agents and toxins, as well as their components, regardless of their origin and method of production and whether they affect humans, animals or plants, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes, are unequivocally covered by Article I." (6th, 7th Review Conferences)

"Article I applies to all scientific and technological developments in the life sciences and in other fields of science relevant to the Convention." (6th, 7th Review Conferences)

"…in the fields of microbiology, genetic engineering and biotechnology, and the possibilities of their use for purposes inconsistent with the objectives and the provisions of the Convention." (2nd, 3rd, 4th Review Conferences)

"…molecular biology… and any applications resulting from genome studies." (4th Review Conference)

"… scientific communities to lend their support only to activities that have justification for prophylactic, protective and other peaceful purposes, and refrain from undertaking or supporting activities which are in breach of the obligations deriving from provisions of the Convention." (4th Review Conference)

"… the Conference has decided to include in the 2012-2015 intersessional programme a standing agenda item on review of developments in the field of science and technology related to the Convention."(7th Review Conference)

Conclusion

The Convention bans an entire category of weapons, without any exception. Consequently, the agreements and common understandings show a trend to chronologically and progressively strengthen the position of State Parties, by providing further details and not leaving any gaps.

SESSION 5 DISCUSSION, PART 2

Relevance of the BWC to the issue of "incapacitating chemical agents"

As highlighted by a number of participants, substances that could be used to cause incapacitating effects could also be of biological origin, for example toxins or peptides. Therefore the BWC is relevant to the discussion of "incapacitating chemical agents". It was also noted that there is overlap between the CWC and the BWC since toxins are covered by the prohibitions of both treaties.

One participant emphasised that the BWC is becoming even more relevant to this discussion with the convergence of chemistry and biology and the possibility that biological substances could be more easily developed and used to cause incapacitating effects. The participant added that it is important for the relevant scientific and technical developments to be considered during annual 'intersessional' meetings of the BWC and for there to be closer coordination between the CWC and BWC regimes.

Another participant noted that the discussion of potential use of biological agents to cause incapacitation was not only a concern for the future because there are existing agents that could be used to cause incapacitation. The example given was the therapeutic peptide, insulin, which can cause rapid incapacitation. The participant noted that such an agent would be covered by the BWC.

Which types of agents fall under the BWC?

There was further discussion of which agents fall under the BWC that could be relevant to the discussion of "incapacitating chemical agents". Several participants reiterated that toxins are clearly covered by the BWC. Some participants also emphasised that any naturally occurring substance is covered by the BWC's prohibition, which refers to "microbial or other biological agents, or toxins whatever their origin or method of production". These participants noted that this broad scope clearly includes peptides, some of which are toxins. However, another participant suggested that not all peptides might be classed as toxins.

There was some debate about whether peptides would, in any case, be covered by the category of "other biological agents". Some participants thought there was less clarity on what might fall into this category. One participant said that this category had originally meant to refer to viruses and that it was better to think of peptides as toxins in order to preserve the distinction between biological agents that multiply (bacteria and viruses), and those that do not (toxins). Otherwise, the participant added, there was a risk that the category of "other biological agents" could become too broad.

However, other participants said peptides would clearly fall under the definition of "other biological agents". One participant said that State practice and statements made at BWC Review Conferences show that this category includes all material produced by living organisms, whether an animal, plant or human. During trilateral discussions on biological weapons issues in 1992 between the US, UK and Russia, it was clear that "other biological agents" included peptides. The participant noted that the distinction between living and non-living biological agents is clear, adding that living (multiplying) agents such as a bacteria and viruses are solely covered by the BWC, whereas a non-living (non-multiplying) toxins or other agents such as a peptides are covered by both the BWC and the CWC.

Another participant noted that past biological weapons programmes, and related threat assessments, had included a range of biological agents that could be used to kill or incapacitate, including bacteria, viruses, toxins, and bioregulatory peptides. This, the participant added, provided further evidence of the wide coverage of the BWC.

What is lawful under the BWC? What constitutes 'peaceful purposes'?

Participants discussed whether the use of a biological agent as weapon for law enforcement could ever be permitted under the BWC. In this context several participants drew attention to the differences between the BWC and the CWC. The BWC does not have a specific provision for law enforcement as a purpose not prohibited. Rather the BWC prohibits the development, production and acquisition of biological agents "in types and in quantities that have no justification for prophylactic, protective or other peaceful purposes". (Although the BWC does not specifically mention 'use', there was a brief discussion and agreement among participants that use of biological weapons is prohibited implicitly.)

To the question of whether the use of a biological agent as a weapon for law enforcement could be considered as a peaceful purpose, one participant recalled the negotiating history of the BWC, stating that there was no indication that peaceful purposes included law enforcement. The participant added that peaceful purposes were understood to mean prophylactic, defensive, pharmaceutical, and diagnostic purposes as well as basic scientific research.

Another participant agreed that law enforcement was not discussed as a peaceful purpose during the BWC negotiations. However, the participant noted that the BWC refers to preventing the use of biological agents for "hostile purposes or in armed conflict", adding that a question to ask is whether the use of a biological agent as a weapon for law enforcement would be considered as a "hostile purpose".

There were different views expressed on this question of hostile purposes. One participant suggested that differentiation could be made between the 'offensive' and 'defensive' use of a weapon and that the latter might not constitute a hostile purpose. Another participant argued that it may first be necessary to decide whether the use of the biological agent (as a weapon for law enforcement) would be classified as a peaceful purpose and therefore subject to a broad exception from the prohibition.

Several other participants contested this view, arguing that if a biological agent is used as a weapon then by definition this it is used to cause harm, which is a hostile purpose. Therefore the use of a biological agent as a weapon would qualify as a hostile purpose even if used in self-defence. A participant emphasised that the use of biological weapons is always forbidden because the word 'weapon' indicates the hostile purpose.

The anomaly of 'pepper spray'

Several participants raised the issue of 'pepper spray' or oleoresin capsicum (OC), noting that the active ingredient in OC is capsaicin, which is a plant toxin and therefore falls under the scope of both the BWC and the CWC. OC is used widely by police forces around the world as a riot control agent.

There were different views among participants on how this could be interpreted with respect to the use of biological agents as weapons for law enforcement. Two participants pointed out that current State practice indicates that is permitted to use capsaicin, a toxin, for law enforcement. One participant added that one conclusion that could be drawn from this was

that either States are currently violating the BWC or that law enforcement is considered a peaceful purpose under the BWC.

However, several other participants highlighted the dangers of drawing too many conclusions from the treatment of 'pepper spray' since it was not the intention of the BWC negotiators that biological weapons should remain permitted for law enforcement. Another participant emphasised the overlap between the two Conventions, as toxins also fall within the scope of the CWC, adding that since OC or 'pepper spray' is declared to the OPCW as a riot control agent that would explain its particular status as legitimate for law enforcement.

Several participants agreed that 'pepper spray' is not commonly considered a biological weapon, and that it is not helpful to use it as an example in assessing whether peaceful purposes under the BWC includes the use of biological agents as weapons for law enforcement.

Lessons from the BWC Review Conference process

There were brief comments on whether there may be lessons to be learned from the BWC Review Conference process for the CWC regime. One participant drew attention to the common understandings that have been developed and agreed by consensus during successive BWC Review Conferences and suggested this may be an approach to helping clarify the issue of "incapacitating chemical agents" in the CWC context.

Speaker's summary

CONTROL OF SUBSTANCES UNDER THE INTERNATIONAL DRUG CONTROL CONVENTIONS[18]

Paul Rabbat

Introduction

The international legal regime governing drug control has a long history that began in 1909 with the adoption of the Final Resolutions of the International Opium Commission leading to the subsequent adoption of the International Opium Convention (1912), the centenary of which is being marked by the international community this year.

Following the adoption of the Opium Convention, the international community concluded a number of additional legal instruments:

- Agreement concerning the Manufacture of, Internal Trade in, and use of Prepared Opium (1925);
- International Opium Convention (1925);
- Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs (1931);
- Agreement for the Control of Opium Smoking in the Far East (1931);
- Convention for the Suppression of the Illicit Traffic in Dangerous Drugs (1936);
- 1946 Lake Success Protocol;
- 1948 Paris Protocol;
- 1953 New York Opium Protocol.

The adoption of these instruments led to the creation of a patchwork drug-control legal framework built upon sectoral legal instruments having limited material, geographical and jurisdictional scope. The growing number of legal norms contained within these instruments also contributed to making the drug-control framework unduly cumbersome and unclear.

Recognizing the inherent limitations of this framework, the international community opted to negotiate a new instrument that would streamline, clarify and update existing legal norms related to drug control and develop an effective control framework, resulting in the adoption of the 1961 Single Convention on Narcotic Drugs, which currently has 183 States Parties.

The 1961 Convention replaced most previous drug control conventions, incorporating many of the norms they contained while innovating on several fronts. The 1961 Convention was subsequently amended through the adoption of a Protocol in 1972 and was followed by the adoption of the Convention on Psychotropic Substances (1971), which currently has 183 States Parties, and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988), which currently has 188 States Parties. Together, the

[18] This document summarises the content of a presentation related to the international drug control Conventions given in the context of the ICRC expert meeting on “Incapacitating chemical agents”, held at Montreux, Switzerland on 25 April 2012. Nothing in the present text is to be interpreted as an official pronouncement, interpretation or statement of policy by the International Narcotics Control Board or by any of its members.

amended Single Convention and the 1971 and 1988 Conventions, form the core of the modern United Nations drug-control legal framework.

The framework can be said to have two major objectives: the creation of a control system intended to prevent the diversion and abuse of controlled substances; and working with governments to ensure the availability of medications containing controlled substances for medical and scientific purposes.

The importance ascribed by the international community to these goals is evidenced by the fact that a quasi-universal level of ratification characterizes the three drug control treaties.

For the purposes at hand, two major innovations brought about by the adoption of the Single Convention seem most relevant. The first is the obligation contained within the Single Convention at Article 4 entitled 'General Obligations' which states at paragraph (c) that Parties shall take necessary measures: "Subject to the provisions of this Convention, to limit exclusively to medical scientific purposes the production, manufacture, export, import, distribution of, trade in, use and possession of drugs." The second innovation was the creation of the International Narcotics Control Board (INCB).[19]

The restriction of the use of controlled substances under the Single Convention to medical and scientific purposes was a reflection of the awareness of States participating in the Convention's drafting of the potential for misuse and diversion of narcotic drugs. Such is the importance of this provision that it is characterized in the UN Secretary General's commentary to the Convention as "one of the instrument's most significant achievements".[20]

The 1971 Convention on Psychotropic Substances retained the restriction of the use of controlled substances to scientific purposes subject to very limited exceptions (i.e. the legitimate industrial use of psychotropic substances for the manufacture of non-psychotropic substances and the use of small amounts of psychotropic substances by authorized persons for the capture of animals).

The International Narcotics Control Board

The International Narcotics Control Board (INCB) is an independent quasi-judicial control organ composed of 13 members elected by the UN Economic and Social Council (ECOSOC), 10 members being nominated by Governments and 3 by the World Health Organization (WHO). The Board is mandated with monitoring the Conventions' implementation, in particular through its administration of the control system set forth in the drug control conventions.

The control system established by the drug control conventions

The control system established by the drug control conventions rests on three pillars:

- Estimates/Assessments of controlled substances required for medical/scientific purposes which are confirmed by the Board (in the case of narcotic drugs) and which are then used to calculate limits of manufacture and import for each country;

[19] Although INCB did have institutional forebears responsible for the monitoring of the implementation of previous drug-control instruments.
[20] *Commentary on the Single Convention on Narcotic Drugs*, 1961, http://www.unodc.org/documents/treaties/organized_crime/Drug%20Convention/Commentary_on_the_protocol_1961.pdf

- Statistical returns on: The production/manufacture of drugs; the utilization of drugs for the manufacture of various preparations (whether controlled or not under the Convention's regime); consumption of drugs; imports and exports; seizures and stocks of drugs as at 31 December of the year to which the returns relate.
- Controls on International Trade: Based on a system which requires that import and export authorizations be issued by importing and exporting States; that States not exceed the limits to manufacture and import as established by the Board pursuant to estimates submitted; and which allows for controls of international trade based on comparison between trade data provided by importing and exporting States for each individual transaction.

Compliance-related provisions

The compliance-related provisions in the drug control conventions are contained in: Article 14 of the 1961 Convention; article 19 of the 1971 Convention; and article 22 of the 1988 Convention.

In case of suspected non-compliance of a State with the conventions, the Board may:

- Request additional information from official sources (governments, WHO, UN Secretary General);
- Consultwith Governments;
- Suggest remedial measures;
- Request investigation by Governments to be communicated to the Board;
- Call attention of Parties, the Council and the Commission;
- Publish report on the matter to be disseminated to all Parties through the Commission;
- Recommend that Parties stop import, export of drugs to or from the country or territory concerned.

'Stocks' and 'Special stocks'

Article 19 of the 1961 Convention requires States to provide the Board with estimates of, *inter alia*, quantities of narcotics drugs to be consumed for medical and scientific purposes; quantities of drugs to be used in the manufacture of preparations controlled under Schedule III of the Convention as well as of substances not covered by the Convention.[21] In addition, States are required to submit estimates of *stocks* of drugs to be held at the 31 December of the year to which the estimates relate, as well as of "quantities of drugs necessary for addition to *special stocks*".

The concept of *stocks* is defined at Article 1 of the 1961 Convention as follows:

> "Article 1
>
> […]

[21] In the case of psychotropic substances, the submission of 'assessments' are not mandatory as per the provisions of the 1972 Convention but is requested in accordance with ECOSOC Resolutions 1981/7, 1991/4 and 1996/30.

x) “Stocks” means the amounts of drugs held in a country or territory and intended for:
i) Consumption in the country or territory for medical and scientific purposes,
ii) Utilization in the country or territory for the manufacture of drugs and other substances, or
iii) Export;
but does not include the amounts of drugs held in the country or territory,

[…]

v) As “special stocks”.”

‘Special stocks’ are defined at Article 1(1)(w) as “the amounts of drugs held in a country or territory by the Government of such country or territory for special government purposes and to meet exceptional circumstances...”. ‘Special government purposes’ includes use by the military, however, this does not imply that the use is to be military in nature (such non-military uses may for example include medical treatment of military personnel). ‘Exceptional circumstances’ refers to events such as epidemics and natural disasters. ‘Special stocks’ remain subject to the obligation to limit use of controlled substances to medical and scientific purposes.

According to the UN Secretary General’s Commentary on the 1961 Convention, the reason for the distinction between *stocks* and *special stocks* is “motivated by the desire to protect confidential information which might have military value”.

The distinction made by the Convention between *stocks* and *special stocks* has notable implications for the level of control or scrutiny that can be applied by the Board. Thus, the 1961 Convention requires Governments to provide significantly less information to the Board on *special stocks*. As stated in the UN Secretary General’s Commentary on the 1961 Single Convention: “The Single Convention allows Governments to maintain ‘special stocks’ whose management is not subject to the control of the Board, nor to its examination, its enquiries or its right of criticism.”[22]

This interpretation is notably borne out by Article 12(4) of the 1961 Convention which holds that:

“Article 12

[…]

4. The Board shall examine the estimates, including supplementary estimates, and, except as regards requirements for special purposes, may require such information as it considers necessary in respect of any country or territory on behalf of which an estimate has been furnished, in order to complete the estimate or to explain any statement contained therein.” [emphasis added]

The Convention also imposes similar limits upon the Board’s control of statistical returns related to the utilization of controlled substances at Article 13:

“Article 13

[22] *Commentary on the Single Convention on Narcotic Drugs*, 1961, p 233.

> 1. The Board shall determine the manner and form in which statistical returns shall be furnished as provided in article 20 and shall prescribe the forms therefor.
> 2. The Board shall examine the returns with a view to determining whether a Party or any other State has complied with the provisions of this Convention.
> 3. The Board may require such further information as it considers necessary to complete or explain the information contained in such statistical returns.
> 4. It shall not be within the competence of the Board to question or express an opinion on statistical information respecting drugs required for special purposes." [emphasis added]

Despite the reduced scrutiny to which 'special stocks' are subjected to in the Conventions, the Board does not consider that the provisions in question relieve State Parties of the obligation to limit their use of controlled substances to medical and scientific purposes, a position clearly enunciated in the 2003 INCB Annual Report:

> "The Board is aware that drugs scheduled under the 1961 Convention or the 1971 Convention, mainly drugs of the amphetamine-type group, continue to be used by some military forces, for example during armed conflict, and that research into further possible uses is taking place. The Board is of the opinion that this type of drug use may not be in line with the international drug control conventions, which require Governments to limit the use of narcotic drugs to medical and scientific purposes only. The Board appeals to Governments to ensure that the military and law enforcement sectors follow the principles of sound medical practice in their use of internationally controlled substances and that the international drug control conventions are respected in those sectors."[23] [emphasis added]

Conclusion

- The Conventions restrict the uses of controlled substances to medical and scientific purposes.
- Their aim is to prevent diversion, illicit uses and abuse.
- The control mechanism is based on the three pillars (estimates, statistics and controls on international trade).
- According to the Conventions 'special stocks' are subject to limited reporting obligations and to reduced scrutiny by the Board.
- This does not relieve State Parties of the obligations to limit their use of controlled substances to medical and scientific purposes.
- The Board has consistently reminded States of their obligation to ensure that the controlled substances are used in accordance with the provisions of the Conventions.

[23] INCB (2003) *Report of the International Narcotics Control Board for 2003*, para. 216.

SESSION 5 DISCUSSION, PART 3

Implications of the drug control Conventions for the issue of "incapacitating chemical agents"

There was a discussion about the implications of the drug control Conventions for the issue of "incapacitating chemical agents" since these treaties limit the use of controlled substances to medical and scientific purposes only.

One participant asked whether this meant the development, stockpiling, transfer and use of controlled narcotic drugs or psychoactive substances for the purposes of law enforcement would therefore be prohibited under the Conventions. Another participant responded that, in the view of the International Narcotics Control Board (INCB), the use of controlled substances must be limited to medical and scientific purposes. There are only very limited exceptions provided for in the Conventions, for example the use of controlled substances in the capture of animals and in the manufacture of non-psychotropic substances.

Several participants stressed the importance and relevance of this branch of international law for the discussion of "incapacitating chemical agents", noting that any legal assessment cannot be limited to the CWC but must incorporate international drug control law (as well as human rights law and the BWC).

Schedules of controlled substances

One participant explained that the term "controlled substance" is used generically in all three drug control Conventions (1961, 1971, and 1988) to refer to substances that are subject to specific control measures. These may be narcotic drugs, psychotropic substances or precursor chemicals. The 1961 and 1971 Conventions each have their own Schedules (lists) of controlled substances, which are annexes to the Conventions (and can be found on the website of the INCB).

While the provisions of the Conventions only apply to listed substances, a participant noted that many of the chemical agents that have been investigated as "incapacitating chemical agents" are on the lists of controlled substances under these treaties and would be subject to the highest level of control. These include many of the fentanyl compounds.[24]

One participant raised a question about whether the Conventions cover analogous or derivative substances to those listed on the Schedules, which may have been subject to minor chemical modifications. For example, assuming a potential "incapacitating chemical agent" was a listed substance, might a slight modification remove it from control? Another participant responded that the action to be taken (e.g. formally adding it to a Schedule) would depend on the substance in question, but that, in any case, there are provisions in the Conventions specifying that compounds, derivatives, or preparations of a Scheduled substance are also subject to the same control measures.

[24] INCB (2011) *List of Narcotic Drugs under International Control in accordance with the Single Convention on Narcotic Drugs, 1961*. Yellow List, 50th edition, December 2011, http://www.incb.org/documents/Narcotic-Drugs/Yellow_List/NAR_2011_YellowList_50edition_EN.pdf; INCB (2010) *List of Psychotropic Substances under International Control in accordance with the Convention on Psychotropic Substances of 1971*. Green List, 24th edition, May 2010, http://www.incb.org/documents/Psychotropics/green_lists/Green_list_ENG_2010_53991_with_logo.pdf

A participant explained that the Schedules are established and expanded through consultations between States Parties and also with the World Health Organization (WHO). In addition, many governments apply analogous Scheduling at the national level by including the same lists of substances in their national laws. If a substance of concern is identified, including a new substance for example, then both WHO and States Parties can submit it for consideration by the UN Commission on Narcotic Drugs, which approves requests for substances to be added to the Schedules. Addition of new substances does not require approval of the INCB.

Control mechanisms under the drug control Conventions

There was some discussion about the control measures used for ensuring compliance with these treaties. One participant noted that the Conventions cover the use of very small quantities of controlled substances and so their control measures are very stringent in comparison to the CWC's control measures. The participant highlighted that this is particularly relevant in the case of potential "incapacitating chemical agents" since the quantities involved would tend to be very small due to the high potency of chemicals such as the fentanyls. Another participant noted that the reports by States Parties to the INCB on holdings and transfer of controlled substances specify the units of measurements, which may be as small as microgram quantities.

One participant explained that information is conveyed to the INCB through standardized forms submitted by States Parties. The responsible authorities at the national level are varied, but the majority of information is obtained from the Ministry of Health, Ministry of the Interior, and to some extent customs authorities (due to their work in seizures of illicit drugs). INCB members also carry out evaluation missions to countries where the INCB has identified a particular high priority, for example due to high consumption levels of a particular substance or an increase in drug trafficking. During these missions meetings may take place with the Ministry of Health, Ministry of the Interior, customs authorities, NGOs, drug treatment centres, and others.

Another participant noted that data provided to the INCB under the drug control Conventions can clearly be relevant in assessing particular cases of compliance under the CWC. However, it was pointed out that the regimes operate in different ways; the CWC has a blanket prohibition (with a number of exceptions) and the lists of substances are used primarily for monitoring and verification purposes, whereas for the drug control Conventions the prohibitions and control measures only apply to listed substances.

A question was also raised by one participant about the different control mechanisms for 'special stocks' of controlled substances. In response it was explained that the INCB's monitoring role for 'special stocks' is significantly limited. Importantly, however, this only provides an exemption to the monitoring and control measures of the Conventions. It does not exempt 'special stocks' from the core requirement of the Conventions to limit the use of controlled substances to medical and scientific purposes only.

Addressing the issue of "incapacitating chemical agents" under the drug control Conventions

A participant asked whether the issue of "incapacitating chemical agents" has been raised under the drug control Conventions and what mechanisms existed for doing so. In response a participant noted that they were not aware of any discussions on this issue among States Parties. However, it was noted that the INCB, in their 2003 annual report, did emphasise the requirement that any military and law enforcement uses of controlled substances must be

limited to medical and scientific purposes. The participant added that governments are free to raise any relevant concerns with the INCB, which could also bring these concerns to the attention of the UN Commission on Narcotic Drugs.

Another question was posed regarding the possibility of making amendments to the Conventions. In response it was explained that there is a mechanism whereby a State could bring such a request for consideration by the Commission on Narcotic Drugs. However, it was emphasised that this would be unnecessary as the Conventions already limit the use of controlled substances to medical and scientific purposes only, and so the use of these substances for other purposes (apart from the limited exceptions noted in the treaties) is clearly prohibited.

SESSION 6:
POLICY ON "INCAPACITATING CHEMICAL AGENTS" TO DATE

Speaker's summary

"INCAPACITATING CHEMICAL AGENTS" IN CONTEXT: AN HISTORICAL OVERVIEW OF STATES' POLICY[1]

Julian Perry Robinson

1. I express warm thanks to the International Committee of the Red Cross for having persisted in stimulating constructive attention to "incapacitating chemical agents"[2]. The issues these substances raise are fraught, and full of poorly appreciated danger.

2. The task assigned to me for this meeting is no more than to review State policies on "incapacitating chemical agents" in an historical perspective. Such history is interesting because it can identify drivers or other contextual factors that may still be active today, affecting State policy and practice. But the source materials available for the study are limited and do not seem very informative. Perhaps this means that "incapacitating chemical agents" have not attracted much State policy. Or perhaps it means that the State policies are concealed by secrecy. Or perhaps I have not researched with sufficient diligence.

3. Actually, I have looked pretty hard for information. My main tool is a searchable database we have been maintaining in the Harvard Sussex Program since the early 1990s.[3] I shall state its title in case any of you would like to use it: *Disabling Chemical Weapons: A Documented Chronology of Events*. Its origins lie in research undertaken back in the 1960s and early 1970s for the Stockholm International Peace Research Institute (SIPRI) in Sweden, published in their six-volume study *The Problem of Chemical and Biological Warfare*. I should say that the expression "disabling chemical weapons" is a technical term we use in the Harvard Sussex Program to embrace the three main categories of so-called "non-lethal chemical weapons": the irritants (or riot control agents – RCAs), the incapacitants (or "incapacitating chemical agents"), and the injuriants.[4]

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[1] Speaking notes prepared for the ICRC Expert Meeting, "Incapacitating chemical agents": Law enforcement, human rights and policy perspectives (Montreux, Switzerland, 24-26 April 2012), now expanded and annotated.

[2] I take "incapacitating chemical agents" to be *toxic chemicals that may render an individual incapable of concerted physical and/or mental action in the particular context in which such a chemical is used, but whose sought-for effects are perceived to be temporary and readily reversible but lasting for substantially longer than the period of exposure*. That definition draws from the one given by Dr Robin Black to the OPCW Scientific Advisory Board in April last year [110404-06]. I have narrowed it so as to exclude riot control agents (RCAs) because of the political imperative now forcing the two categories apart. Of course we do not need to agree a definition, but we do need a clear idea of our subject as we look to future policy choice.

[3] Perry Robinson, J P (2012), *Disabling Chemical Weapons: A Documented Chronology of Events*, version of March 2012 (covering the period 1945-2011), unpublished, for private distribution. **The square-bracketed numbers throughout the present notes are citations of particular records in the Chronology.** These records always identify their sources of information.

[4] Injuriants are chemicals that can impose a risk of long-term injury without imposing also a high risk of early death. Past military programmes in this area have examined, for example, blinding chemicals (such as the cornea-clouding agent EA 1972 [*ca* 590000] or the longer-lasting, even permanent, blinding agent KB-16); chemicals causing cancer, for example the aflatoxin that Iraq weaponized during 1990-91 [880500 and 901200]; and the chemical sterilants studied in apartheid-era South Africa [850000-930000]. Counterparts in the civil domain include the chemicals used in the "acid violence", especially against women, that is now so hideously

4. In the formation of "incapacitating chemical agent" policies around the world, two events I would say have been key. The first happened in this country, Switzerland, in April 1943. Some years went by before its weapons significance started to be recognised. I am talking about the discovery by Albert Hofmann at Sandoz in Basel of the astoundingly powerful psychotomimetic effects of the semisynthetic compound known as LSD-25, or just 'LSD' nowadays. Here was a chemical which, in even smaller quantities than the organophosphorus nerve gases then being developed in Germany, might be able to place combatants out of action for militarily significant periods and at the same time, because of the nature of the casualties caused, impose greater logistical hardship on the adversary than more lethal weapons would. Not only that, but LSD might be able to exert other novel effects of interest both to regular military forces and to clandestine services of States.

The need for policy on this potential new technology took a while to be recognised. It was not until well into the 1950s that actual weaponization of "incapacitating chemical agents" began, and February 1962 that the first "incapacitating chemical agent" weapons achieved formal approval for inclusion in a military operational inventory – in fact that of the United States Army [620200].

One particular factor driving this weaponization in Western countries was the increasing ascendancy in military planning of Limited War concepts -- as opposed to General (i.e. nuclear) War concepts. This reawakened military interest in the value of chemical weapons in initiatory rather than retaliatory roles, and this in turn excited attention to the novel category of incapacitant chemical weapons, because their use was seen as likely to have greater political acceptability than use of nerve agents and the like [591229, 620724, 621101].[5]

As it happened, much of what LSD had originally seemed to promise was unfulfilled, but it was a promise carried forwards by other novel chemicals that came along after LSD, such as the anticholinergic glycollates, the benzomorphans and orivals, the fentanyls, and several more. For the future there is the huge terrain that has been opening up these past years of toxic biotechnological-process products, disabling peptides among them.

5. Returning to the past, I see the second key formative event as happening in January 1993: the opening for signature of the multilateral Convention on the Prohibition of Chemical Weapons, the CWC. It was clear -- intentionally and indisputably clear -- from

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evident in at least 23 countries around the world, including my own [110801]. These are surely "non-lethal chemical weapons" that no one would wish to encourage, even by default. But can we be certain of that? In Human Rights law their use would constitute "degrading treatment" of the people targeted.

[5] It is instructive to note here that, once a formal decision to weaponize incapacitants had been taken by the UK government, the officials responsible for stating the technical requirements translated 'political acceptability' into degree of "non-lethality" [630829], it having long been argued by some that the postulated "non-lethality" of incapacitants would mean that the 1925 Geneva Protocol did not outlaw their use or else that the Protocol was ambiguous on the point [600720, 620510]. Some deaths from these powerful chemicals were always to be expected of course, so it was initially proposed that, for operations in both General and Limited War, acceptability of incapacitants would be achieved through a lethality limit of 5 percent; for counterinsurgency operations, the limit would be 2 percent; while for the control of civil riot it would have to be close to zero lethality [630829]. However, for reasons I have not yet found explained, it soon came to be felt that anything greater than a two-percent lethality would lead to accusations of Protocol violation and likely retaliation with lethal agents [631028]. Thus it was that 2 percent came to be standardized as the threshold of incapacitant acceptability other than for incapacitants that would only be used in retaliation following adversary violation of the Geneva Protocol. It is a striking historical fact that the mortality rate among mustard-gas casualties during the first world war was approximately 2 percent. In the US Defense Department's Joint Non-Lethal Weapons Directorate, a fatality rate of 0.5 percent among the people likely to be affected was part of the definition of "non-lethality" developed in 1998 [981102-04].

the exploratory discussions and then the actual negotiations culminating in the treaty that its restrictions extended to all "incapacitating chemical agents". **Canada** in 1974 and then the delegation of the **United States** were the prime movers in ensuring that outcome [740716 and 770328].

6. Formally speaking, "incapacitating chemical agents" fall within the CWC because they meet the treaty's toxicity criterion: each and every one of them is a *toxic chemical* as defined by the Convention: *Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals*. It may not always be entirely clear what "chemical action on life processes" means. For example, do those five words embrace or exclude riot control agents? "Incapacitating chemical agents", however, are universally understood to be toxic chemicals so defined, and, like every other toxic chemical, become exempt from the treaty's strictures only *where they are intended for purposes that the treaty does not prohibit, so long as the types and quantities are consistent with such purposes*. Those italicized words are the first of the treaty's two statements of its 'general purpose criterion' (GPC), which is the language ensuring that the treaty's prohibitions are comprehensive in scope.[6] The treaty lists purposes it does not prohibit, among them "law enforcement including domestic riot control". This exempting language is why a toxic chemical intended for such purposes is not a 'chemical weapon' in the sense of the CWC, however much it may seem to be a chemical weapon in normal understanding.

7. All those States that have become parties to the CWC have thereby renounced, formally and in the eyes of the entire world, their previous freedom to make warfare weapons out of "incapacitating chemical agents". Only a very few States have chosen, by remaining outside the Convention, to retain the freedom enjoyed by all during those 50 years between the events of 1943 and 1993. Among those States, however, are such alleged or actual present-day chemical-weapons possessors as Burma, Egypt, Israel, North Korea and Syria. Whether in fact any of them pursue "incapacitating chemical agent" programmes today I do not know.

8. In the cases of Burma and **Israel** the freedom to do so was in principle, and still is, limited by the obligations incurred through their signature, though not yet its ratification, of the Chemical Weapons Convention. So it may be debated whether the weaponization of a fentanyl by an Israeli secret service (for an attack, in September 1997, on the individual who is now the head of Hamas [970925]) was or was not a violation of its CWC obligations.

In September 2001, the Israeli Defense Forces were rather authoritatively reported to have equipped themselves with an aerosolizable 'sleeping gas' [010900].

9. During the period of freedom from treaty stricture, at least seven maybe eight of the States that are now full parties to the Convention seem to have had active policies of weaponizing "incapacitating chemical agents". The public record shows definitively that two such States possessed actual arsenals of usable "incapacitating chemical agent" weapons: the United States during approximately 1962-76; and **South Africa** during

[6] It is the capacity of the general purpose criterion to accommodate both technological change and dual use that holds the whole treaty regime together. The GPC is awkward to administer and disliked by some CWC states parties, apparently for that reason. Yet if it is not implemented adequately – better, one may think, than it is now – the "incapacitating chemical agent" dilemma will surely remain unresolved. An especially lucid and authoritative account of it was given to a working group of the OPCW Executive Council on 15 November 2007 by the OPCW Legal Adviser, Ambassador Santiago Oñate, during the run-up to the Second CWC Review Conference. One prominent OPCW delegation that heard his account apparently paraphrased it privately into a prohibition of applications of toxic chemicals that are not "consistent with the object and purpose of the Chemical Weapons Convention" [071115 OPCW]. That paraphrase may prove a helpful expression of the GPC as we struggle further with those slippery concepts "law enforcement" and "method of warfare".

about 1990-93 [901025, 921102 and 930127]. To these a third State, **Yugoslavia**, may be added, though on the basis of rather less solid evidence [840000 and 920400]. A sight of the initial declarations that Bosnia and Serbia made to the OPCW when the CWC came into force for them ought to disclose the true picture. In the **Soviet Union** we know now that the Central Committee and the Council of Ministers adopted a resolution in May 1971 on the building of production capacity for "non-lethal" chemicals resulting from the *Foliant* programme [710519]. **Russia**, too, can be added to the list on the fentanyl evidence from the Moscow theatre siege in October 2002 [021026]. And during the 1980s the army of **Albania** is said to have had a supply of BZ-type (3-quinuclidinyl benzilate) weapons [post-820900].

Yet other States are known to have adopted policies of "incapacitating chemical agent" weaponization during the pre-Convention years but without having proceeded through all the stages of development and acquisition necessary for operational capability. Subject to the qualification below (para 11) this is true of my own country, the **United Kingdom**, during approximately 1963-68. Perhaps it is true also of **France**, for at around that time France was pursuing a biological-weapons programme that seems of have been limited to biological incapacitating agents, so we learn from the historical research of Olivier Lepick. **Iraq**, too, evidently had an interest, during the 1980s, in weaponizing "incapacitating chemical agents" [901107], but the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) presented no evidence of actual Iraqi production or stockpiling of "incapacitating chemical agent" weapons in its great *Compendium of Iraq's Proscribed Weapons Programmes* published in June 2007 [but see 030311] -- this in contrast to the UK Ministry of Defence, with its talk in 1998 of 'Agent 15' [980209].

10. Not a long list, then, the countries that once had active policies of weaponizing "incapacitating chemical agents": the USA, South Africa, Yugoslavia, the USSR/Russia, Albania, Britain, Iraq and perhaps France, in addition to Israel. Nor does their experience indicate that "incapacitating chemical agents" can in fact be made into particularly desirable or effective weapons.

11. A qualification is in order as regards the United Kingdom. The British pre-CWC incapacitant programme proceeded to full weaponization and deployment of one chemical that was discovered during it, namely dibenzoxazepine, known nowadays as Agent CR.[7] Yet, although CR was originally developed as an incapacitant, its physiological mode of action is sensory irritation, so it falls within the CWC definition of a riot control agent. But in Britain today it tends to be seen as either too aggressive or not demonstrably safe enough [980217] or insufficiently easy to decontaminate for riot control or other civil police purposes. Supplies are held in readiness by the British military for counter-terrorist purposes. So CR is not a riot control agent in UK practice, but it is an RCA within the meaning of the CWC.

The treaty requires that possessors of any riot control agent declare its identity to the OPCW. Of the 188 States Parties to the treaty, about 130 have declared possession of RCAs (and a further 46 have declared non-possession), 11 of them declaring possession of CR [101231]. Which those 11 States are, what other RCAs they declared as well, and whether their policies for use of CR resemble those of the UK, are not publicly known – though the USA, South Africa and **India** [980317-20], as well as Britain, have made no secret of being among them.

[7] An authoritative, detailed and recently published account is to be found in: Walker, J (2012) *Britain and Disarmament: The UK and Nuclear, Biological and Chemical Weapons Arms Control and Programmes 1956-1975*, Farnham: Ashgate Publishing, pp 31-47.

12. I make no comment on the legality of using aggressive chemicals in the war against terrorism. There are circles in which, heedlessly, the legality is simply assumed without question, rightly or wrongly.

13. Instead I shall stop speaking about policies for military use and move on to policies for civil use. I begin by recalling a poorly explored historical circumstance. Police tear gas and then other irritant agents long preceded chlorine, phosgene, mustard gas *et cetera* into war-fighting during the First World War. In State service, in other words, aggressive use of physiologically active chemicals began with the police, only later migrating to the military as well. I take pride in having talked, in his old age, with the conscripted Paris policeman who brought tear-gas grenades and cartridges to a front of the Great War in August 1914.

There is maybe some historical support here for the interpretation of the Chemical Weapons Convention that, uniquely, the United States has espoused, to the effect that the treaty provides for two distinct regimes, one regulating Chemical Weapons and the other regulating riot control agents [940413] – an interpretation that surely lies close to the core of our present ills because of its undermining of the general purpose criterion. Perhaps during the endgame of the CWC negotiation, which is when the interpretation emerged into the public consciousness, it satisfied some particular exigency of the national interest unrelated to arms control that could not be accommodated without harming the GPC. Yet that hardly seems sufficient explanation, and this suggests that there was an arms-control motivation as well. Was it perhaps because, back in the 1960s, that police-to-military migration of aggressive chemicals not only displayed itself in the reverse form (as in fact had been happening since 1919) but also shifted from RCAs to "incapacitating chemical agents"? People within the US Army Chemical Corps had begun proposing police use of the incapacitants they were then studying, singling out for particular advocacy certain individual anaesthetics, tranquillizers, anticholinergic glycollates and vomiting agents [671100 and 680700].

Some of those "incapacitating chemical agents" duly found occasional police use, notably in dart guns. The first such weapons were loaded with amobarbital, a sedative-*cum*-hypnotic; later ones, with apomorphine, an emetic. Sporadic though their use might have been, they gave rise to other concepts for police "incapacitating chemical agent" weaponry. Around 1989 the practice began within some US military circles of labelling developmental "incapacitating chemical agents" as 'Advanced Riot Control Agents' [891000]. The path was being marked that would lead to law enforcement use of fentanyls in the middle of Moscow.

14. Was this reverse migration of aggressive chemicals -- this new migration from military to police -- a consequence of deliberate policy? I don't believe so: it was more a product of happenstance, a typical matter of existing supply meeting unanticipated demand. It has thereby been driving, I argue, a gradual legitimization of resort to disabling chemicals, and from this has resulted the policy dilemma that our present meeting is investigating. It is a dilemma that had been much aggravated during the 1990s by the growth of commercial and industrial interests vested in so-called "non-lethal weapons" technology.

15. It looks to me as though the pressure of those vested interests is now abating in so far as chemical "non-lethal weapons" go, and that this is may be easing our work. Even if not, the Chemical Weapons Convention is a potential instrument for alleviating the problem. So I shall now speak of two particular areas of policy touching on "incapacitating chemical agents" that the CWC has made relevant. The first has to do with protection against chemical weapons. The second concerns State Party implementation of the Convention at the national level.

16. First, protection. Article X of the Convention expressly allows the development and acquisition of protection against chemical weapons even where this involves actual production (in appropriate quantities) of nerve gas, mustard gas and the like, including incapacitants. Important in this work is 'horizon scanning' – keeping track of what may be coming along in science and technology, including identification of potential novel "incapacitating chemical agents". So too is work on assessing threat in novel agents thereby discerned. That, no doubt, is why there are often references in the open literature to laboratory studies of "incapacitating chemical agents" in countries that are parties to the CWC. The Harvard-Sussex *Disabling Chemical Weapons* chronology I mentioned earlier has records of such "incapacitating chemical agent" studies in several States Parties I have not yet noted, most conspicuously the **Czech Republic** [050510-12 and 051026-27]. Very probably they include most States Parties whose military still have serious chemical defence programmes.

I do not need to stress the point that it is the ready availability of anti-chemical protection such as the simple particle-filtering respirator that can in principle render chemical incapacitating agents largely useless – in practice, too, as the September 2004 Beslan episode seems to suggest [040901-03].

17. There is a downside. It is through scientific and technological horizon-scanning that genuinely new "incapacitating chemical agent" possibilities may be found, perhaps even "incapacitating chemical agents" that come closer to the "non-lethal" ideal and which may therefore, in the future, tempt renewed weaponization efforts. In terms of State policy, there are no countries that have publicly renounced the right to do this type of work. It could be that some States remain silent on this point in order to keep open the option of moving to weaponization in the future should that come to seem advantageous. And horizon-scanning is also performed in the pharmaceuticals industry – that same industry in which were first encountered the leading "incapacitating chemical agents" of the past: LSD, BZ, fentanyl, TL 2636 and perhaps others that are still secret. The pressure for drug discovery may have slackened a bit just recently but, even if it hasn't, the industry's horizon-scanning cannot reasonably be curtailed, any more than the military's can.

Is there help to be found for this horizon-scanning problem in CWC Article X.4, despite its unpromising past? That is the provision of the treaty requiring States Parties to submit annual returns of information on their protective programmes for "purposes of increasing [their] transparency".

Continued horizon-scanning is yet more reason for utmost effort in ensuring that the CWC regime (or regimes) and the Biological Weapons Convention regime also, because of convergence, are able adequately to accommodate relevant scientific and technical change. That means full implementation of the General Purpose Criterion.

18. I shall finish my presentation with historical examples of different aspects of State policy towards implementation of the CWC in regard to "incapacitating chemical agents". My first example is from **Germany** in August 1994: the enactment of its CWC implementing legislation. This new law stipulated that riot control agents as defined in the treaty would be the only law-enforcement chemicals permitted for use within the German jurisdiction. Employment of, say, a fentanyl would be illegal. This, I believe, remains the situation in Germany today. I do not know whether other countries have adopted similar law. As the OPCW Legal Adviser told States Parties in November 2007, he considered that it would be their prerogative to do so [071115].

19. For my second set of examples, I take a contrasting pair of events in my own country, the first in December 1992 and the second in August 2009, both of them formal communications to Parliament by the UK foreign ministry. The first communication said

that States Parties to the CWC will be entitled to use toxic chemicals for law enforcement provided such chemicals are limited to ones the treaty defines as riot control agents [921207]. This clear statement was in keeping with much jurisprudence of the time [940609 (Chayes *et al*)], as that German implementing legislation indicates. But the later statement seemed to contradict the earlier one: *We believe*, wrote the then Foreign Secretary to a Commons committee, *that in the long run greater clarity may be required on how incapacitating chemicals used for law enforcement purposes are to be treated under the Convention* [090814]. In a report published last month, The Royal Society, which is the UK's national academy of sciences, called upon the government to explain this apparent change of policy.

Pending this explanation, we can only speculate about actual UK policy. Was the apparent contradiction an administrative blip, perhaps, or was the term "incapacitating chemicals" that the later statement used actually meant to refer to riot control agents? In British usage of the term, 'incapacitant' includes riot control agent. Yet perhaps it really was a policy reversal, for the two events bracket the period during which a British government minister [021104] publicly imputed what Russian officials were then stating explicitly and emphatically, that the Moscow fentanyl episode was not a violation of the Chemical Weapons Convention. That seemingly exonerative British statement took nearly ten days to be made, ten days during the final preparatory phase for the 2003 invasion of Iraq. An explanation would be good to have.

20. My final foray into history is to list those countries whose representatives have delivered national statements that, in effect, express dissatisfaction with the present situation – with the prevailing discord over interpretation of what the Convention really means about matters arising from the law-enforcement exemption in the general purpose criterion. These are the States Parties to the Convention that have ventured to put their heads above the parapet by calling for clarification:

- **Switzerland** [030428-30, 080300, 080407-18]
- **Norway** [030428-30, 080407-18]
- **Iran** [071115 Iran]
- **Cuba**, speaking for the entire **Non-Aligned Movement** and **China** [071212]
- South Africa [071212]
- **Pakistan** [080407-18].

That is a large number of countries. Representatives of other States Parties have also advocated clarification, but more privately. According to purported US diplomatic cables published by WikiLeaks, they include

- **Austria** [080407-18]
- **Australia** [071108]
- Canada [071108, 090304-05]
- Germany [080211, 080407-18]
- **Sweden** [080407-18]
- And the United Kingdom [080407-18, see also 030603].

I do not list the States Parties that, at the time of the Second CWC Review, had evidently adopted the contrasting policy of blocking clarification. Why they did so excites, rightly or wrongly, the worst sort of speculation.

21. I close with two expressions of personal opinion. The first is about the costs of failure in the quest for clarification, and the second is about the object and purpose of the Chemical Weapons Convention. The costs are what I see as happening if we do not harmonize on a restrictive understanding of law-enforcement chemicals, i.e. an

interpretation that excludes "incapacitating chemical agents". The following seem to me especially grave:

- More creeping legitimization. By this I mean a *de facto* exemption from treaty constraint, as horizon-scanning or deliberate covert search reveals new possibilities, or simply as our standards decline, -- a *de facto* exemption from treaty constraint of more and more of the so-called "non-lethal chemical weapons". The category of riot control agents is now becoming increasingly unconstrained, most conspicuously in the acquisition, deployment or use of irritant-agent weapons for counter-terrorist purposes and other such applications that lie on or beyond the outer margin of what is usually seen as law enforcement. The category of "incapacitating chemical agents" now seems set to follow a similar course, if there is no blocking action. Should the technology develop further, incapacitants could be as lost to constraint as the irritants are becoming, if positive steps are not taken to check this creeping legitimization, including measures that would countervail the apparent desire of some States Parties at least to leave the option open. Nor, in the absence of such measures, could there be security against acceptance into State practice of the final category of "non-lethal" chemical weapon, the injuriants.
- Creating camouflage for cheaters -- enabling the guise of permitted law enforcement to confound international verification of compliance with the Chemical Weapons Convention. This could so easily happen by allowing otherwise illegal unscheduled toxic chemicals to be passed-off as Law Enforcement Chemicals.

What we all now know very well to be the false promise of "non-lethal chemical weapons" will then have been allowed to drive great holes into the structure of an otherwise successful treaty.

22. The need for restrictive interpretation of the law-enforcement exemption is set also by the object and purpose of the Chemical Weapons Convention, which are specified in its Preamble. The key passage is as follows: "Determined for the sake of all mankind to exclude completely the possibility of the use of chemical weapons, through the implementation of the provisions of this Convention [...]". It is the toxicity criterion (see para 6 above) that sets the scope of those provisions. Therefore, more precisely, what the treaty is intended "to exclude completely" is the use or the possibility of use of toxicity as a weapon. The object and purpose of the Convention is, in other words, to protect people – everyone, everywhere, under all circumstances – against assault by toxicity. Irritant agents intended for purposes of policing have long been the one exception, sanctioned by a century of usage and by a public acceptance that seems near universal, even among people subjected to such agents by trained police forces. Exemption of additional categories of toxic chemicals would surely erode that fundamental principle of the Convention. It should not be contemplated if there is neither compelling reason nor consensus on its value.

23. That is all I have to say. Thank you for listening.

SESSION 6 DISCUSSION

National policy on "incapacitating chemical agents"

With reference to the speakers' description of migrating interest in "incapacitating chemical agents" from military to law enforcement organisations, one participant commented that it was important to recognise potential interest in these weapons among agencies or groups in between. The participant highlighted 'counter-terrorist forces', which may be drawn from military or police organisations, depending on the country. The participant emphasised that it would be important that these groups were kept informed of their legal obligations with respect to any potential acquisition or use of "incapacitating chemical agents" in order to avoid undermining international law.

A participant also suggested that there could be a role for engagement with the national authorities responsible for national implementation of CWC obligations. This could help increase transparency with respect to national policy on "incapacitating chemical agents" and enable the international community to better assess the potential risks posed to the object and purpose of the CWC.

United Kingdom policy

The presentation by the speaker in this session raised questions as to whether the United Kingdom had changed its policy on the use of toxic chemicals as weapons for law enforcement from 'riot control agents only' to now include the potential use of other toxic chemicals such as "incapacitating chemical agents". One participant emphasised that at no stage was there a high level formal review or decision to change policy but that the UK was currently considering a response to questions raised by the UK Royal Society (national academy science) on this issue. The participant added that "incapacitating chemical agents" were not an issue when the CWC negotiations were concluded in the 1990's but that, if there was a change of policy, it would have been related to changing assessments of threats and challenges for counter terrorism, and also perhaps due to a change of government.

Policy on agent CR

One participant commented that South Africa's policy on agent CR was similar to that of the UK mentioned in the speakers' presentation; namely that CR is considered a riot control agent but that due to its aggressive effects use is reserved for extreme circumstances.

SESSION 7:
OPTIONS FOR POLICY DEVELOPMENT

BACKGROUND PAPER

"INCAPACITATING CHEMICAL AGENTS": POTENTIAL POLICY OPTIONS[1]

Ralf Trapp

Introduction and background

The use of what is commonly believed to have been a fentanyl derivative to end the Moscow theatre siege in 2002 has revealed uncertainties and differences of opinion about the provisions of the Chemical Weapons Convention (CWC) regarding the legitimacy of using toxic chemicals for "law enforcement purposes including domestic riot control".[2] Legal opinions range from stating that only riot control agents are legitimate under this provision,[3] to acceptance in principle of the legitimacy of using certain toxic chemicals for law enforcement placing the emphasis on the notion that types and quantities of such agents must be consistent with that purpose,[4] to accepting the use of "incapacitating chemical agents" in exceptional situations, "for instance during an antiterrorist operation".[5]

The debate overlaps with discussions of the pros and cons of so-called "non-lethal" weapons which, some argue, are better suited for the urban environment in which military operations are increasingly being conducted.[6] Riot control agents (RCAs) are already being deployed by some military forces today and some argue that using "incapacitating chemical agents" would be a next logical step to provide a seamless set of tools to respond to circumstances of

[1] Prepared by Ralf Trapp with input and guidance from the Arms Unit in the Legal Division of the ICRC. Submitted in April 2012 for discussion at the ICRC Expert Meeting, "Incapacitating chemical agents": Law enforcement, human rights law and policy perspectives, Montreux, Switzerland, 24-26 April 2012.

[2] CWC Art. II 9(d).

[3] Krutzsch, W and von Wagner, A (2008) *Law enforcement including domestic riot control: the interpretation of Article II, paragraph 9 (d)*, Paper presented at 28th Workshop of the Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions; von Wagner, A (2007) Toxic chemicals for law enforcement including domestic riot control purposes under the Chemical Weapons Convention, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lexington Books, pp 195-207; Krutzsch, W (2003) *Non-lethal chemicals for law enforcement*, BITS Research Note 03.2, April 2003, Berlin Information Centre for Transatlantic Security; British Medical Association (2007) *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals*, British Medical Association, London, UK, May 2007; Chayes, A and Meselson, M (1997) Proposed Guidelines on the Status of Riot Control Agents and Other Toxic Chemicals under the Chemical Weapons Convention, *Chemical Weapons Convention Bulletin*, No 17, March 1997.

[4] Fidler, D (2005) The Meaning of Moscow: 'Non-lethal' Weapons and International Law in the Early 21st Century. *International Review of the Red Cross*, Vol 87 No 859, September 2005, p 525, 536; Neill, D (2007) *Riot control and incapacitating chemical agents under the Chemical Weapons Convention*, Defence R&D Canada, Technical Memorandum DRDC CORA TM 2007–22, June 2007.

[5] Ronzitti, N (1995) Relations between the Chemical Weapons Convention and other Relevant International Norms, in: Bardonnet, D (ed) *La Convention sur l'interdiction et l'élimination des armes chimiques: une percée dans l'entreprise multilatérale du désarmement* [The Convention on the Prohibition and Elimination of Chemical Weapons: A Breakthrough in Multilateral Disarmament], Proceedings of a Workshop in The Hague 24–26 November 1994 (Kluwer, Dordrecht 1995) pp 167-174.

[6] Casey-Maslen, S (2010) *Non-kinetic-energy weapons termed 'non-lethal' - A Preliminary Assessment under International Humanitarian Law and International Human Rights Law*. Geneva Academy of International Humanitarian Law and Human Rights, October 2010; These operational circumstances may for example include peacekeeping operations, counter-insurgency and law-enforcement-like functions such as when operating as occupying forces – sometimes called 'operations other than war'.

escalating violence – note however that "incapacitating chemical agents" are not RCAs and qualify as "toxic chemicals" under the CWC.

In addition to disarmament law,[7] other bodies of law are relevant to the issue, including international humanitarian law (with regard to any use of "incapacitating chemical agents" in armed conflict), human rights law (with regard to their use in law enforcement and other situations), drug control law (with regard to the manufacturing, distribution, stockpiling and use of controlled substances and preparations). In addition to these international treaties and related national laws, the use of "incapacitating chemical agents" for law enforcement purposes also needs to be addressed from the perspectives of medical ethics and operational risks and benefits.

With regard to human rights law, a recent judgement of the European Court of Human Rights on the Moscow theatre siege ruled that the hostages' right to life was not violated by the Russian authorities' decision to end the hostage crisis by using an incapacitating and potentially lethal gas. However, the Court found a violation of the right to life due to inadequate planning and implementation of the rescue operation.[8] Certain points in the judgement remain controversial, including the claim that the use of the chemical agent left the hostages a higher chance of survival when in fact 129 people died; the assertion that it was possible to provide adequate medical care under the given circumstances which the court saw as a condition to avoid violating the right to life; and the fact that the judgment addressed risks and medical care without knowledge of the chemical(s) actually used. During the period of appeal[9] for the judgement the applicants in the case requested referral to the Grand Chamber of the Court.[10]

Technical reviews[11] have shown that *scientifically*, no "incapacitating chemical agent" exists today or is likely to be discovered in the near future that would have a sufficiently large safety margin, and the dose of which could be adequately controlled under field conditions, so that a weapon utilising it could be "safe" for law enforcement purposes. Legal analysis has essentially confirmed these points and concluded that "at this [i.e. the present] level of the advances in science and technology, it is not possible to conclude that such chemicals possess the qualitative and quantitative requirements for their employment in 'law enforcement'".[12]

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[7] Sossai, M (2010) Drugs as Weapons: disarmament treaties facing the advances in biochemistry and non-lethal weapons technology. *Journal of Conflict and Security Law*, Vol 15 No 1, pp 5–24; Crowley, M (2009) *Dangerous ambiguities: Regulation of riot control agents and incapacitants under the Chemical Weapons Convention*, Bradford Non-lethal Weapons Research Project, University of Bradford, October 2009.

[8] Kelle, A (2012) The message from Strasbourg. *Bulletin of the Atomic Scientists*, 23 Feb 2012; VERTIC (2012) Russia and the use of Incapacitating Chemical Agents. *Trust & Verify*, January-March 2012, Issue Number 136, pp19-20 (prepared by Nayive Corzo); ECHR (2011) Case of *Finogenov and others v. Russia* (Applications nos. 18299/03 and 27311/03), Judgment, Strasbourg 20 December 2011 (rectified on 6 March 2012 under Rule 81 of the Rules of Court). Access via ECHR HUDOC search portal at: http://cmiskp.echr.coe.int/tkp197/search.asp?skin=hudoc-en.

[9] VERTIC (2012) *op. cit.*

[10] Editor's note: On 4 June 2012 the Grand Chamber panel of five judges decided to reject the request for referral of the case. Therefore the judgment of the Chamber is now final.

[11] International Union of Pure and Applied Chemistry (IUPAC) (forthcoming, 2013) *Trends in science and technology relevant to the Chemical Weapons Convention, 20-23 February 2012, Spiez, Switzerland*; Royal Society (2012) *Brain Waves 3: Neuroscience, conflict and security*. The Royal Society, London, UK February 2012; Spiez Laboratory (2012) *Technical workshop on incapacitating chemical agents, Spiez, Switzerland, 8-9 September 2011*, Spiez Laboratory, Swiss Federal Office for Civil Protection, January 2012; SAB (2008) *Note by the Director-General - Report of the Scientific Advisory Board on developments in science and technology*, OPCW document RC-2/DG.1, 28 February 2008; Dando, M (2007) Scientific Outlook for the development of incapacitants, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lexington Books, pp 123-148; Nixdorf, K and Melling, J (2007) Potential Long-Term Physiological Consequences of Exposure to Incapacitating Biochemicals, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lexington Books, pp 149-170.

[12] Sossai, M (2010), *op. cit.*, p 24.

Nevertheless, some countries appear to have modified their policies with regard to military forces using riot control agents. Others appear to consider the law enforcement use of "incapacitating chemical agents" or are undertaking feasibility studies in this regard.[13] There is a long State interest in developing weapons based on "incapacitating chemical agents".[14] The longer applied research and development continue in these areas the more likely it will be that agents and dissemination devices will become available that may be perceived or portrayed as suitable for law enforcement (and, importantly, for certain types of military operations in scenarios such as peacekeeping, counter-insurgency and urban terrain operations).

Against this background, the International Committee of the Red Cross (ICRC) commissioned this paper to assess the potential advantages/benefits and disadvantages/risks (humanitarian, legal, security, operational etc.) of four main policy options, as well as any other options that might be identified or combinations thereof.[15]

These four options were:

1. Continue with the *status quo* with State practice eventually defining what is acceptable regarding the use of "incapacitating chemical agents" for law enforcement;
2. Regulation of "incapacitating chemical agents". This may include: (a) Increased transparency on the types, quantities and delivery systems used for law enforcement; and/or (b) Specific national and/or international constraints on the types, quantities and delivery systems used for law enforcement;
3. National and/or international moratoria on research, development, stockpiling and use of "incapacitating chemical agents";
4. National and ultimately international prohibitions on research, development, stockpiling and use of "incapacitating chemical agents".

Options one and two start from the general presumption that the use of "incapacitating chemical agents" for law enforcement purposes might be legitimate from a legal perspective, but that constraints may emanate from applicable legal instruments including the CWC and the BWC, international humanitarian law, human rights law, and drug control law. Options three and four can be adopted irrespective of whether or not one accepts that using "incapacitating chemical agents" for law enforcement purposes is legal at this point in time. Rather they incorporate an assessment of the desirability of "incapacitating chemical agents". Some of these options can be combined (for example the use of a moratorium as an interim measure to either negotiate a regulatory framework or an explicit prohibition).

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[13] Crowley (2009) *op. cit.*; National Research Council (2008) National Research Council Committee on Military and Intelligence Methodology for Emergent Neurophysiological and Cognitive/Neural Science Research in the Next Two Decades, *Emerging Cognitive Neuroscience and Related Technologies*, The National Academies Press, Washington DC; Davison, N (2007) *'Off the Rocker' and 'On the Floor': The Continued Development of Biochemical Incapacitating Weapons*, Bradford Science and Technology Report No. 8, Bradford Disarmament Research Centre, August 2007; National Research Council (2003) National Research Council Committee for an Assessment of Non-Lethal Weapons Science and Technology, *An Assessment of Non-Lethal Weapons Science and Technology*, The National Academies Press, Washington DC; Lakoski J, Murray, W, Kenny, J (2000) *The advantages and limitations of calmatives for use as a non-lethal technique*, College of Medicine, Applied Research Laboratory, Pennsylvania State University, 3 October 2000.

[14] Royal Society (2012) *op. cit.*; Furmanski, M (2007) Historical military interest in low-lethality biochemical agents: avoiding and augmenting lethal force, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lexington Books, pp 35-66; Pearson, A (2007) Late and post-Cold War research and development of incapacitating biochemical weapons, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lexington Books, pp.67-102.

[15] Editor's note: The paper was circulated to participants in advance of the ICRC Expert Meeting, *"Incapacitating chemical agents": Law enforcement, human rights law and policy perspectives, Montreux, Switzerland, 24-26 April 2012*.

The following discussion looks at each of the four proposed options in turn. It is *not* an analysis of legal rules and constraints, although legal considerations are part of it. The analysis deals with *policy* options and their implications (including on the law). The paper does not attempt to draw any firm conclusions concerning which option is most appropriate.

1 Option 1: Continue with the *status quo* with state practice eventually defining what is acceptable regarding the use of "incapacitating chemical agents" for law enforcement

1.1 Brief description

Option one (letting State practice play out) is the default option if States cannot (or remain unwilling to) clarify what is both permissible and desirable under the law, what internationally acceptable standards and requirements in law enforcement are and whether they permit the use of "incapacitating chemical agents", and which proliferation risks States are prepared to take. A high-level expert panel recently convened by the OPCW Director-General under the chairmanship of Rolf Ekeus of Sweden observed in this regard that in today's security environment "distinctions between law enforcement, counter-terrorism, counter-insurgency and low-intensity warfare may get blurred, and certain types of chemical weapons such as "incapacitating chemical agents" may appear to offer tactical solutions to operational scenarios where civilians and combatants cannot easily be separated or distinguished"[16].

The *status quo* can perhaps be described as follows:

- "Incapacitating chemical agents" are toxic chemicals in the meaning of the CWC and the development, production, stockpiling and use of chemical weapons that employ "incapacitating chemical agents" is prohibited under international law.
- The prohibition on use extends to armed conflicts between States, but also to armed conflicts of a non-international character.
- Whether, under which conditions and with which constraints, "incapacitating chemical agents" can be used in law enforcement remains controversial.

With regard to the latter, Neill[17] concluded that "incapacitants should only be used for law enforcement purposes within a state's legal jurisdiction." Fidler states that: "For domestic law enforcement, use of incapacitating agents in contexts in which the government could control neither dosage nor the exposure environment would only be legitimate in extreme law enforcement situations…For extraterritorial law enforcement activities undertaken by military forces and sanctioned by international law, States can at present only legitimately use riot control agents, not incapacitating agents."[18] Krutzsch[19] and others argue that only riot control agents were given a special treatment under the CWC (i.e., one different from other toxic chemicals) and hence only RCAs are permissible in law enforcement.

Option one leaves these issues unresolved, avoids setting up a process of reaching common understandings, and relies on emerging State practice (which could range from further cases of use of "incapacitating chemical agents" in law enforcement situations to national regulations, moratoria or prohibitions) to clarify whether "incapacitating chemical agent" use in law enforcement is permissible and if so, what rules would apply.

[16] Ekeus panel (2011) *Report of the advisory panel on future priorities of the Organisation for the Prohibition of Chemical Weapons*, published by the OPCW Director-General in document S/951/2011, 25 July 2011, para 13.
[17] Neill, D (2007) *op. cit.,* p iv.
[18] Fidler, D (2007) *op. cit.*
[19] Krutzsch, W (2003) *op. cit.*

1.2 Perceived benefits

1.2.1 Operational benefits

There are hopes that the use of law enforcement weapons based on "incapacitating chemical agents" could bring about operational benefits, in particular in extreme situations such as when criminals or terrorists have taken hostages or are otherwise intermingled with innocent bystanders and the use of traditional means of "lethal" force was undesirable. Although currently available "incapacitating chemical agents" do not have a sufficient safety margin to bring about such operational benefits, there are expectations among some that, as advances in the life sciences progress, there might be a discovery of a "safe" agent combined with a delivery method that could overcome these hurdles.

1.2.2 Avoiding difficult negotiations

Another aspect of this approach is that difficult, potentially divisive and perhaps unsuccessful negotiations could be avoided and a generally-accepted solution would emerge by default. The controversy over the law enforcement clause of the CWC has been an example of the legal complexities involved. When other bodies of law that are relevant to "incapacitating chemical agent" use in law enforcement are also taken into account, and considering political pressures as well as internationally agreed principles of law enforcement elsewhere,[20] it may indeed appear that relying on a negotiated outcome may not be practical.

1.3 Risks

1.3.1 'Slippery slope'

The outcome of national decision-making on 'acceptable' "incapacitating chemical agents" cannot be predicted with certainty. The situation is rather like stepping onto a slippery slope without quite understanding its topography and without being fully aware of all the different forces that determine the trajectory of the movement. Outcomes might range from no acquisition of "incapacitating chemical agents" for law enforcement purposes at all to full integration of "incapacitating chemical agent"-disseminating devices into police and military structures of several countries and their actual use in a variety of circumstances.

Robinson observed in this regard the danger of a creeping legitimization of new chemical weapons.[21] This trend can be observed in State practice already, by shifts in interpretation regarding both riot control agents[22] and "incapacitating chemical agents" use for law enforcement purposes[23] since the conclusion of the CWC in 1992. It is reinforced by a lack of

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[20] *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials,* Adopted by the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders (Havana, Cuba, 27 August to 7 September 1990), http://www.unhchr.ch/html/menu3/b/h_comp43.htm.
The UN basic principles encourage law-enforcement agencies to develop "a range of means as broad as possible and equip law enforcement officials with various types of weapons and ammunition that would allow for a differentiated use of force and firearms. These should include the development of non-lethal incapacitating weapons for use in appropriate situations, with a view to increasingly restraining the application of means capable of causing death or injury to persons", principle 2; Editor's note: See also the contribution by Louise Doswald-Beck in this report (Session 3), where she explains the concept of "non-lethal incapacitating weapons".

[21] Robinson, J (2007) *Non-lethal Warfare and the Chemical Weapons Convention*. Further Harvard Sussex Program submission to the OPCW Open-Ended Working Group on Preparations for the Second CWC Review Conference, October 2007, p 32, http://www.sussex.ac.uk/Units/spru/hsp/Papers/421rev3.pdf.

[22] For example the change in the German implementation law with regard to the use of riot control agents by its military forces – originally banned and now allowed for certain missions such as peace keeping. See: Sossai, M (2010) *op. cit.*

[23] For example, in 1992 the British Foreign Office stated to the House of Commons that it was held that the Convention would have justified the use of "toxic chemicals for law enforcement, including domestic riot control purposes, provided that such chemicals are limited to those not listed in the schedules to the convention and

reaction by the OPCW and CWC States Parties, [24] although a number of concerns have been raised in particular during the 2nd CWC Review Conference[25] calling for a discussion of these issues. In the area of human rights law, a recent development that may well reinforce these trends was the judgement by the European Court of Human Rights on the Moscow theatre incident already mentioned above.[26]

1.3.2 Erosion of existing disarmament, humanitarian and human rights law and principles

At the level of international law, option one is likely to lead to an erosion of the rules that apply to disarmament (CWC and BWC), armed conflict (1925 Geneva Protocol, customary international humanitarian law) and human rights. As for disarmament law, concerns have been raised about an erosion of the norms against chemical and biological weapons and the possibility that some States Parties might use their technological superiority to circumvent the prohibitions in place by exploiting real or perceived loopholes.[27] With regard to international humanitarian law, similar erosions might be expected with regard to the 1925 Geneva Protocol and the 1977 Protocols to the Geneva Conventions, depending on how far the acquisition of weapons using "incapacitating chemical agents" for law enforcement purposes actually goes.[28] With regard to human rights law, the recent judgment of the European Court of Human Rights, to quote Kelle, "now risks making the mountain that opponents of incapacitating chemical agents for law enforcement have to climb steeper than previously assumed. Hence, a potential and somewhat worrying take-away message of the European Court of Human Rights' judgment is that the use of toxic chemicals for law enforcement is fine, as long as precautions are taken to limit the damage to innocent bystanders and as long as the situation is comparably severe to the one in Moscow."[29]

1.3.3 Proliferation and escalation risks

What would happen in actual State practice is of course difficult to predict. What can be done, however, is to draw up what might be called an 'escalation ladder' of vertical proliferation from best case to worst. Such a ladder could look like this:

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which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure" (i.e. RCAs). See Sossai, M (2010) *op. cit.*, p 22; In 2011 a UK government official indicated in correspondence to Crowley that "The UK believes that any toxic chemical other than a Schedule 1 chemical can potentially be used for law enforcement purposes, dependent on the specific circumstances. There are a range of possible situations under which such use might be appropriate. It is not possible to give a list of such situations; each would have to be considered on its merits". See Crowley (2009) *op. cit.*, p.65.

[24] Fidler, D (2005) *op. cit.*; Browne, D (2008) Secretary of State, Ministry of Defence, correspondence with Crowley, M and Dando, M, 9th April 2008, as quoted by Crowley (2009) *op. cit.*

[25] Switzerland, Pakistan, Iran and a few others. See: Sossai, M (2010) *op. cit.*

[26] See Kelle, A (2012) *op. cit.*

[27] For example, Pakistan observed at the 2nd Review CWC Conference that it was "… particularly concerned about the question of what have on different occasions been called either non-lethal agents or incapacitating agents. Irrespective of the terminology used, it is important to bear in mind that the influence of advanced military technologies has often led to a search for exploiting real or perceived loopholes in legal instruments in order to circumvent their prohibitions. It would be unfortunate if the CWC were to be subjected to similar treatment. We believe this issue needs more attention than has so far been devoted to it." See: Azhar, K (2008) Statement by Mrs Kehkashan Azhar, Acting Permanent Representative of Pakistan, Second Review Conference of the Chemical Weapons Convention, 7-18 April 2008; See also: British Medical Association (2007) *op. cit.,* p 23, "The use of drugs as weapons for law enforcement or in peace support missions also risks undermining legal norms represented by the CWC 1993 and customary international humanitarian law prohibitions on the use of chemical weapons. Drugs deployed for law enforcement purposes risk being used for military purposes or by agents for whom lethality is not a concern. … The use of drugs as a method of warfare would constitute a violation of the 1925 Geneva Protocol, the 1993 CWC, and customary international humanitarian law prohibitions on the use of chemical weapons. It may also constitute a violation of the 1972 BTWC."; For a legal analysis see also: Sossai (2010) *op. cit.*.

[28] For a more detailed discussion see: Casey-Maslen, S (2010) *op. cit.*

[29] Kelle, A (2012) *op. cit.*

- No acquisition of “incapacitating chemical agent” based weapons for law enforcement by any State (uncertain unless a moratorium is implemented, as in option three, and perhaps this step of the ladder is already in the past).
- Acquisition of “incapacitating chemical agents” for narrowly-defined law enforcement situations involving individual or small groups of criminals/terrorists in extreme situations that would otherwise call for the use of traditional means of lethal force. Pressures in this direction may become very strong (see some of the reporting on the recent shooting incident in Toulouse)[30].
- Acquisition of “incapacitating chemical agents” for extreme law enforcement scenarios involving larger groups of individuals of the Moscow theatre siege kind. A number of countries are considering this option if not in fact already preparing for such uses.
- Acquisition of “incapacitating chemical agents” for a broader range of domestic law enforcement purposes including crowd control. This is less likely. Although there are general trends in law enforcement to move towards “less lethal”, including incapacitating, weapons,[31] even the judgement of the European Court of Human Rights conceded that a violation of Article 2 of the European Convention on Human Rights had occurred through "inadequate planning and implementation of the rescue operation".[32] Today and in the foreseeable future, a safe “incapacitating chemical agent” remains unattainable and the threshold set by the ECHR cannot be crossed in practice.[33] Furthermore, the possibility of litigation may in some constituencies counteract temptations to acquire “incapacitating chemical agents” for law enforcement.
- Acquisition of “incapacitating chemical agents” by military forces for operations such as peace keeping, counter-terrorism and counter-insurgencies. This would cross the threshold of “incapacitating chemical agent” weapons slipping into military hands. It would tend to make their use less constrained and potentially less controllable than in a domestic law enforcement context. More importantly, it would blur the line between law enforcement and military combat operations.
- Ultimately, the assimilation of “incapacitating chemical agent” based weapons into military force structures as a matter of course. At this stage, all legal barriers against rearming with chemical weapons would clearly have collapsed. Where the borderline is between ‘military operations other than war’ and ‘military operations in urban terrain’ (to use US terminology) would become increasingly blurred.[34]

[30] However, note that a former French RAID official, when asked about the possible use of an incapacitating gas to end the Toulouse incident in March 2012, was quoted as follows by *Le Figaro* (22 March 2012): “Cela ne se fait pas, c'est un fantasme. Aucun groupe d'intervention, même à l'étranger, n'utilise cette technique. Il faudrait un espace totalement confiné, sans aération. Il suffirait qu'une porte s'ouvre ou qu'une fenêtre soit entrebâillée pour que le produit soit inopérant.” The paper continued with the observation that “Ce genre de gaz est également très difficile à doser. Une dose trop forte peut provoquer la mort. La seule possibilité est de mettre des substances dans l'alimentation ou la boisson.”

[31] *UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, 1990*, op. cit.*

[32] See Kelle, A (2012) *op. cit.*

[33] See the results of the technical workshop on “incapacitating chemical agents” held in Spiez in 2011; Spiez Laboratory (2012) *op, cit,*

[34] See Fidler, D (2007) Incapacitating chemical and biological weapons and law enforcement under the Chemical Weapons Convention, in: Pearson, A, Chevrier, M and Wheelis, M (eds.) *Incapacitating Biochemical Weapons*, Lexington Books, pp. 171-194; In this context, the National Research Council committee on ‘non-lethal weapons science and technology’ noted in a footnote to its report: “…, the committee recognizes that it is of paramount importance that the Department of Defense and the Department of State clarify the legal interpretations of the Chemical Weapons Convention so that both the operational and technical communities can move forward under consistent guidelines.” National Research Council (2003) *op. cit.*, p 4.

At which point in this "escalation ladder" international law has been violated remains an issue of dispute, with some arguing that the very first step already contravenes the CWC[35] whilst others draw the line closer to the penultimate step.[36]

Depending on how far the acquisition of "incapacitating chemical agent" based weapons progresses, the risks associated with both vertical and horizontal proliferation could increasingly include:

- Larger-scale uses of "incapacitating chemical agents" with the potential for large numbers of casualties (innocent bystanders as well as criminals/terrorists) becoming more likely
- Acquisition of larger numbers and different types of "incapacitating chemical agent" based weapons by military forces (initially probably special units only but eventually perhaps as weapons for general issue)
- Proliferation of "incapacitating chemical agent" weapons in military hands from a few countries to many, and potentially also to non-state actors.
- Introduction of large-calibre weapons for stand-off scenarios (see the problems observed by Crowley and others with regard to RCAs that are prohibited as a method of warfare, which has not prevented the development and marketing of weapons that are clearly intended for use in combat).[37]

1.3.4 Other legal and ethical issues

There are also other issues, related to the *earlier* stages of the previously described escalation process, that could emanate from the legitimisation of "incapacitating chemical agents" for law enforcement and other non-consensual uses (for example their use in interrogations, in prisons and prisoner of war camps to control riots, in occupied territories to maintain order)[38], which would pose additional ethical and legal questions.

1.3.5 Secrecy

Another issue to consider is that if these steps are left to States individually, and given the potential of such weapons for certain types of military operations, developments may at least initially happen in secret. The consequence is that any external intervention to set constraints is likely to come after the facts and that developments may be difficult to reverse.

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[35] Krutzsch, W and von Wagner, A (2008) *op. cit.*; von Wagner, A (2007) *op. cit.*; Krutzsch, W (2003) *op. cit.*; Chayes, A and Meselson, M (1997)*op. cit.*

[36] Fidler (2007) *op. cit.*

[37] Crowley et al (2011) Correspondence and briefing material sent to all Permanent Representatives of the OPCW by the Bradford University Non-Lethal Weapons Research Project, 'Africa's Development and Threat of Weapons of Mass Destruction Project' of the Institute for Security Studies and the Omega Research Foundation submitting *Concerns relating to the development and promotion of a range of large calibre munitions containing riot control agents (RCAs)*; On a related issue, *Foreign Policy blog* reported that India was weaponizing hot chili pepper in grenades, Foreign Policy blog (2010) India's red hot chili grenade, posted By Peter Williams Tuesday, March 23, 2010, http://blog.foreignpolicy.com/posts/2010/03/23/mustard_gas_is_a_thing_of_the_past; However, *Asia Times Online* described these as hand grenades for possible use in counter-insurgency and counterterrorism operations: Ramachandran, S (2009) Indian defense spices things up. *Asia Times Online*, 8 July 2009, http://www.atimes.com/atimes/South_Asia/KG08Df01.html.

[38] See: Dando, M (2004) Non-lethal weapons – more realistic scenarios. In: *Biotechnology Weapons and Humanity II*. Board of Science and Education, British Medical Association: London, UK, observing in this regard: "We have to consider not just the friendly forces being equipped with non-lethal options, but also the future interrogator and the future torturer able to induce depression or euphoria or enhance pain by the use of drugs discovered in the future. We also have to remember that any capabilities which evolve may also become available to a future dictator or terrorist."

1.4 Overall comments

In summary, option one has a clear escalation potential and the outcomes are unpredictable. The experience with restraint being exercised (or criticism raised) by States is discouraging and the conclusion could be that without active engagement, the risks of moving up the escalation ladder is high. Technological barriers stand against a broad utilization of "incapacitating chemical agents" in traditional law enforcement situations but these may not prevent their acquisition by military forces under the guise of law enforcement needs. The proliferation risks are considerable, and the erosion of existing legal norms (disarmament, international humanitarian law and international human rights law) would be considerable.

2 Option 2: Regulation of "incapacitating chemical agents". This may include: (a) Increased transparency on the types, quantities and delivery systems used for law enforcement; and/or (b) Specific national and/or international constraints on the types, quantities and delivery systems used for law enforcement

2.1 Brief description

Suggestions have also been put forward to delineate clearly which types of toxic chemicals and delivery systems would be justifiable for use as "incapacitating chemical agents" for law enforcement purposes.[39] This of course presupposes that "incapacitating chemical agent"-based weapons for law enforcement are accepted in principle from a legal perspective. The proposals presume that it should be possible to tailor toxic chemicals specifically to ensure that their effects are "non-lethal" and specific as to the desired outcome.[40] In addition, it has been suggested to increase the transparency between States on acceptable types, quantities and delivery systems, by submitting declarations on these issues. There would likely remain uncertainties and differences of opinion between States about some of the underlying concepts (what constitutes 'law enforcement' in circumstances outside of areas under the jurisdiction of a State, what is an "incapacitating chemical agent", what are appropriate delivery systems for law enforcement) and the hope would be that through increased transparency or by agreement, State practice could be guided towards restraint, thereby reducing the escalation risks described in option one.

2.2 Perceived benefits

2.2.1 Informed policy making

On the pro side, such an approach could create more openness, allow a more informed debate among States and give States and civil society a better chance to identify critical issues and raise concerns. One would hope that in such a context, policies would evolve in a

[39] See, for example, Sutherland, R (2008) *Chemical and biological non-lethal weapons*. Stockholm International Peace Research Institute Policy Paper 23, November 2008, p 35, proposing that an OPCW working group could consider which chemicals and associated delivery mechanisms are permitted for law enforcement, including for use in possible riot situations. The working group, he suggests, could also develop criteria for the threshold percentage of deaths or injuries, and methodologies to determine the lethality of a weapon and the effects on human health and the environment that are associated with its use.

[40] National Research Council (2003) *op. cit.*, p 81, "Chemicals offer the **theoretical possibility of peacefully incapacitating** combatants/agitators, reducing the need for the violence that is frequently associated with many of the current methods. Chemical NLWs ["non-lethal weapons"] could effectively allow a commander to 'cool off" a situation, separate the combatants from non-combatants, and then deal with the former appropriately. … Because chemicals can be **tailored to elicit specific human effects through molecular design**, they have potential for more **precise bioeffects** than do currently used NLWs such as blunt munitions … Chemicals may be **easily dispersed to deliver effects to groups as well as to individuals**. For example, a chemical crowd system could be deployed early in tactics, before the crowd has formed a closely packed array, to allow freedom of mobility and harmless escape." (emphasis added).

more rational, informed and critically-assessed environment than might be the case under option one. States acquiring (and declaring) types of devices utilising "incapacitating chemical agents" for law enforcement purposes would have to anticipate scrutiny by other States who would assess this information in the light of their own understanding of what the applicable norms are.

There is also some technical merit in this approach with regard to delivery systems. It is well established from the use of RCAs that delivery systems can be developed and deployed that are compatible with generally understood rules of law enforcement, but not well-suited for combat operations.

2.2.2 Engagement of competent multilateral bodies

Option two would also allow States to use existing mechanisms under the CWC, the BWC or other legal instruments to clarify matters of concern, both bilaterally and collectively through the organs of the CWC (OPCW Executive Council and Conference of the States Parties), then BWC (annual meeting of the States Parties) and the UN (international principles and rules applicable to law enforcement). This could, for example, be used to resolve concerns about 'inappropriate' "incapacitating chemical agents" or delivery systems judged to be inconsistent with law enforcement purposes, or quantities judged to be above justifiable law enforcement needs.

2.2.3 Confidence building

Furthermore, option two might alleviate concerns that "incapacitating chemical agent" programmes could be used as a cover for chemical weapons programmes involving more traditional, "lethal" chemical weapons,[41] or that such "incapacitating chemical agent" programmes could eventually slip into or encourage such chemical rearmament.

2.2.4 Potential for verification

Eventually, some argue, this option could be expanded to also include verification measures that would validate declared information and provide additional assurances about the solely legitimate character of the "incapacitating chemical agents" so acquired.[42]

2.3 Risks

There are several serious risks and pitfalls with this policy option, both with regard to technical hurdles that would need to be overcome and concerning the required negotiation framework to put such measures into place.

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[41] Robinson, J (2007) *op. cit.*

[42] For example, Sutherland, R (2008) *op, cit.* p 35-36, suggesting that CWC States Parties could "consider how a declaration of holdings of chemicals for law enforcement would affect government facilities – as opposed to, for example, the chemical industry. The Technical Secretariat and other appropriate OPCW bodies could perhaps analyse the cost, level of intrusiveness and scope of routine CWC verification under a range of representative scenarios in which some information is made available on the development, production or stocks of chemicals held for law enforcement", and that "The parties to the BTWC should consider revising the politically binding annual exchanges of information that serve as confidence-building measures to help strengthen the treaty regime by including information on NLWs ["non-lethal weapons"] and similar programmes. Periodic consultations on scientific and technological developments, for example at BTWC review conferences, should also address the issue."; Tucker, J (2008) The body's own bioweapons: the next biothreat could come from chemicals derived from the human body that can incapacitate and kill – and which skirt existing arms controls, *Bulletin of the Atomic Scientists*, Vol 64, No 1, March/April 2008, proposing the creation a subcategory under the CWC verification regime for 'other chemical production facilities' (OCPFs) for the declaration and verification of peptides, with a new (lower) threshold for declaration and inspections as compared to OCPFs.

2.3.1 Technical hurdles – delivery systems

There are no international standards with regard to acceptable delivery systems. Experience from RCAs has shown that one cannot rule out that certain States will acquire delivery systems that others consider well beyond the scope of what is acceptable as a means of law enforcement.[43] In the context of a debate about law enforcement (i.e., the domestic use of State power to maintain law and order), it remains doubtful that *international* negotiations would actually succeed in setting agreed constraints on acceptable "incapacitating chemical agent" delivery systems.

That leaves, with regard to acceptable systems of delivery, the option of national decision making and international consultation to air concerns. If the experience with delivery systems for RCAs as well as information about ongoing military delivery systems to disseminate 'legitimate' chemical payloads is taken into account, one may conclude that at least some States, under the circumstances, may opt for military delivery systems that have use in law enforcement by military units *as well as* in certain types of combat missions. The outcome, then, may not be much different from option one, carrying all the pitfalls of the possible acquisition of delivery systems that are in fact designed for combat rather than law enforcement, and of proliferation of such capabilities to other countries and actors.

2.3.2 Technical hurdles - agents

As for the agents themselves, there seems to be a broad consensus in the *science* community that has been involved in this debate that there is (at least today) no such thing as a "safe" "incapacitating chemical agent".[44] If, in this situation, national or international consultations were to be held to identify an 'acceptable' "incapacitating chemical agent", several outcomes are possible (in isolation or combined):

- No decision in favour of any agent at the moment and national decision making instead of international rule making;
- Acceleration of research and development to find an acceptable agent, creating potentially-false promises and expectations;
- Lowering of standards (acceptance of a second-best agent that meets some but not all criteria; basing decision on unrealistic assumptions and the like). For example, in the absence of sufficient data from actual use it is quite conceivable that acceptance criteria would be based on drug safety margins and calculated exposure levels that cannot in fact be met under field conditions. Experience from the use of RCAs has shown that overdosing is a common occurrence under field conditions.[45]

2.3.3 Negotiation hurdles

There are also risks regarding the negotiation of constraints and possible additional measures related to this option:

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[43] See the evidence provided by Crowley, M et al (2011) *op. cit.*

[44] IUPAC (forthcoming, 2013) *op. cit.*; Royal Society (2012), *op. cit.;* Spiez Laboratory (2012) *op. cit.*; To quote the summary of the discussions of the Spiez workshop (p 10): "There remains (strong) scepticism as to whether an agent could actually be developed for which its negative side effects are deemed 'acceptable', so that duty of care can be met. Despite the better understanding today of the CNS, it has yet to lead to better drugs in terms of higher specificity and lower toxic side effects. Also, if a drug could be identified that leads to incapacitation and is sufficiently safe for use, proper means of dissemination would have to be developed for the types of scenarios for which incapacitating chemical agents are being considered. In this context it was recognised, that there is a fundamental difference between the use of an agent or a drug under controlled clinical conditions – one-on-one use, anaesthetist and patient – versus the use of such an agent or drug as a weapon in the field."

[45] Presentation of Alastair Hay at the Spiez workshop on "incapacitating chemical agents", see: Spiez Laboratory (2012) *op. cit.*

- The option pre-supposes willingness on the part of States to engage in serious negotiations to create these rules. At the moment, such willingness is hard to detect. Given the time it would take to initiate and complete the negotiation process, based on previous experience, it is possible that there would be facts on the ground before an agreement was reached. Without a moratorium on development and acquisition (option three), such an approach could either collapse or be a ratification of what has happened already, rather than a preventive (and with regard to the CWC and the BWC preservative) outcome.
- It seems unlikely that some of the underlying concepts (what constitutes 'international law enforcement', what does 'appropriate' mean with regard to justifiable types and quantities) can actually be resolved. These issues have come up before, including at several stages in the CWC negotiations, and were brushed under the carpet as 'too difficult to deal with'. If these issues cannot be resolved, negotiations would either come to nothing or ratify the minimum consensus possible. That could potentially legitimise agent types and delivery systems that may not in fact be compatible with law enforcement.[46]
- The option involves potentially a renegotiation of key elements of the CWC. Whilst explicitly delineating a permitted purpose (the use of toxic chemicals for law enforcement purposes including domestic riot control) may perhaps be done by agreement of common understandings, establishing additional parameters for declarations (and eventually verification) would require an amendment of or an additional protocol to the CWC. Conventional wisdom and practical experience have it that opening arms control accords for amendment is a high-risk strategy that may unravel the accord or create a two-tiered international system with different rules applying to different countries depending on whether or not they accede to or ratify the amended provisions.
- Alternatively, there are suggestions that if such a system of declarations and eventually verification could not be achieved through formal negotiations (initially at least) it could be propagated through voluntary measures.[47] The hope is that with experience and over time, the system would attract sufficient support to become the norm (and could then even be codified, for example in form of a treaty amendment or additional protocol). The risk, however, is that the support for these measures remains limited, in particular if there were no institutional and political processes that could be used to discuss these matters and promote broader participation.[48]

2.3.4 Proliferation and escalation risks

Depending on the outcome of such negotiations, "incapacitating chemical agents" and related delivery systems may appear in the police and even military structures of a number of States. This creates a risk that similar weapons be acquired by a variety of States and regimes and used in armed conflict, or that weapons in stockpiles proliferate into the hands

[46] This was a reason why the CWC provisions on RCAs avoided any reference to quantities of stockpiles and types of delivery systems. The risk of insisting on their inclusion in the CWC would have been that the consensus would have swung towards a downright *exclusion* of any provisions on RCAs from the Convention (as requested by Algeria, China, Egypt, India, Islamic Republic of Iran, Kenya, Mexico, Myanmar, Pakistan, Sri Lanka and Zaire, see working paper CD/CW/WP.403 of 4 June 1992). The reasons for the final solution in the CWC were given in the Explanatory Note of the Chairman of the Ad Hoc Committee on the draft Chemical Weapons Convention (CD/CW/WP.414 of 26 June 1992); See also Crowley, M (2009) *op. cit.*, Davison, N (2007) *op. cit,*; and Davison, N and Lewer, N (2005) *Bradford Non-Lethal Weapons Research Project (BNLWRP) Research Report No. 7*, University of Bradford, May 2005).

[47] Sutherland, R (2008) *op. cit.*

[48] Note that such measures would probably have to be implemented outside the institutional framework of the OPCW or the BWC, as it is not clear how the OPCW Technical Secretariat or the BWC-ISU could be tasked to support them and conduct related activities if there was no agreement within the OPCW or the BWC States parties conference to implement them.

of criminals or terrorists and be used by them (in the latter case almost certainly with lethal effect).

2.4 Overall comments

To sum up, option two at first sight appears to have some attractive features that might add transparency and create self-restraint as well as an international environment that might eventually be conducive to agreeing on rules about the use of "incapacitating chemical agents" for law enforcement purposes, as well as mechanisms for reporting and control. Option two appears to offer a negotiated way (or a way led by example) to an acceptable solution.

The option does, of course, *start* from the premise that the use of "incapacitating chemical agents" for law enforcement purposes is legitimate – all it attempts to do is clarify the boundaries and develop 'rules of the game'. It is hard to predict exactly what the eventual set of rules might be. The option does acknowledge (or at least imply) that it may require the renegotiation of certain aspects of the CWC as well as the BWC – and also that at least some proposed "incapacitating chemical agent" uses would contravene these treaties.

As a general observation, it remains doubtful that attempts to set national constraints (or agree on international standards) with regard to 'acceptable' "incapacitating chemical agents" could lead to anything but an acceleration of the search for a 'good' agent, and potentially an erosion of the standards used to disqualify agents that are not suitable under conditions of their non-consensual use in the field.

Finally, as far as the sizes of an acceptable "incapacitating chemical agent" stockpile are concerned, experience of previous discussions regarding stockpiles of RCAs may be of relevance. There, declaration of RCA stockpile sizes was impossible at the end of the CWC negotiations and in fact turned out to be one of the "show-stoppers".

But at the same time, practical experience in the chemical and biological weapons arms control environment strongly suggest that option two might not be practicable, or take a long time to complete (perhaps too long to be meaningful). Under such circumstances, option two is likely to default into option one. The risks inherent in this are considerable and the assurances that internationally agreed rules and standards could be negotiated that would be compatible with the current system of arms control, international humanitarian law, and human rights law, as well as fundamental health and safety standards, are low.

3 Option 3: National and/or international moratoria on research, development, stockpiling and use of "incapacitating chemical agents"

3.1 Brief description

This option renders the narrow legal interpretation of the CWC's law enforcement clause[49] the *status quo* for the State or States concerned and suggests that proponents of the acquisition of "incapacitating chemical agents" need to demonstrate that accepting "incapacitating chemical agents" as means of law enforcement can bring benefits that would exceed any negative impact that such an acceptance would have for the regime governing chemical and biological weapons today, as well as the rules that apply to the use of force in law enforcement. A moratorium could be time-bound and be associated with a process of

[49] Krutzsch, W and von Wagner, A (2008) *op. cit.*; von Wagner, A (2007) *op. cit.*; British Medical Association (2007) *op. cit,*; Krutzsch, W (2003) *op. cit.*; Chayes and Meselson (1997) *op. cit.*

negotiation or review to resolve the issue as well as to monitor developments that might affect the basic assumptions about such issues as safety of "incapacitating chemical agents".

A moratorium could eventually lead into an explicit prohibition of any use of "incapacitating chemical agents" for law enforcement, or the emergence of customary international law in this field, or a decision on certain rules under which their use was accepted. A moratorium could be agreed on a multilateral basis, or initiated by one or more interested States who could invite other States to join.

3.2 Perceived benefits

3.2.1 Breathing space

An international moratorium could provide breathing space to further study, discuss and negotiate a best outcome without creating facts on the ground that cannot easily be reversed. Even national moratoria might work by setting examples and creating public awareness, debate and involvement (which at the moment is largely missing), provided there are sufficient incentives for other States to join over time.

3.2.2 Relative ease of establishment

A moratorium could be decided upon quickly. If acting unilaterally or as a group of like-minded countries, States could decide to freeze any "incapacitating chemical agent" programmes they may have, or commit themselves not to start any such programme, without having to wait for other conditions to be met. They could declare that they will not engage in any acquisition or use of "incapacitating chemical agents" for law enforcement purposes, without waiting for the results of consultations or negotiations involving other States.

A moratorium would not require States participating to take a final position on whether or not "incapacitating chemical agents" can be used in law enforcement, or, if permitted, with which constraints. That could broaden the appeal of this option for a larger number of participating States.

3.2.3 Halting weaponization-related work

Any moratorium on basic research, or defensive research, is neither desirable nor feasible. On the other hand, a moratorium on applied research and development of "incapacitating chemical agents" and delivery systems directed at possible future weaponization might be technically feasible. It would prevent the creation of realities that cannot easily be reversed, at least in the States participating in the moratorium. Such a moratorium could include, for example, a freeze on certain key steps in the development and weaponization process such as aerosol dissemination studies related to "incapacitating chemical agents", open air testing of "incapacitating chemical agent" dissemination devices, design of "incapacitating chemical agent" dissemination systems for field application (as different from medical uses), or work on production up-scaling. It would most prominently affect applied research and development in military research institutions and institutions working on technical means of law enforcement.

3.3 Risks

3.3.1 Difficulties in halting on-going "incapacitating chemical agent" programmes

To the extent that there are already ongoing programmes related to the development of suitable "incapacitating chemical agents" and delivery systems for law enforcement uses,

strong political commitment would be needed to freeze them. Resistance should be expected for a number of reasons:

- In the public debate and even in discussions in military and policy environments, the "incapacitating chemical agent" issue remains mixed up with the RCA issue. For a moratorium, this is counterproductive.
- Secrecy in current "incapacitating chemical agent" programmes may prevent an informed discussion of the objectives of such a moratorium.
- Proponents of "incapacitating chemical agents" are also likely to jumble scenarios of traditional law enforcement with scenarios involving military forces operating in circumstances where civilian lives are at stake, whilst downplaying the possibility of combat uses of "incapacitating chemical agents" in armed conflict. This blurring of the lines can easily lead to arguments that are ostensibly attempts to protect innocent lives whilst in reality they support the acquisition of more advanced military capabilities.

3.3.2 Insufficient State participation

If a moratorium cannot be internationally agreed but instead were adopted by a number of like-minded States, the risk is that key countries may decide not to join the process. That could considerably weaken the impact of a moratorium. It could also make the results of any negotiation/review process accompanying the moratorium less convincing and acceptable to others.

3.3.3 Failure of the negotiation/review process accompanying the moratorium

A critical aspect of the moratorium approach would be to clearly spell out what the moratorium covers, why it is put in place, and what process would be entered into by the States whilst they uphold the moratorium. The latter is critical, but may also be problematic as it might call for either a deadline (which can be missed) or a mechanism of review (potentially complicating the process of setting up the moratorium in the first place). But without such a process, the purpose of the moratorium would remain unclear and its appeal could be undermined.

3.4 Overall comments

Option three is a temporary risk prevention strategy. It depends on a well-designed, effective and sustained campaign of providing explanation and information to States as well as the public. It would require a strategic approach towards engaging with States to clarify: (a) the legal constraints that exist today, (b) the objectives of designing new rules if any, and (c) the objectives and mechanisms for negotiating such new rules as may be required. Even with such a strategy, there remain significant risks, including a risk that discussions themselves could encourage perceptions that these types of weapons may be desirable.

A moratorium would clearly be in the interest of those States who fear that developments towards the acquisition of "incapacitating chemical agents" for law enforcement purposes will undermine the existing legal regimes and protections and could eventually lead to the emergence of new types of chemical weapons.

4 Option 4: National and ultimately international prohibitions on research, development, stockpiling and use of "incapacitating chemical agents"

4.1 Brief description

National and ultimately international prohibitions of the acquisition and use of "incapacitating chemical agents" for law enforcement purposes start from an understanding that "incapacitating chemical agent" weapons are undesirable. They could be the ultimate result of a moratorium, or they could be negotiated without a moratorium. They could also be enacted by individual States, or groups of States, without a lengthy negotiation process.

If States enact "incapacitating chemical agent" prohibitions unilaterally or as part of a group of like-minded States, they would simply be exercising their own jurisdiction. No explicit reference to existing international treaties would be necessary. Some States may consider that law enforcement uses of "incapacitating chemical agents" are prohibited under the CWC and the BWC (which also prohibit development, production and stockpiling), and/or not permitted under other international instruments and would essentially be enacting a national law to implement treaty or even customary law as understood by them.[50] States that remain uncertain about whether or not law enforcement uses of "incapacitating chemical agents" are prohibited under international law would be using their discretion to enact a law that they consider desirable for policy, security or other reasons.

States taking this action could then urge other States to adopt a similar prohibition. If successful, prohibition could ultimately be adopted at the international level.

International prohibitions would require a negotiation process designed either to render explicit (an) already existing prohibition(s), for example an understanding that the use of toxic chemicals for law enforcement under the CWC is limited to RCAs, or to establish a new norm to complement and perhaps modify existing norms in the area of disarmament, international humanitarian law, international human rights law and international drug control law.

4.2 Perceived benefits

4.2.1 Clarity of international rules

Prohibitions at the international level would create a clear and generally applicable rule. They would leave little or no doubt about legitimate State practice and would avoid different rules being used by different countries.

4.2.2 No effect on military/strategic interests

It may be possible to adopt such prohibitions from a military / strategic perspective. The entire discussion about "incapacitating chemical agents" has been about their use in *law enforcement* (not in armed conflict for the conduct of hostilities). Forgoing this option would thus not affect any security/strategic balance *between* States. It limits certain law enforcement capabilities but there surely are alternative methods of reducing the lethality of law enforcement measures without the risks associated with "incapacitating chemical agents".

[50] See, for example, the German CWC Implementation Act, where Articles 1 and 17 applied in conjunction lead to the conclusion that "incapacitating chemical agents" cannot be used by law enforcement agents or military forces, whilst riot control agents can; Germany (1994/2004*) German CWC Implementation Act (Ausführungsgesetz zum Chemiewaffenübereinkommen – CWÜAG*, 2 August 1994, last amendment 11 October 2004, http://www.auswaertiges-amt.de/cae/servlet/contentblob/349356/publicationFile/4144/CWUE-Ausfuehrungsgesetz.pdf.

4.2.3 Reducing risks in law enforcement

A prohibition would also avoid the future risks of causing unnecessary suffering or death of innocent bystanders caught up in responses to criminal or terrorist incidents. Law enforcement officers would not have to attempt doing the impossible: deploying a chemical agent, the dose and effect of which they cannot adequately control, using it against innocent people whose vulnerability to the toxic effects of the gas they cannot know, and having to plan for and execute a medical operation to resuscitate a potentially large number of victims in circumstances where there are grave doubts about the viability of providing qualified and effective medical care on the spot. Risks to law enforcement personnel who could themselves be adversely affected in the process of using "incapacitating chemical agents" would also be eliminated.

4.2.4 RCAs for law enforcement untouched

The prohibition option leaves unaffected the option for law enforcement officers to use RCAs, or types of incapacitating weapons other than chemical agents, as alternatives to the use of "lethal" force and firearms. It would thus not by necessity create a gap in the 'law enforcement tool box'.

4.2.5 Preventing proliferation

A major aspect is that prohibitions would help avoiding the significant proliferation risks of law enforcement weapons ending up in the hands of criminals or terrorists.

4.2.6 Upholding and strengthening existing norms

Finally, such prohibitions, if designed with care, could help strengthen the regimes that ban chemical and biological weapons. They could also help avoid a situation where, by mistake or chance, a race for next-generation chemical weapons is triggered by "incapacitating chemical agent" weapons moving into military force structures under the banner of law enforcement.

4.3 Risks

4.3.1 Forgoing options for law enforcement

Prohibitions will limit – to RCAs and non-chemical means – the available options of incapacitating while not using traditional means of 'lethal' force and firearms in law enforcement. As advances in the life sciences continue and more sophisticated drugs and targeted drug delivery methods become available, some may argue that they might one day bring about a system that could be used safely for law enforcement purposes. Prohibitions would create an obstacle towards such new law enforcement methods and hinder research and development towards such methods.

4.3.2 The problem of definitions in new negotiations

If prohibitions were negotiated outside the CWC or BWC context, "incapacitating chemical agents" will need a definition to clarify the scope of the prohibition. At the current state of scientific development, if not for fundamental scientific reasons, this is impossible as it would require drawing a clear line firmly separating "lethal" from "incapacitating-only" chemical agents or drugs. That line does not exist.

If prohibitions were negotiated within the context of the CWC and BWC, there is a risk that these steps be understood as an attempt to create a new rule. That could weaken further the

existing norms and, if negotiations fail, could open the floodgates for an unconstrained rush for law enforcement "incapacitating chemical agents" (it could be understood as a confirmation that the current regime does indeed allow the use of "incapacitating chemical agents" for law enforcement). The result would be a default into option one or at best two. The obvious remedy would be a negotiated outcome that simply clarifies/restates an existing prohibition.

4.3.3 Negotiation challenges

In any event, if the prohibitions are to be developed and enacted through negotiations, these will be complicated and the remarks already made under options two and three with regard to negotiation risks would also be relevant here.

4.3.4 Risk of limited participation

If the policy approach was (at least initially) based on unilateral measures by individual States (or coordinated measures by a number of like-minded States), there is a risk that the participation of key States cannot be secured and the process could default into option one. However, the force of example and contrary State practice may mitigate this risk as compared to a situation in which all States simply continue the *status quo,* as in option one.

4.4 Overall comments

Prohibitions, either enacted by individual States or negotiated multilaterally, can be an effective approach towards preventing the emergence of law enforcement "incapacitating chemical agent" weapons that could eventually creep into military force structures (and be used in combat, in clear contravention of existing international law) and/or proliferate into the hands of rogue States, terrorists or criminals. National measures could be enacted at any time.

It remains uncertain whether national prohibitions would be sufficient by themselves to attract broad international participation. If additional pressure or encouragement were needed, developing this policy option would require considering how such additional pressure can be brought about.

If negotiations of a prohibition of "incapacitating chemical agents" as law enforcement weapons are taken up at the global level, it would be extremely important to phrase their goals and context in such a way that no harm is done to the existing treaties and applicable norms of international law.

POLICY DISCUSSION 1:

Continue with the *status quo* with State practice eventually defining what is acceptable regarding the use of "incapacitating chemical agents" for law enforcement.

The nature of the *status quo* and risks with this option

There was a discussion among participants about the nature of the current *status quo*, which can be understood as a lack of clarity about whether it is legitimate or desirable to use "incapacitating chemical agents" as weapons for law enforcement. There were differing views on what this lack of clarity means in terms of the severity of the problem.

One participant took the view that the current *status quo* may not be as much a cause for concern with respect to the risks of a 'slippery slope' towards the use of toxic chemicals in armed conflict or the 'creeping legitimization' of toxic chemicals as weapons. The participant was not convinced of the risk of "incapacitating chemical agents" slipping into the hands of military organisations from law enforcement.

By way of example the participant emphasised that a number of CWC States Parties have voiced their concerns, at Review Conferences and on other occasions, about the issue of "incapacitating chemical agents". Germany for one has already restricted itself to a policy of 'riot control agents only' for law enforcement. And although Russia has used a fentanyl derivative for law enforcement and deemed it permissible, no State has said that they need a wide range of "incapacitating chemical agents". The participant added that States are generally cautious and concerned about the issue of "incapacitating chemical agents" and that this sense of concern should be reaffirmed as a way of limiting risks.

Another participant, on the other hand, expressed concerns about allowing State practice to determine the acceptability of "incapacitating chemical agents" for law enforcement, especially given the long history of interest in these weapons in both military and law enforcement organisations. The participant argued that the risks of 'creeping legitimization' were accentuated given the history of exchange of weapons technologies – e.g. riot control agents – between these two sectors, adding that the blurring of boundaries between law enforcement operations, counter-terrorism and low intensity warfare increased concerns over "incapacitating chemical agents" placing us on a 'slippery slope' to the use of chemical weapons in armed conflict.

The participant questioned whether interest in the development of "incapacitating chemical agents" was really so limited since there is evidence indicating that several States have undertaken contemporary research on "incapacitating chemical agents" from the mid-1990s through the mid-2000s. The participant added that these concerns are heightened when seen in combination with the existing availability of wide area dispersal devices and munitions (e.g. fogging devices, rocket-propelled grenades, mortars, and large-calibre munitions) designed for delivery of riot control agents that might raise concerns in terms of their appropriateness for law enforcement, and which could be adapted for the delivery of "incapacitating chemical agents".

Several participants agreed that there was currently no "incapacitating chemical agent" that could justifiably be used for law enforcement because of the risks of death and serious injury involved. One participant added that current technical analyses (e.g. by the Royal Society,

the British Medical Association, and at the Spiez technical workshop on "incapacitating chemical agents) all indicated that foreseeable advances in science and technology would not change this outlook. And another participant noted that the Moscow theatre siege incident was controversial because of the dangers the use of toxic chemicals presented.

However, there were different views on the implications of this for current and future risks. Some participants argued that the lack of availability of an acceptable "incapacitating chemical agent" means the risk of them being used is very low. Whereas another participant emphasised that imperfect "incapacitating chemical agents" might be used in any case in some situations.

Despite differing views on the risks associated with the current *status quo*, including the extent of the 'slippery slope' risks of these weapons being used by military forces, many participants agreed that it is necessary to look forward as to the potential for increased risks if there was further proliferation of "incapacitating chemical agents". One participant suggested that it would be useful, therefore, to support simple mechanisms to limit these risks.

With respect to changing risks, another participant noted the rapid pace of relevant technological developments, for example in neuroscience and nanotechnology, which are potentially applicable to new chemical agents and novel means of delivery. The participant emphasised that there is now an opportunity for the international community to respond to the issue of "incapacitating chemical agents" before the risks are exacerbated by these advances.

Another participant emphasised that the option of continuing with the *status quo* and doing nothing should not be viewed as having no consequences. For example, in not pursuing any policy approaches to clarifying the issue, States may continue to carry out research and development of new chemical agents as "incapacitating chemical agents" without constraints.

Benefits with this option

In discussing the merits of this option several participants raised potential benefits. One participant noted that this option may be favoured by some States Parties because it would be seen as the least intrusive option and would not lead to any new obligations under the CWC. In one sense it might also be preferred from an institutional perspective as it would not require any alterations to the activities of the OPCW.

Some of the potential benefits of keeping the *status quo* were presented in terms of the risks of pursuing other options. Several participants emphasised that pursuing formal discussions or negotiations have the potential to lead to a worse outcome that the current situation and so this should be taken into consideration. One participant emphasised that any approaches to addressing this issue would need to be simple and pragmatic, and avoid the complex dimensions of the topic that have been explored in expert discussions. The participant added that any decision to pursue formal negotiations on "incapacitating chemical agents" would need to keep this in mind.

Another participant stressed that the issue of "incapacitating chemical agents" should not be discussed formally at the CWC / OPCW unless it is very carefully prepared in advance, otherwise there would be a risk of generating more confusion among CWC States Parties. The participant highlighted a number of potential pitfalls of pursuing formal discussions including: a risk that the discussion will be confused with the issue of riot control agents, which has been a sensitive issue since the negotiation of the CWC; a risk that discussions would focus on the distinction between armed conflict and law enforcement, an area where

the OPCW has no expertise; and a risk that the issue will be narrowly assessed through the lens of one particular incident (i.e. the Moscow theatre siege), which may then be determined by particular viewpoints on that incident.

A lack of political urgency?

There was a discussion among participants about the perceived urgency of addressing the issue of "incapacitating chemical agents" and the implications for policy approaches. As one participant highlighted, the option of continuing with the *status quo* implies a lack of urgency to address the issue. Several participants noted that the general feeling among governments is that there is not sufficient concern to require the involvement of high level political attention to this issue at the present time. However, other participants noted that there is still a sense that the issue is important and that policy decisions should not be postponed.

One participant explained that those tasked with taking decisions in governments would need to be convinced of why the issue deserved particular attention, when compared with other issues, in order to pursue anything other than continuing with the *status quo*. The participant noted that there was no indication that the current situation might deteriorate rapidly and so, unless other options were conveyed to governments in a persuasive manner, 'option one' of continuing with the *status quo* will be the most likely outcome. It was suggested that policy makers might be led to an adjustment of the *status quo* but not to a substantially different approach. Therefore it was suggested that policy approaches need to be realistic.

Another participant argued that lack of urgency should not be assumed given the long history of military and later police interest in developing "incapacitating chemical agents". The participant explained that this interest and research had been continuous since the late 1940's and continued in the 1990's and early 2000's despite the adoption of the CWC. Also much of this interest was from military organisations, including NATO, in considering potential weapons for peacekeeping and peace enforcement operations. The participant suggested that, given this record, it would be hasty to suggest that military and policy interest in these weapons had now disappeared; adding that research and development may have continued behind closed doors.

Another participant argued that, even if there was not perceived to be an immediate threat from the development and use of "incapacitating chemical agents", it is important to address the issue when there is sufficient time to consider all the aspects rather than waiting until a point when it may be too late to react. Another participant argued that the perceived lack of urgency would actually provide a better atmosphere for addressing the issue. They added that taking quick action following a crisis situation could lead to unbalanced decisions. Therefore, despite the difficulties of getting political attention when a crisis is not imminent, it would be regrettable to wait for a humanitarian disaster or a major security threat in order to take action.

A participant argued that States have a duty to address the issue of "incapacitating chemical agents" because it has been highlighted as a problem with respect to the risk of re-emergence of chemical weapons and there is a responsibility to act before a crisis situation is reached. The participant added that the current situation, with limited development and use of "incapacitating chemical agents", provides an opportunity for a preventive approach to avoid proliferation. It was also noted that the long time scale needed for international decision-making at the level of the CWC / OPCW is another reason to act now rather than to wait for a crisis.

Alternatives or modifications to this option

A number of participants agreed that any policy reaction to the current *status quo* should be both proportionate and realistic but that it would not be sufficient to do absolutely nothing. Several suggestions were made as alternatives to option one. A participant suggested one alternative approach – 'option one (a)' – which would be to increase attention to the issue of "incapacitating chemical agents" and reaffirm areas where there is already agreement among States. Although this approach would not resolve the issue it would at least provide some initial clarification and emphasise existing barriers to any development and use of "incapacitating chemical agents" as weapons.

Another participant suggested that a statement could be agreed, either in the CWC/OPCW context or in a different forum, which reaffirmed the following points of agreement:

- "Incapacitating chemical agents" are toxic chemicals under the CWC;
- "Incapacitating chemical agents" are prohibited in armed conflict;
- There is some interest in "incapacitating chemical agents" as weapons for law enforcement in certain situations;
- There are no existing "incapacitating chemical agents" that would be considered 'safe' enough for use as weapons for law enforcement;
- There are legal constraints on the use of "incapacitating chemical agents" for law enforcement, and on the context of their use, which originate from the CWC, international human rights law and international drug control law.

Other participants suggested that there would be little progress seen until the issue was part of official discussions – as opposed to informal discussions – between States parties to the CWC. It was suggested that getting the issue on the formal agenda of discussions at the CWC could be considered as 'option one (b)'. One participant said that, although some Western governments were reluctant to put the issue on the agenda, a majority of governments (including the Non-Aligned Movement) were interested in discussing the issue at the OPCW.

Another participant suggested that the best way to initiate discussions at the CWC/OPCW would be to avoid focusing on a particular policy approach or solution, but rather to begin an open-ended discussion starting with informing all States Parties about the issue. One participant added that any option that involves addressing the issue at the CWC would be highly dependent upon individual States Parties, or coalitions of likeminded States Parties, promoting a particular approach.

Other relevant considerations for OPCW

Some participants made comments on preparations that might be needed at OPCW in order to fully address the issue of "incapacitating chemical agents". For example, several participants noted that verification activities would not be possible before the establishment of an adequate analytical capability in the network of OPCW national laboratories to analyse an identify "incapacitating chemical agents". A participant added that developing this laboratory capability could take a number of years.

One participant noted that some relevant changes have already taken place at OPCW with respect to assessing implications of developments in science and technology and the ability for OPCW to react to relevant developments. For example, responsibility for the Scientific Advisory Board (SAB) has now moved to the Policy and Review Branch at OPCW in order to provide a closer link to policy discussions. The participant noted that the issue of

“incapacitating chemical agents” had been on the agenda of the Scientific Advisory Board several times and the Board planned to hold further discussions in September 2012. However, the participant emphasised that the SAB can only provide technical advice that can be used in support of policy discussions but which is not sufficient on its own to address the issue.

POLICY DISCUSSION 2:

Regulation of "incapacitating chemical agents": (a) Increased transparency on the types, quantities and delivery systems used for law enforcement and/or (b) Specific national and/or international constraints on the types, quantities and delivery systems used for law enforcement.

Benefits with this option

Several participants highlighted the potential benefits of increased transparency. As one participant noted, there is currently a lack of information with respect to "incapacitating chemical agents" that States may hold as weapons for law enforcement purposes. While the Moscow theatre incident in 2002 prompted some discussions at the time, there is very little information about current interest in these weapons. The participant added that 'option two (a)' could help provide more accurate information for further discussions, and to assess both the relative risks posed by "incapacitating chemical agents" and the necessary steps to mitigate these risks. Another participant added that this could help with informed policy making.

A participant emphasised that the idea of increased transparency had some positive features but that transparency measures would need to be voluntary rather than legally binding because the latter would require a long period of negotiation. Politically binding transparency measures in operation under the BWC (i.e. confidence building measures or CBMs) were given as an example of information sharing in which quite a large number of States were willing to participate. It was suggested that a similar approach could be taken for information relating to "incapacitating chemical agents" under the CWC.

Transparency measures might result in two potential outcomes, one participant suggested. On the one hand increased transparency might reduce any existing concerns about "incapacitating chemical agents" or on the other hand information shared could highlight concerns among a broader range of countries. In the case of the latter, transparency could increase political attention to resolve concerns.

Several participants argued information sharing measures should be informal, at least at the beginning of the process. It was also emphasised that the purpose of these measures should not only be for States to share information about weapons they may hold but also for States to share information if they do not possess "incapacitating chemical agents", including the reasons for this. Another participant explained that sharing information about decisions taken by States not to develop or use "incapacitating chemical agents", such as the national policy and legislation adopted by Germany, could have the opposite effect to legitimizing these weapons by illustrating that many States are not interested in developing or using them.

Another participant suggested that transparency measures could take the form of voluntary declarations by States on the toxic chemicals held for law enforcement purposes. Under this approach States would provide specific information on agents (e.g. anticipated effects, target sites, toxicity data, and medical countermeasures etc.) and on delivery systems (e.g. type of system, potential payloads, methods of dispersal etc.). States Parties would agree the particular information shared under these declarations in advance.

The participant noted that if a significant number of States were encouraged to submit declarations then the information could provide a better basis of factual information for policy discussions as well as mechanisms to address any concerns that might arise, such as fact-finding missions or investigations by OPCW. The participant explained that declarations might not necessarily lead to verification activities but the information might form a basis for setting restrictions on the use of toxic chemicals for law enforcement.

Another participant added that it might be possible to develop a similar regime to that which is used to declare the types of riot control agents held by States, especially given that discussion of "incapacitating chemical agents" relates to law enforcement purposes and not military purposes.

Another participant suggested it might also be possible to draw lessons from the process of declarations of national protected programmes under Article X of the CWC. The participant added that initial discussions might be difficult but that previous experiences demonstrate that it is possible. For example, discussions about declarations of national protected programmes also needed to take into account national sensitivities. The outcome was the adoption of a form with a number of 'yes or no' questions and some sections where further information can be supplied. This type of questionnaire approach could be taken with "incapacitating chemical agents".

Participants also discussed the type of information that might be shared as part of any transparency measures or declarations. In addition to information about the types of toxic chemicals, one participant suggested that it would be useful to understand any underlying operational reasons for the development and use of "incapacitating chemical agents" for law enforcement. Such information could include explanations of the requirement for these weapons and their intended use. The participant suggested this might provide reassurances that "incapacitating chemical agents" were only being developed for law enforcement purposes.

On the other hand, as another participant noted, declarations might reveal that law enforcement weapons were being developed by military organisations. This would be a cause for concern since the CWC is aimed at preventing military development of chemical weapons and it prohibits the developing and stockpiling of these weapons as well as their use.

Several participants also noted that the sharing of national legislation would be a valuable transparency measure. One participant noted that States could declare any relevant national measures adopted relating to use of "incapacitating chemical agents", including national legislation. Another participant emphasised that States are already obliged to enact national CWC implementing legislation and share this with OPCW. It was suggested that this legislation could be analysed already, without the need for new information sharing measures, and could provide useful information to inform the discussion about "incapacitating chemical agents".

Risks and difficulties with this option

As highlighted by several participants, a major negative aspect of pursuing transparency measures, such as declarations, with respect to "incapacitating chemical agents" is that it could lend legitimacy to these weapons for law enforcement whilst at the moment their legitimacy remains unclear. This could lead to pressure to extend the allowances made for riot control agents to other toxic chemicals. Another participant took the view that States would be unlikely to make declarations of "incapacitating chemical agents" whilst the debate on their legitimacy remains.

In relation to this issue of legitimacy, some participants explained that this risk is particularly significant since it is not possible to draw a line on a technical basis between toxic chemicals proposed as "incapacitating chemical agents" and toxic chemicals that have previously been developed as "lethal" chemical warfare agents. Therefore, transparency could give legitimacy to a wide range of toxic chemicals as potential weapons for law enforcement. One participant expressed the view that this risk of encouraging legitimacy means that 'option two' of transparency or regulation is more alarming than 'option one', which allows for differing views on what is legitimate for law enforcement.

A number of participants stressed that another problem for any voluntary transparency measures, including declarations, would be limited participation by States. One participant explained that previous experiences with voluntary transparency measures indicated that few countries would participate. The participant added that those would did participate would probably avoid declarations about "incapacitating chemical agents" and focus instead on riot control agents.

Several participants mentioned that security concerns would mean that States would be reluctant to share any operational aspects linked to "incapacitating chemical agents", such as how they would be used and in which situations. One participant noted that in the case of the Moscow theatre incident, the Russian government was unwilling to disclose the relevant information even when required to do so by the European Court of Human Rights, and even when the request for information took place after the use of the chemicals. Therefore, the participant added, it would be unrealistic to expect governments to share this information in advance.

Another participant added that one reason for States to reject information sharing or declarations would be that the process would make it easier to develop countermeasures against "incapacitating chemical agents", thus decreasing any potential utility of the weapons. However, a participant explained that in some countries there would be a requirement to publish information about medical countermeasures as part of the approval process for any "incapacitating chemical agent" to be used as a weapon for law enforcement. Another participant added that confidentiality would be impossible to maintain as healthcare providers would need concrete information on chemicals that had been used and training on how to treat those exposed.

In relation to the risks of transparency measures in general, one participant noted that sharing information can have a confidence building effect but it can also have the opposite effect, especially as different States may have different views on what is acceptable regarding the use of toxic chemicals as weapons for law enforcement. The participant added that it would only be possible to foster mutual understanding if States were committed not to use any information for recriminations.

A participant also highlighted a problem with going beyond transparency measures towards regulation, noting that in order to have regulation there needs to be agreement and understanding on what needs to be regulated among States, which is not the case at the moment. The participant added that the idea of regulation, and further responsibilities under the CWC, could also lead to uneasiness among some States Parties and negative reactions that could overshadow potential advantages.

Other considerations with this option

There was a discussion among participants about other factors that would need to be taken into consideration if transparency measures or declarations were pursued. For example, as

raised by some participants, a decision would need to be taken on how the transparency measures would be developed. One option would be for the measures to be negotiated within the CWC context. This would have the advantage of wider involvement of States and greater legitimacy but it would also risk the development of weaker transparency measures due to consensus-based decision-making. An alternative would be for measures to be developed by an interested group of States. This could lead to stronger measures but would mean less participation and less legitimacy.

Participants also raised the potential implications for existing measures on riot control agents of developing transparency measures on "incapacitating chemical agents". Several participants noted that the CWC currently requires States parties to make formal declarations about riot control agents but only requires basic information; the types of agents held but not their quantities or means of delivery. One participant suggested that requests for further information sharing on other toxic chemicals used for law enforcement might create a requirement – or a demand – for better information sharing about riot control agents. As recognised by several participants, this could complicate discussions because of the longstanding sensitivities about riot control agents in the CWC context.

Several participants agreed that if transparency measures or declarations were put into place, the relationship with riot control agent declarations would need to be assessed. However, one participant suggested there may be ways to avoid creating pressure for more information about riot control agents – and associated sensitivities – by emphasizing that voluntary measures on "incapacitating chemical agents" would remain optional and they would complement rather than supersede existing legally binding measures on riot control agents.

Alternative fora for information sharing

There was a discussion among participants about other means of information sharing that could be pursued as alternatives, or in parallel, to transparency measures or declarations under the CWC. One participant emphasised that it may no longer be suitable to limit information sharing and discussion to the CWC since, as discussed at this expert meeting, there are other bodies of international law that are relevant including human rights law, drug control law, and the BWC.

Several participants reiterated that engaging other competent multilateral systems and considering other relevant areas of international law would be both necessary and helpful. One participant emphasised that this would help legitimise discussions through involvement of the full range of relevant stakeholders, adding that the arms control and law enforcement communities need to be aware of their respective interests in this subject. The participant noted that, even if the issue was considered primarily one affecting the CWC regime, it should not exclude the involvement of other relevant organisations and regimes.

In order to improve information sharing between different groups, one participant suggested that it might be possible to convene a meeting at the OPCW with the participation of international organisations and civil society. However, another participant noted that the involvement of external organisations can be difficult at the CWC due to political reasons and perceived national security concerns, and it could be hindered by procedural discussions. An alternative suggestion was to convene a meeting outside the formal structure of the CWC, which could be held by a State, group of States, or an international organisation such as the ICRC.

Several participants stated that it would be important to involve law enforcement bodies in any such process, including international groups such as the International Association of

Chiefs of Police. However, one participant suggested that consideration would need to be given to the relationship between governments and their respective law enforcement organisations, and also to the different terminology and legal framework used in law enforcement, including a lack of awareness about the CWC.

Interest in "incapacitating chemical agents" and suitability for law enforcement

During overall discussions about potential transparency measures, participants returned to the question of where interest in "incapacitating chemical agents" originates from in law enforcement, and in which operational situations these weapons might be considered for use.

A number of participants agreed that interest in these weapons is limited to very particular extreme law enforcement or counter-terrorism scenarios where there is overlap between involvement of law enforcement organisations and military forces. It was suggested that these situations might only account for 0.1% of law enforcement incidents and that it is important to make a distinction between use 'for law enforcement' and use 'by law enforcement' since military special forces would likely be used in these very specific law enforcement circumstances. Another participant highlighted that "incapacitating chemical agents", due to their potentially lethal nature and indiscriminate effects, would not be considered for use in the vast majority of law enforcement situations. And their use in even extreme circumstances could raise concerns under international human rights law.

With respect to the constraints of human rights law, one participant recalled a recent decision by the European Court of Human Rights with respect to the use of riot control agents – namely 'pepper spray' – against violent demonstrators in Turkey. The Court considered the use of 'pepper spray' on a person already under the control of police constituted inhuman and degrading treatment, taking into account the pain and adverse health effects caused by 'pepper spray'. The participant noted that, given the far more severe effects of "incapacitating chemical agents" including long term effects, similar judgments could be expected if they were used for law enforcement. However, some other participants noted that rulings of inhuman and degrading treatment could be expected with respect to any weapon if it was not used properly.

Several participants emphasised that, in the same manner that there is a risk of a 'slippery slope' with respect to "incapacitating chemical agents" being introduced for law enforcement and finding their way into military use, there is also a potential 'slippery slope' within law enforcement. For example, if "incapacitating chemical agents" are developed, tested and used for certain specific law enforcement scenarios this could lead to wider interest among law enforcement organisations in the acquisition these weapons.

POLICY DISCUSSION 3:

National and/or international moratoria on research, development, stockpiling and use of "incapacitating chemical agents".

The nature of a moratorium and benefits with this option

Several participants noted that any moratorium would need to be based on a better understanding of the current situation with respect to the development and weaponization of "incapacitating chemical agents". A participant noted that it would be difficult to decide on a moratorium at the moment because there is limited available information about these activities. The participant explained that the scope of a moratorium would depend on whether it aimed to halt on-going research and development activities or prevent future activities. The participant recommended that there be a search for relevant information on current activities.

One participant noted that, before agreeing a moratorium, it would need to be decided whether the moratorium would prohibit current research into "incapacitating chemical agents", future research to find a more 'acceptable' agent, or both.

If a moratorium was designed to stop ongoing activities, another participant explained, it could draw on experiences of moratoria in other fields such as nuclear testing and the death penalty. On the other hand, if a moratorium was aimed at potential future activities then it would need to be designed with consideration of conceivable drivers for the development of weapons programmes in the future.

The participant emphasised that one of these drivers is the process of 'horizon scanning' for new chemical compounds that might have suitability as "incapacitating chemical agents". It was noted that it in one way 'horizon scanning' could support a moratorium by providing guidance on its scope but at the same time this process could undermine the whole process by drawing interest in new chemicals as potential "incapacitating chemical agents" as weapons.

As a potential mechanism for introducing constraints on the development and use of "incapacitating chemical agents" as weapons for law enforcement, some participants suggested that a moratorium could be an intermediate step towards a full prohibition. In this sense, one participant stressed that a moratorium (or moratoria) should exploit existing constraints on the development of "incapacitating chemical agents" to be found in the CWC's General Purpose Criterion. The participant suggested that moratoria could be used to improve the implementation of the General Purpose Criterion and thereby guard against risks posed by future developments. Prior experience of similar processes within the CWC, such as the 'article 7 action plan' aimed at improving national implementation, could provide lessons for reinforcing the General Purpose Criterion.

One participant took the view that 'option three' of establishing moratoria was the policy approach most likely to produce State practice and therefore inform future interpretation or development of international law. As such it could provide an opportunity to develop State practice, which has been absent since the issue was brought to wider attention following the Moscow theatre siege in 2002. The participant argued that it might be possible to negotiate a moratorium at the current time since currently available "incapacitating chemical agents" are

not particularly useful or desirable given the significant difficulties in using them as weapons for law enforcement within the bounds of international human rights law.

A number of participants emphasised that moratoria need not be formally negotiated between States. They could be enacted unilaterally by individual States, as a reflection of their concerns about "incapacitating chemical agents". Some participants noted that a series of national moratoria would be easier to establish and could have a similar effect of temporarily limiting risks posed by "incapacitating chemical agents". One participant added that, even if not universally applied internationally, moratoria would begin to develop a normative framework. The participant added that an uneven regime could prove more valuable than doing nothing at all, as shown by other arms control and disarmament agreements.

Another participant emphasised that at the national level there may already be de facto moratoria in countries that are not interested in developing "incapacitating chemical agents", adding that these States could unilaterally make a statement that they do not intend to develop and use "incapacitating chemical agents".

One participant noted that there might also be attractive aspects of moratoria from the point of view of States that did not want to rule out the possibility of developing "incapacitating chemical agents" in the future. For example, a State might agree to be bound by a moratorium that prohibited the use of "incapacitating chemical agents" that could not be used in a 'safe' manner such as those in existence today. In this way, States would not rule out "incapacitating chemical agents" if a new agent emerged in the future that presented less dangers.

Another participant suggested that the establishment of any type of moratorium would need to involve other stakeholders in addition to governments, including civil society organisations.

Risks and difficulties with this option

A number of participants were skeptical about the utility and practicality of an internationally agreed moratorium. One participant explained that a moratorium would have to contain agreed definitions and so any negotiation would lead back to existing problems with interpretation of the CWC's law enforcement provision. Some participants added, from a practical standpoint, that any negotiated process would take a long time and even preliminary discussions to determine the mandate for negotiations on a moratorium could take a long time.

Some participants stressed that any moratorium would not be a policy solution in itself and would rather be an intermediate tool to prevent the current situation changing while other options were considered. Therefore any decisions in support of a moratorium would need to be linked to a process to consider what would follow a moratorium, since it could either lead to a regulation ('option two (b)') or prohibition ('option four'). In relation to processes leading to national prohibition, it was noted that Germany did not consider a moratorium before establishing a prohibition in its national legislation.

Several participants noted that unilateral moratoria, such as decisions at the national level for self-restraint or mutual understanding between States, were more of a possibility but that they still might not prove very practical to implement.

Some participants added that pursuing the approach of an international moratorium or national moratoria could be detrimental unless there is clarity on the issue and the aims. For example, as one participant noted, there is the potential that the promotion of moratoria could

in fact increase interest in “incapacitating chemical agents” since it would require States to think about any potential requirement or utility of these weapons for law enforcement. The approach could then have the opposite effect to its intended effect of reducing risks associated with “incapacitating chemical agents”.

In relation to risk reduction, another participant argued that transparency measures (‘option two (a)’) allowing monitoring of developments and their compatibility with the relevant framework of international law would be a more effective approach.

There was also a discussion among participants about the difficulties that may arise in defining the scope of a moratorium. One participant emphasised that many of the toxic chemicals that have been investigated as “incapacitating chemical agents” originated from the pharmaceutical industry and not from specific weapons development programmes, which raises questions on how a moratorium could cover these chemicals.

Another participant agreed, adding that technical developments in the pharmaceutical industry, both in terms of new chemical agents and new means of delivering medications, could have potential ‘dual-use’ application to the development of weapons such as “incapacitating chemical agents”. The participant was concerned that a moratorium could negatively affect legitimate research for medical purposes.

With respect to a moratorium on weaponization activities, a participant said it could be difficult to monitor sensitive research that is ‘dual-use’, such as research carried out with dispersal of toxic chemicals for chemical defence purposes. In addition, it was noted that some dispersal devices and systems could be hard to assess given that they could have the potential to disperse a variety of liquids or chemicals, including legitimate riot control agents. Overall, the participant concluded that it would be very difficult to define the parameters of a moratorium in practice.

However, several participants stressed that a moratorium would not need to have an impact on legitimate scientific research, or research for chemical defence purposes. A moratorium would be limited to preventing applied research on chemical agents and delivery systems, which was specifically focused on applications for weapons development. Nevertheless, one participant noted that there would still be areas of scope that could be difficult to delineate, such as ‘horizon scanning’ for new chemicals. Such ‘horizon scanning’ would be used for chemical defence purposes but could also uncover agents, which might then be investigated as potential “incapacitating chemical agent” weapons.

Impetus for a moratorium

One participant argued that there would need to be compelling reasons to take action now in establishing a moratorium and that this urgency does not exist at the present time. Rather, the participant added, it would be necessary to raise awareness about the issue of “incapacitating chemical agents” with a sustained campaign of providing information and continuing to hold discussions, such as the ICRC expert meetings.

However another participant questioned the need for more urgency in order to take action to clarify what is acceptable under the CWC’s law enforcement exception. The participant suggested that we might not have the CWC today if there had been a reliance on a sense of urgency during the late 1980’s. The participant argued that the motivation for taking action, and promoting a narrow interpretation of the law enforcement provision (i.e. riot control agents only for law enforcement), should be motivated by a desire to reinforce and strengthen the CWC’s normative framework. It was noted that a similar argument of strengthening the CWC regime is used when explaining to States Parties why it is necessary

for them to fully implement the Convention through establishing national implementing legislation. In summary, the participant explained that a call for further action does not need to be based on a clear and present danger.

Another participant stressed that the research and development of "incapacitating chemical agents" is not an abstract issue, noting that there has been research, including weaponization activities, carried out for a long term period of more than 50 years in past military chemical weapons programmes and more recently in activities carried out by both military and law enforcement research organisations. The participant added that, although there has not been a large-scale use of these weapons for ten years, this does not necessarily decrease the urgency to take action. The participant explained that the current situation was a reflection of a failure to take action and tackle the issue when there was a sense of urgency in the months following the Moscow theatre siege incident. It was added that successful agreements to clearly prohibit other weapons have also taken place prior to their introduction and use, for example blinding laser weapons.

Potential implications of a moratorium for law enforcement

Participants also returned to the perceived utility of "incapacitating chemical agents" as weapons for law enforcement and the implications in terms of establishing a moratorium. One participant argued that, despite the known risks of death and permanent injury, "incapacitating chemical agents" might still be considered useful for some specific extreme circumstances where the risks involved might be worth taking if the use of the weapon might offer a better outcome than other approaches. Therefore, a moratorium could rule out a potentially useful weapon.

However, another participant argued that it was important not to let the discussion be overcome by imagination of a 'ticking bomb' type scenario. Although "incapacitating chemical agents" could potentially have utility as weapons in some extreme situations, it is important to recognise that there other options – weapons and tactics – available to law enforcement. Furthermore, the participant explained, the situations in which "incapacitating chemical agents" might be considered for use, and might be used in accordance with international law, are so rare that deciding to forgo the option and enact a moratorium or prohibition of "incapacitating chemical agents" would not have a significant impact on options available to law enforcement.

POLICY DISCUSSION 4:

National and ultimately international prohibitions on research, development, stockpiling and use of "incapacitating chemical agents".

Approaches to prohibition

As emphasised by several participants, a prohibition (or reaffirmation of an existing prohibition) of "incapacitating chemical agents" could be undertaken at the national level and/or at the international level.

A participant explained that current legal interpretation would determine what type of prohibition would be necessary. If a State, or States collectively, took a narrow interpretation of the CWC's law enforcement provision (i.e. riot control agents only) then it would only be necessary to reaffirm an existing prohibition of "incapacitating chemical agents" as weapons for law enforcement. Alternatively, if a State or States collectively, took a wider interpretation of the CWC's law enforcement provision (i.e. other toxic chemicals may be permitted as weapons for law enforcement) then it may be necessary to put in place a new prohibition.

One participant added that, in the CWC context, any reaffirmation would need to reaffirm the scope of the CWC's prohibition and the extent of law enforcement exemption. This would give a clearer sense of the meaning that individual States attach to article II.9(d) of the CWC covering "law enforcement including domestic riot control purposes". Several participants noted that a process of reaffirmation would be the easiest route to developing or confirming a prohibition.

One participant added that any consideration of the legality of "incapacitating chemical agents" for law enforcement could not be limited to consideration of the CWC, even if the risk of undermining the CWC is the main concern. The participant explained that any assessment of legality would have to take into account other relevant international law, including human rights law and drug control law. In fact, the participant added, it may be that the risks associated with "incapacitating chemical agents" could be managed with the constraints of existing international law discouraging their use without the need to establish a prohibition.

Several participants suggested that the overlap and interconnection between the international legal regimes that apply to "incapacitating chemical agents" could provide a means of 'filling gaps' where there was ambiguity under the CWC in terms of constraining these weapons.

A participant cautioned that relying on other relevant legal frameworks might not lead to prohibition of "incapacitating chemical agents" but rather to clarification on how they could be used legitimately. Thus there could be a risk that decisions in international and national courts could lead to an acceptance of "incapacitating chemical agents" provided they were used in 'appropriate' ways. This would in turn complicate any process of prohibition with resulting implications for undermining the CWC.

More generally, one participant cautioned that all approaches to a broad international prohibition would require a significant level of political support and that it is not clear whether this support exists at the current time. Another participant noted that any new prohibition –

rather than reaffirmation – would be very difficult because it would need to specify exactly what the prohibition covered.

National prohibition

As one participant explained, the simplest approach to prohibition at the national level would be for States to reaffirm a prohibition that they regard as already existing. Therefore, a State that views the CWC's law enforcement provision as only permitting the use of riot control agents as weapons for law enforcement (and not other toxic chemicals) would reaffirm this in a national statement to the CWC Review Conference or annual meeting making clear their view that "incapacitating chemical agents" are already prohibited for law enforcement. This could be supported by highlighting existing national legislation (e.g. Germany) to this effect and through the development of national legislation to provide this clarification where necessary.

On the other hand, the participant added, the approach might need to be different for a State that has not tended to recognise an existing prohibition, taking the view that toxic chemicals other than riot control agents may be permitted for law enforcement. In this case, such a State could revisit its national legislation and its interpretation of what is permitted based on information from expert discussions. Although, the participant noted, if a State has traditionally taken the view that "incapacitating chemical agents" could be acceptable for law enforcement then they may lack the incentive to adopt a different interpretation.

Several participants noted that a national approach of prohibition by individual States or groups of States could lead to a situation of divergent State practice, with some States prohibiting "incapacitating chemical agents" and other States permitting them. One participant suggested that this approach would then be quite similar to the current situation ('option one', continuing ambiguity) where there are divergent views on what is considered acceptable. Therefore, if this approach were taken, States would have to then take this national approach of prohibition and seek a similar reaffirmation of an international prohibition at the CWC level.

Another participant warned that, since discussions are currently in a grey area where there are few clear-cut statements on what individual States consider legitimate with respect to "incapacitating chemical agents", there may be a reluctance (or lack of impetus) for States to put in place a new prohibition or even to reaffirm a previous interpretation of prohibition.

International prohibition in the CWC context

There was also a discussion about prospects for a prohibition at the international level and what form this could take.

One participant explained States party to the CWC could collectively reach a common position on what they view as permitted and prohibited for law enforcement. If States agreed that the use of toxic chemicals as weapons for law enforcement should be limited to riot control agents, and "incapacitating chemical agents" prohibited, then States could put this in place by reaffirming this position at a CWC Review Conference.

A participant cautioned that starting a process of reaffirmation at the CWC would probably only lead to a reaffirmation and quoting of existing articles of the CWC, which would not necessarily help with clarifying a common interpretation of what is permitted and prohibited. However, some participants suggested that it might be possible to agree some language for the final document of the next CWC Review Conference in 2013 noting concerns raised by a

number of States about "incapacitating chemical agents", reaffirming existing CWC language, and proposing a further process of discussion to clarify areas where lack of clarity remains. This, some participants suggested, might be the easiest option. However, as one participant noted, beginning a process of reaffirmation could in fact lead back to 'option two (b)', which would be some form of negotiated clarification of what is and is not permitted for law enforcement and potentially acceptance of "incapacitating chemical agents" as weapons for law enforcement.

Some participants suggested a similar approach that would be a declaration that did not seek to reinterpret the CWC but called on States Parties to reaffirm areas where there is already agreement – such as the prohibition on the use of toxic chemicals (including "incapacitating chemical agents") in armed conflict – and to call on States to either refrain from developing and using toxic chemicals other than riot control agents for law enforcement, or to exercise maximum responsibility and care in any development and use of any other toxic chemicals – including "incapacitating chemical agents" – as weapons for law enforcement.

Several participants noted that reaffirmation processes have been carried out in other fora, such as at the BWC. As one participant noted, the experience at the BWC has been mixed; while there have been successes with regard to reaffirmations or declarations about the scope of the BWC, other efforts either failed or did not produce statements as strong as might have been expected. The participant added that the more contentious the issue is considered to be, the more difficult it would be to agree on a statement. Therefore the process of agreeing on a reaffirmation, and its scope, could take a long time.

Depending on the nature of international discussions, one participant highlighted that an additional hurdle could be reaching agreement on what is understood by law enforcement. The participant added that, in general, without a clear agreement on the scope of certain terms, different countries could have different understandings of what was being reaffirmed.

Another participant explained that reaffirmations at the international level could also take the form of common positions among groups of States on what they viewed as permitted or prohibited. These could be undertaken by regional groups for example within the CWC or simply outside the framework of the CWC. While such reaffirmations would not encompass all States, they could start to build certain normative interpretation under the CWC.

Participants also discussed potential alternative approaches both within the CWC and outside it. There was general agreement that there would be little appetite for any amendment of the CWC. One possibility noted would be to negotiate an Annex to the CWC to clarify the issue but this would be a very lengthy process. Another participant expressed concern that any new interpretation of the CWC could jeopardize the integrity of and credibility of the Convention, which explains why some States Parties are reluctant to raise the issue within the framework of the CWC / OPCW.

A participant suggested that another CWC-based approach, if there was political will to exclude "incapacitating chemical agents" as weapons for law enforcement, would be to amend the Schedules of chemicals to include "incapacitating chemical agents" on Schedule 1. However, several participants noted that this would probably not be feasible from a political perspective and it would require going through the process every five to ten years as new chemicals emerged. In addition it could create additional constraints on certain chemicals used for medical purposes.

Another participant noted that even Schedules 2 and 3 of the CWC list certain chemical warfare agents that have been weaponised or used in past conflict. Amiton, a nerve agent, and BZ, a prior weaponized military "incapacitating agent" are on Schedule 2, and hydrogen cyanide is on Schedule 3. Therefore it should not be conceivable that any Scheduled

chemical would be permitted for use as a weapon for law enforcement, even with a wider interpretation of the law enforcement provision.

One participant emphasised that pessimism on what can be agreed at the multilateral level is not necessarily justified since there are many examples of arms control prohibitions that have emerged despite such pessimism, including the prohibitions on blinding laser weapons, anti-personnel mines, and cluster munitions. Another participant argued that some of these agreements were different to "incapacitating chemical agents" because there was an immediate humanitarian impact that needed to be addressed and political willingness to address the problem. The participant added that without a need to act quickly, any process of negotiation could be very lengthy.

Alternatives to a CWC-based approach

Some participants suggested that efforts at reaffirmation or clarification of an existing prohibition within the CWC context might not be sufficient on their own. It was suggested that these efforts should be combined with similar processes in other relevant fora, including the BWC, human rights law, and drug control law. A participant argued that by combining all the relevant regimes, it would be possible to ensure a more wide ranging prohibition of "incapacitating chemical agents" even if some grey areas persisted.

Another participant suggested that, in other international or inter-governmental organisations such as the European Union, other areas of international law (e.g. human rights law and drug control law) may be able to exert a greater impact on the definition, scope and understanding of what is permitted and prohibited for law enforcement with respect to the use of toxic chemicals other than riot control agents. The participant added that it might be difficult solely to address the narrow issue of "incapacitating chemical agents" in these contexts, and so an alternative approach could be to work towards a broader new legal framework, for example a new convention against the non-consensual use of chemical and biochemical agents, as has been suggested by others in the past.

However, several participants argued that developing a new prohibition in a separate Convention would be an extremely lengthy process. A participant explained that such a process might not even have much added value because the existing legal framework, particularly human rights law, already sets tight constraints. The participant added that any process to develop a new Convention may also lead to uneven membership and could therefore complicate the overall applicable legal framework. Another participant took the view that a separately negotiated legally binding prohibition on "incapacitating chemical agents" would not be feasible.

SESSION 8:
OPTIONS FOR POLICY DEVELOPMENT AT THE INTERNATIONAL LEVEL

Speaker's summary

POTENTIAL MECHANISMS FOR ADDRESSING "INCAPACITATING CHEMICAL AGENTS"

Michael Crowley

Introduction

The international governmental community has so far failed to address the issue of "incapacitating chemical agents". If it does not do so in the near future there is a danger that advances in relevant scientific disciplines together with current and potential future State "incapacitating chemical agent" development may lead to proliferation and misuse of such agents. In 2010, the ICRC urged "States to give greater attention to the implications for international law of "incapacitating chemical agents"". The organisation also noted that: "There is currently an opportunity to address preventatively the challenges and risks identified..."[1]

This summary paper attempts to employ a "holistic arms control" approach[2], highlighting the range of mechanisms that could potentially be utilised to regulate or prohibit the development, stockpiling, transfer or use of "incapacitating chemical agents". Whilst the majority of the paper considers the Chemical Weapons Convention (CWC) and procedures established by the Organisation for the Prohibition of Chemical Weapons (OPCW), the application of other aspects of international law and control regimes is also considered.[3]

"Incapacitating chemical agents" and the Chemical Weapons Convention

"Incapacitating chemical agents" fall within the scope of the Chemical Weapons Convention and their use as a method of warfare is prohibited under the Convention. The permissibility of

[1] ICRC (2010) *Report of an Expert Meeting, "Incapacitating chemical agents": Implications for international law, Montreux, Switzerland, 24 – 26 March 2010*, p 75.

[2] As developed by the author, holistic arms control (HAC) is intended to facilitate a comprehensive, layered, flexible and strategic approach to arms control, that is tailored for and unique to the specific type of weapon or technology under consideration rather than for a broad class of weapons. HAC actively explores and seeks to incorporate States' existing responsibilities under the full range of relevant international law and applicable agreements. Furthermore, whilst recognising that States are the prime actors in existing regulatory regimes, HAC allows for and encourages participation by the full range of relevant stakeholders.

[3] Due to time constraints only some of the relevant mechanisms were explored in this presentation. Given the nature of the chemical agents under consideration and the proposed contexts for their use (ranging from law enforcement to certain military operations) other potentially applicable mechanisms that are worthy of further consideration include: the Geneva Protocol; relevant international humanitarian law particularly the four Geneva Conventions and related Protocols; international criminal law, particularly the Rome Statute of the International Criminal Court; and the United Nations Secretary General's Investigation Mechanism. [For further discussion see Crowley, M. (2009) *Dangerous Ambiguities: regulation of riot control agents and incapacitants under the Chemical Weapons Convention*, University of Bradford, pp 92-102; Crowley, M. (2010) Potential implications for disarmament and other areas of international law, in: ICRC (2010) *op.cit,* pp 42-53.]

developing and utilising such agents for other purposes, such as law enforcement, is contested.[4] The forthcoming 3rd CWC Review Conference, to be held in April 2013, with its mandate to examine long term issues of concern to the Organisation in a strategic manner and to "take into account any relevant scientific and technological developments"[5] is an appropriate forum for such considerations.

Although States Parties are unlikely to agree a "solution" to the problem of "incapacitating chemical agents" at the 3rd Review Conference, it is important that they *begin a process* to address this issue. It would be beneficial if those CWC States Parties concerned about the development and use of "incapacitating chemical agents" prepared the ground for fruitful and informed discussions at the Review Conference by setting out their concerns in statements, reports, etc., and raising the issue in suitable forums such as the 17th Conference of the States Parties (CSP) and the Open Ended Working Group preparing for the 3rd Review Conference. In their deliberations States Parties may wish to consider the utility of employing one or more of the following mechanisms to address "incapacitating chemical agents" and their means of delivery:

(a) Affirm existing CWC provisions applicable to "incapacitating chemical agents": The CWC States Parties could agree "common understandings" clearly annunciating the agreed interpretation of the Convention in this area, affirming that:

- "Incapacitating chemical agents" – whether they are pharmaceutical chemicals or chemicals of biological origin such as toxins, proteins, peptides and bio-regulators - fall within the definition of "toxic chemicals" under Article II.2 and consequently are covered by the Convention.
- the use of the toxic properties of chemicals (including "incapacitating chemical agents") as a method of warfare is prohibited under the Convention, as is development, stockpiling and transfer of toxic chemicals for such ends.[6]
- the use of toxic chemicals for "law enforcement including domestic riot control" is permissible only as long as the types and quantities of toxic chemicals are consistent with such purposes. Furthermore, such use should be in conformity with the "principles and applicable norms of international law".[7]

[4] For further discussion see: Crowley, M. (2009) *op.cit*; Fidler, D. (2007) Incapacitating Chemical and Biochemical Weapons and Law Enforcement under the Chemical Weapons Convention, in: Pearson, A., Chevrier, M. and Wheelis, M. (eds), *Incapacitating Biochemical Weapons*, Lexington Books, United States, pp171-194; Chayes, A. and Meselson, M. (1997) Proposed Guidelines on the Status of Riot Control Agents and Other Toxic Chemicals Under the Chemical Weapons Convention, *Chemical Weapons Convention Bulletin*, Vol 35, March 1997, Harvard Sussex Program, pp13-18; Krutzsch, W. (2003) *Non-lethal chemicals for law enforcement, BITS Research Note 03.2*, April 2003, Berlin Information Centre for Transatlantic Security; Krutzsch, W. & Von Wagner, A (2008) *Law enforcement including domestic riot control: The interpretation of Article II, paragraph 9(d)*, http://cwc2008.files.wordpress. com/2008/04/krutzsch-von-wagner-law-enforcement.pdf.

[5] Organisation for the Prohibition of Chemical Weapons (OPCW), Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention [CWC]), 1993, article VIII.22.

[6] Such an affirmation would extend and complement the 2nd CWC Review Conference's affirmation of *"the undertaking of States Parties not to use riot control agents as a method of warfare"* [OPCW (2008) *Report of the Second Special Session of the Conference of the States Parties to review the operation of the Chemical Weapons Convention (Second Review Conference)*, 7–18 April 2008, RC-2/4, 18 April 2008.]

[7] The First and Second CWC Review Conferences both recognised the existence of *"principles and applicable norms of international law*" of relevance to the use of chemicals for *"purposes not prohibited"*, but did not elaborate upon them nor explicitly require that States Parties adhere to them. See for example: OPCW (2008) *Report of the Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (Second Review Conference)*, 7th-18th April, RC-2/4, 18th April 2008, paragraph 9.6. If agreement was forthcoming, the Third CWC Review Conference could also initiate an appropriate mechanism to develop an indicative list of the principles and applicable norms of international law.

(b.1) Introduce a prohibition on development, transfer and use of "incapacitating chemical agents" for law enforcement purposes:
There appear to be at least three potential mechanisms to introduce an explicit prohibition on development, stockpiling, transfer and use of "incapacitating chemical agents" for the purpose of law enforcement:

- Option 1 – negotiated amendment to the Convention or negotiation of an Additional Protocol. The benefit of such an approach is that the resulting obligations would be legally binding upon all States Parties ratifying the relevant instruments. However it would necessitate the convening of an Amendment Conference under Article XV and entail a subsequent ratification process,[8] and thus require extremely high levels of support from a considerable number of States Parties of the Convention;
- Option 2 – States Parties could agree a "common understanding" annunciating an agreed interpretation of the Convention affirming that the employment of "incapacitating chemical agents" for law enforcement purposes is prohibited. The "common understanding" which would be included in the relevant CSP or Review Conference Final Document would be politically rather than legally binding and would be agreed by consensus;
- Option 3 - Individual States Parties or a group of like-minded States Parties could introduce a prohibition on development, stockpiling, transfer and use of "incapacitating chemical agents" at the national level and/or seek to develop a pluri-lateral agreement or legal instrument outside the framework of the OPCW.

Alternatively States Parties could:

(b.2) Introduce a moratorium on development, transfer and use of "incapacitating chemical agents" for law enforcement purposes: This moratorium would not be designed to restrict development, transfer or use of agents legitimately employed for medical or veterinary purposes, but solely those intended for employment in law enforcement.[9] Such a moratorium could be introduced at the same time as a process was established to review the status of "incapacitating chemical agents" under the Convention (see below), the moratorium remaining until the status of these agents had been resolved by the CWC States Parties. Such a moratorium could be binding in nature[10] or alternatively, the Review Conference could *request* that States Parties *consider* adopting a voluntary moratorium and associated voluntary reporting and transparency measures. If requisite agreement for this is not forthcoming, individual States Parties or a group of like-minded States could introduce a moratorium on such agents at the national or plurilateral level.

(c) Initiate a mechanism to explore the status of "incapacitating chemical agents" under the CWC: In its National Working Paper presented to the 2nd CWC Review Conference, Switzerland called for: "a mandate for a discussion of, inter alia, an agreed definition of incapacitating agents, the status of incapacitating agents under the Convention, and possible transparency measures..."[11] If such a proposal were to be introduced and agreed at the 3rd Review Conference, an open ended working group or some other formal mechanism could be established to make recommendations on these issues for consideration by a future CSP or Review Conference. Such formal processes would be open to all States Parties who wished to participate and would reach their conclusions by consensus.

[8] See: OPCW, Chemical Weapons Convention (1993) *op.cit*, article XV.1-3.
[9] The development, stockpiling, transfer or use of "incapacitating chemical agents" intended as means of warfare is already prohibited under article I and article II.1 of the Chemical Weapons Convention.
[10] Although this proposal would not necessarily entail amendment to the Convention, it would need to be agreed by consensus. Depending on their nature, accompanying mandatory reporting and transparency mechanisms may necessitate changes to the Convention.
[11] Switzerland (2008) *Working Paper, Riot Control and Incapacitating Agents under the Chemical Weapons Convention*, The Hague, Netherlands, RC-2/NAT.12, 9th April 2008, p 5.

It is envisaged that the formal mechanism would come to a determination *either* that development, stockpiling, transfer and use of "incapacitating chemical agents" for law enforcement is *prohibited* under the CWC *or* that such actions are *permitted* but should be regulated under the Convention. If the latter position is taken then the formal mechanism could also propose a definition of "incapacitating chemical agents" under the Convention; clarify under what limited circumstances and with what constraints such use would be permissible; propose options for reporting and transparency measures applicable to such agents and their means of delivery; and explore the implications for the verification regime.

Alternatively, States Parties could initiate a process of informal meetings of experts similar to the model developed by the Biological and Toxic Weapons Convention (BTWC) States Parties in 2002 to "discuss and promote common understandings and promote effective action" on BTWC implementation measures.[12] As part of this informal process, expertise could be drawn from a range of relevant State sectors including national implementation officials, scientific advisors, law enforcement officials, experts in international humanitarian law and international human rights law. These informal expert meetings could run in parallel or prior to the formal mechanism and could present recommendations to the formal mechanism or directly to an appropriate OPCW body. In addition to any OPCW process, it would be highly beneficial if informal inter-governmental consultation mechanisms on this issue were established.[13]

(d) Review relevant science and technology: Although a range of distinguished medical and scientific bodies[14] have disputed the feasibility of developing truly "safe" "incapacitating chemical agents" and highlighted the dangers of State research in this area, these bodies have no formal standing within the OPCW. The Scientific Advisory Board (SAB), which was established under the CWC to provide specialised advice to the OPCW in areas of science and technology relevant to the Convention,[15] could be tasked with reviewing relevant science and technology to:

- Determine whether it is possible from a toxicological perspective to distinguish between an "incapacitating chemical agent" and a classical chemical warfare agent;
- Determine whether any chemical agents currently exist that could be considered as "safe" candidate "incapacitating chemical agents" for law enforcement - given the

[12] The utility of such a model for addressing CWC related issues requiring clarification has previously been proposed. See Mathews, R. (2011) Convergence of biology and chemistry: implications for the verification regime of the Convention, including potential role of the other chemical production facilities regime, in: Mashhadi, H, Paturej, K, Runn, P and Trapp, R. *Seminar on the OPCW's contribution to security and the non-proliferation of chemical weapons*, 11th -12th April 2011, OPCW Headquarters, The Hague, pp 178-179; Spiez Laboratory (2012) *Technical Workshop on Incapacitating Chemical Agents, Spiez, Switzerland, 8-9 September 2011*, Spiez Laboratory, Swiss Federal Office for Civil Protection, January 2012.

[13] Independent, expert and respected bodies such as the ICRC or the Pugwash Conferences on Science and World Affairs could facilitate such mechanisms. As they would be outside the OPCW, such processes could address constraints imposed upon "incapacitating chemical agent" development and use under all relevant international law (e.g. BTWC, international human rights law, international humanitarian law, UN Drugs Conventions) not just the CWC, and could present their findings to all relevant control regimes.

[14] See for example: British Medical Association (2007) *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals*, British Medical Association, London, UK, May 2007; Royal Society (2012) *Brain Waves Module 3: Neuroscience, conflict and security,* The Royal Society, London, UK, February 2012; Spiez Laboratory (2012) *op. cit*.

[15] OPCW, Chemical Weapons Convention (1993) *op. cit.*, article VIII.21(h). Ambassador Pfirter, then Director General of the OPCW has previously recognised that the SAB could *"help shed some light"* on "incapacitating chemical agent" related issues. [OPCW (2009) Conference of States Parties, 30th November - 4th December 2009, *Opening Statement by the Director General to the Conference of the States Parties at its Fourteenth Session*, C-14/DG.13, 30th November 2009.]

necessity of ensuing effective but not lethal dosage per targeted individual under operational conditions [16];

- Explore the feasibility from a technological perspective of establishing effective verification measures for "incapacitating chemical agents".[17]

(e) Improve OPCW monitoring of science and technology of relevance to "incapacitating chemical agent" development: In 2011, the report of a high-level expert panel convened by the OPCW Director General to explore the future priorities of the Organisation recommended that the OPCW should "improve and widen the scope of monitoring and evaluating developments in chemical science and technology…"[18] Amongst the measures the Organisation may wish to consider are those to:

- Ensure more frequent and considered review by CWC States Parties of relevant advances in science and technology and the implications for the Convention. Such review could be undertaken annually by States Parties as part of the activities of the CSP, in addition to that currently undertaken during the Review Conference;
- Continue the work of the SAB temporary working on convergence of biology and chemistry at least until the 4th CWC Review Conference and request they include specific analysis of the implications of advances in the life sciences and attendant technologies relevant to the weaponization of "incapacitating chemical agents";
- Develop the Technical Secretariat's ability to monitor advances in science and technology of concern to "incapacitating chemical agent" development and establish suitable mechanisms allowing it to bring relevant concerns to the attention of the States Parties and appropriate OPCW organs.

(f) Update Schedules to include chemicals that have been or could be utilised as weaponized "incapacitating chemical agents": Under Article XV of the CWC, amendments to the Convention Annexes, if "related to matters of an administrative or technical nature",[19] can be made using a simplified technical change procedure initiated by a State Party.[20] This procedure could be utilised to revise the Schedules so as to include certain "incapacitating chemical agents", such as:

- Pharmaceutical chemicals that States have previously explored or are reportedly exploring as weaponized "incapacitating chemical agents", such as certain:
  - Opioids such as derivatives of fentanyl,
  - Benzodiazepines such as midazolam and diazepam,
  - Alpha2 adrenoreceptor agonists such as dexmedetomidine,
  - Neuroleptic anaesthetics;
- Toxins that States have previously developed as weaponized "incapacitating chemical agents", e.g. Staphylococcal enterotoxin B (SEB);

[16] The criteria used for determining such "safe" agents would also need to be established. See for example criteria considered by the 2010 ICRC expert meeting, namely: retain chemical stability in a variety of situations; have rapid onset of incapacitant action; produce complete incapacitation in targeted individuals; have low level, if any, lethality across a broad range of individuals; result in low level, if any, permanent disability. [ICRC (2010) *Report of an Expert Meeting, "Incapacitating chemical agents": Implications for international law, Montreux, Switzerland, 24-26 March 2010*, p71.]

[17] If appropriate, the SAB could also be tasked with developing analytical procedures for "incapacitating chemical agent" identification and creating a library of "incapacitating chemical agent"-type chemicals integrated into the OPCW central analytical database (OCAD), in cooperation with OPCW-designated laboratories.

[18] Ekeus panel (2011) *Report of the advisory panel on future priorities of the Organisation for the Prohibition of Chemical Weapons*, OPCW Director General, S/951/2011, 25th July 2011, p18, para 71.

[19] OPCW, Chemical Weapons Convention (1993) *op.cit*, article XV.4.

[20] OPCW, Chemical Weapons Convention (1993) *op.cit*, article XV.5.

- A range of biologically active molecules including certain peptides, bioregulators, toxins and their analogues that may have potential utility as "incapacitating chemical agents".[21]

The development, stockpiling, transfer and use of "incapacitating chemical agents" considered as Schedule 1 agents would be prohibited for law enforcement purposes.[22] For States Parties manufacturing "incapacitating chemical agents" considered as Schedule 2 agents there would be requirements to declare quantities and production sites, with the potential for on-site monitoring over certain thresholds and also a prohibition on the transfer of such agents to Non-States Parties.[23] The question of whether Schedule 2 "incapacitating chemical agents" could be utilised for law enforcement would still need to be addressed by the Organisation.

(g) Regulation of law enforcement means of delivery: An appropriate mechanism, such as an open ended working group operating with Technical Secretariat assistance, could develop recommendations for criteria and a suitable process for determining which munitions and other forms of dispersal and means of delivery for toxic chemicals are inappropriate for law enforcement purposes and would consequently breach Article II.1.[24] The working group could explore potential reporting, information sharing and verification mechanisms applicable to such munitions and means of delivery, and make recommendations on how such measures would be implemented.

In addition, the working group could develop a guidance document for States Parties detailing those types of munitions and other forms of dispersal and means of delivery considered inappropriate for law enforcement purposes. This guidance document could be reviewed regularly in an appropriate forum such as a CSP or Review Conference. The working group recommendations could be submitted to the Executive Council and following their agreement, presented to a CSP or Review Conference for consideration.

(h) Develop reporting and transparency mechanisms for toxic chemicals utilised in law enforcement: A suitable mechanism, such as an open ended working group, could develop recommendations for extending the existing RCA reporting and transparency obligations[25] to cover all toxic chemicals held by States Parties for law enforcement purposes.[26] The working group could also consider whether existing information requirements are adequate or should be expanded to include, for example:

- Name/CAS number of each type of toxic chemical and quantities held;
- Nature and quantities of the associated munitions, means of delivery or dispersal;
- Authorities holding stockpiles and permitted to use toxic chemicals and associated munitions, means of delivery or dispersal;
- Nature of intended use e.g. riot control, hostage situation, judicial execution;

[21] Modification of the "other chemical production facilities" (OCPF) verification regime could also be explored for certain biologically active molecules i.e. peptides. See: Tucker, J (2010) The convergence of biology and chemistry: Implications for arms control, *Bulletin of the Atomic Scientists*, Vol 66, No 6, November 2012, pp 56-66*;* Tucker, J (2008) The body's own bioweapons*, Bulletin of Atomic Scientists,* Vol 61, No 1, March-April 2008, pp 16-22.
[22] OPCW, Chemical Weapons Convention (1993) *op.cit*, article VI and also Verification Annex, Part VI.
[23] OPCW, Chemical Weapons Convention (1993) *op.cit*, article VI and also Verification Annex, Part VII.
[24] And potentially article I.5 of the CWC, if the munition contains an RCA.
[25] Chemical Weapons Convention (1993) *op.cit*, article III.1(e).
[26] The permissibility of developing, stockpiling, transferring and using chemical agents other than RCAs for law enforcement purposes (such as "incapacitating chemical agents") is currently contested and would remain so until States Parties establish their status under the Convention. For divergent interpretations see: Fidler, D. (2007) *op.cit,* pp171-194*;* Chayes, A. and Meselson, M. (1994) *op.cit.* pp 13-18; Krutzsch, W. (2003) *op.cit*; Krutzsch, W. & Von Wagner, A. (2008) *op.cit*.

- Decisions by States Parties not to introduce certain toxic chemicals (e.g. "incapacitating chemical agents") for law enforcement purposes and their rationale.

Such reporting and transparency mechanisms could be introduced as voluntary confidence building measures (CBMs) – similar to the CBMs utilised by BTWC States Parties. Alternatively the CWC could be amended to include the relevant reporting requirements.[27]

(i) Utilise existing CWC consultation, investigation and fact-finding mechanisms: where activities of potential concern are reported, such as the development and/or use of "incapacitating chemical agents" by law enforcement, security or military forces, particularly where human rights violations or breaches of international humanitarian law have been alleged. Clarification could be sought concerning: the nature and quantities of "incapacitating chemical agents" developed and stockpiled, and the entities holding such agents; the anticipated uses to which they might be put and/or full details of any instances of such employment; the political and legal controls on development, stockpiling, deployment and use. If bilateral consultations with the relevant States Parties are not fruitful, concerned States Parties could consider a formal request under Article IX of the CWC.

"Incapacitating chemical agents" and the Biological and Toxin Weapon Convention

Article I of the Biological and Toxin Weapons Convention (BTWC) declares that:

> "Each State Party to the Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain: 1. Microbial or other biological agents, or toxins, whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes. 2. Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."[28]

Article I, together with the extended understandings agreed at successive BTWC Review Conferences[29], make it clear that the Convention is comprehensive in its scope and that all naturally or artificially created or altered microbial and other biological agents and toxins, as well as their components, regardless of their origin and method of production are covered. Because some possible candidate "incapacitating chemical agents", such as bioregulators including neurotransmitters, could be considered biological agents or toxins, it is clear that a range of such "incapacitating chemical agents" would be covered by the BTWC. However, States Parties have not, to date, addressed this issue. It would be beneficial therefore, if the BTWC States Parties at a Meeting of States Parties (MSP) or a Review Conference could affirm that "incapacitating chemical agents" of biological origin and their synthetic analogues are covered under the scope of the Convention and that the use of such agents and associated means of delivery for "hostile purposes or in armed conflict" is prohibited under the Convention.

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[27] Although, in theory, such an amendment to the Convention could be implemented under article XV, the political barriers to triggering this procedure appear, at present, to be insurmountable.

[28] United Nations, *Biological and Toxin Weapons Convention*,1972, article 1.

[29] For example, The Final Declaration of the Seventh Review Conference declared *"that the Convention is comprehensive in its scope and that all naturally or artificially created or altered microbial and other biological agents and toxins, as well as their components, regardless of their origin and method of production and whether they affect humans, animals or plants, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes, are unequivocally covered by Article I…[and]…that Article I applies to all scientific and technological developments in the life sciences and in other fields of science relevant to the Convention."* See: United Nations (2011) *Final Document of the Seventh BTWC Review Conference, as adopted by the Conference on 22nd December 2011*, article 1, paragraphs 1 & 2.

In addition, the terms "hostile purposes" and "peaceful purposes" have not been defined under the Convention, and the issue of how "incapacitating chemical agents" intended for counter-terrorist, counter-insurgency or military operations short of armed conflict would be regulated or prohibited by the BTWC has not been addressed by the BTWC States Parties. If appropriate, States Parties could initiate a process to clarify application of the BTWC in these areas.

As part of the 2012-2016 inter-sessional process, BTWC States Parties could include a focus on monitoring and assessing the risk of misuse of advances in science and technologies relevant to "incapacitating chemical agent" development, such as neuroscience. Additionally, the States Parties and the relevant organisations of the BTWC and the CWC could improve their coordination to address the implications to both treaties of the convergence of biological and chemical sciences and technologies with respect to the development of "incapacitating chemical agents".[30]

"Incapacitating chemical agents" and human rights law

Although human rights law does not specifically address the use of "incapacitating chemical agents", it is certainly applicable to the employment of such agents, as it regulates the use of force by law enforcement officials and other agents of the State. Human rights law is particularly important to the discussion of the regulation of "incapacitating chemical agents" as it potentially covers the full "use of force" spectrum from law enforcement activities through to armed conflict, including counter-terrorist, counter-insurgency, and military operations outside armed conflict, where use of these chemical agents has been proposed. While several human rights norms may be applicable to the regulation of "incapacitating chemical agents", the rights to life, to liberty and security, to freedom from torture and cruel, inhuman or degrading treatment, and to health, together with attendant obligations on the restraint of force, are the most relevant.[31]

States could explore the constraints on "incapacitating chemical agent" use arising from international and regional instruments and customary international human rights law. States could also bring cases of reported "incapacitating chemical agent" misuse to the attention of the appropriate human rights mechanisms, including: UN Special Procedures and the UN Human Rights Council; relevant international and regional treaty bodies (e.g. Human Rights Committee under the International Covenant on Civil and Political Rights, Committee against Torture under the Convention Against Torture); regional judicial mechanisms capable of delivering binding legal judgements regarding violations of regional treaties (e.g. European Court of Human Rights, Inter-American Court of Human Rights, African Commission on Human and Peoples' Rights).[32]

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[30] See: Royal Society (2012) *op.cit*, p 59 & p 62.

[31] Other potentially relevant human rights norms include: the right to freedom of opinion and expression, of association and assembly; and the right to family and private life. For further discussion of the application of human rights law see summary papers by Doswald-Beck and Vandova in this report (Session 3) and additionally: Hampson, F (2010) Potential implications for human rights law, in: ICRC (2010) *op.cit,* pp 53-57; Crowley (2009) *op.cit,* pp 96-99; Fidler, D (2007) Incapactitating Chemical and Biochemical Weapons and Law Enforcement Under the Chemical Weapons Convention, in: Pearson, A., Chevrier, M. and Wheelis, M. (eds) *Incapacitating Biochemical Weapons*, Lexington Books, USA; Aceves, W (2007) Human Rights Law and the Use of Incapacitating Biochemical Weapons, in: Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op. cit.,* pp 261-284; Hampson, F (2007) International law and the Regulation of Weapons, in: Pearson, A., Chevrier, M. & Wheelis, M. (2007) o*p. cit*. pp 231-260.

[32] Such mechanisms are potentially open to individual petition. In August 2003, a group of 64 former hostages and relatives filed a complaint before the European Court of Human Rights, claiming that their right to life (protected under article 2 of the European Convention on Human Rights) had been violated by the actions of the Russian authorities, in part, through their use of an "incapacitating chemical agent" to end the Moscow theatre siege. The case was accepted by the Court in December 2007 and on 20th December 2011, the Court announced

Furthermore, States could consider requesting that a suitable body such as the UN Human Rights Council, the Office of the UN High Commissioner for Human Rights, or the UN Crime Congresses, develop guidance/procedures for evaluating the human rights compatibility or incompatibility of all proposed "less lethal" weapons (which some States may consider could potentially include certain "incapacitating chemical agents"). If appropriate, the relevant body could also recommend constraints on the use of any "less lethal" weapons that were deemed compatible with human rights standards and develop guidelines for monitoring and ensuring subsequent use is in accordance with human rights law.

Alternatively States, acting through the relevant UN procedures could seek to initiate an investigation by relevant UN Special Rapporteur(s) (such as those on Torture, or Extra-Judicial Executions, or Counter-Terrorism and Human Rights) on the human rights implications of the development and use of "incapacitating chemical agents" for law enforcement. Such a study could be undertaken in the context of a broader study on the use of force in law enforcement operations.

"Incapacitating chemical agents" and the United Nations drug control Conventions

Both the Single Convention on Narcotic Drugs and the UN Convention on Psychotropic Substances restrict the legitimate use of a range of "incapacitating chemical agents" to "medical and scientific purposes".[33] States Parties to these Conventions could seek to formally establish the implications of these restrictions upon the development, stockpiling, transfer and use of "incapacitating chemical agents" intended for law enforcement or military applications. If appropriate, and required, State Parties could bring forward clarifying amendments (or agree common understandings) through the appropriate Convention mechanisms to explicitly prohibit or constrain such activities.

The reporting[34] (and potentially the consultation/investigatory)[35] mechanisms of both Conventions could be considered by States Parties as potential routes for obtaining information relevant to the regulation of "incapacitating chemical agents". Where a State Party has a concern about the development, stockpiling, transfer or use of a narcotic drug or psychotropic substance potentially intended for employment as an "incapacitating chemical agent" in either military operations or law enforcement, they could consider bringing their concerns before the relevant Drug Convention bodies e.g. International Narcotics Control Board, or the Commission on Narcotic Drugs of the Economic and Social Council of the United Nations.

"Incapacitating chemical agents" and export controls

Individual States could establish national export controls that explicitly prohibit or severely constrain the import and export of "incapacitating chemical agents", precursors or related means of delivery. Furthermore, if appropriate, States could recommend that existing

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its ruling. [See: European Court of Human Rights (2011) *Finogenov and others v. Russia*, App. Nos. 18299/03 and 27311/03, Judgment, 20th December 2011.]

[33] United Nations, *Single Convention on Narcotic Drugs*, 1961, article 4; United Nations, *Convention on Psychotropic Substances*, 1971, article 5 and article 7. For further information concerning all UN conventions on narcotic drugs and psychotropic substances and the activities of the International Narcotics Control Board (INCB), the body responsible for monitoring their implementation, see: http://www.incb.org/.

[34] For example, the Single Convention on Narcotic Drugs obliges States Parties to provide the INCB with annual estimates of drug requirements (article 19.1-2) and drug production (article 20) for scheduled chemicals (which include some drugs that have been explored as potential 'law enforcement' "incapacitating chemical agents", such as fentanyl).

[35] See for example United Nations, *Single Convention on Narcotic Drugs*, 1961, article 14.

regional or plurilateral export control regimes to which they belong incorporate similar provisions. Certain control regimes such as the Australia Group[36] and Wassennaar Arrangement[37] already regulate the transfer of certain "incapacitating chemical agents" and/or their precursors – and allow for additional agents to be added to the relevant Control Lists.

Whilst the Australia Group and the Wassennaar Arrangement are politically binding agreements with relatively limited obligations upon their members, the European Union has introduced two legally binding controls in this area – the EU Council Common Position "defining common rules governing control of exports of military technology and equipment"[38] and EC Regulation 1236.[39] These instruments prohibit the transfer of a range of items (that include or could be extended to include certain "incapacitating chemical agents") that are intended for purposes in contravention of the relevant agreements.

Whilst such export controls may provide a route for combating proliferation and misuse of "incapacitating chemical agents" by prohibiting transfer of these agents (at least in circumstances where their use is deemed inappropriate, e.g. as a method of warfare or to facilitate human rights abuses) they have certain limitations. The agreements highlighted are either politically binding or if legally binding are of limited membership. Furthermore, there is a danger that the employment of such controls in isolation (unless coupled with a moratorium or prohibition on development and use of "incapacitating chemical agent" for law enforcement purposes in potential supplier States) could be seen as an attempt by certain States to keep the perceived benefits of such agents to themselves.

The role of civil society

Scholars have highlighted the obligations upon civil society to contribute to effective chemical and biological weapons arms control regimes. Perry Robinson has argued:

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[36] The members of the Australia Group have developed Common Control Lists which should be reflected in the national export control regimes of all participants. Although "incapacitating chemical agents" are not specifically addressed under the control regime, the Chemical Weapons Precursors Common Control List does include precursors of the "incapacitating chemical agent" BZ (3-quinuclidinyl benzilate). See: Australia Group, Export Control List: Precursors, http://www.australiagroup.net/en/precursors.html.

[37] Members of the Wassenaar Arrangement have agreed to maintain national export controls on a range of commonly agreed listed items. "Incapacitating chemical agents" are specified in the WA Control List under ML7 as: *"b.3. CW incapacitating agents, such as: 3-Quinuclidinyl benzilate (BZ) (CAS 6581-06-2)".* See: Wassenaar Arrangement on export controls for conventional arms and dual-use goods and technologies, List of dual-use goods and technologies, and munitions list, WA-LIST (11) 1 Corr.*, 22nd December 2011, http://www.wassenaar.org/controllists/2011/WA-LIST%20%2811%29%201%20Corr/WA-LIST%20%2811%29%201%20Corr.pdf.

[38] The EU Common Military List effectively replicates the Wassenaar Control List with regard to "incapacitating chemical agents" – specifically mentioning BZ and clearly allowing other "incapacitating chemical agents" to be added to the control list. EU States considering authorising export of items on the Common Military List are legally bound by the EU Council Common Position to consider export requests against eight criteria – international commitments, human rights, internal conflict, regional peace and security, defence and national security, terrorism and international law, diversion and sustainable development.

[39] EC Regulation 1236 prohibits imports and exports to or from the European Union of certain goods *"which have no practical use other than for the purpose of capital punishment or for the purpose of torture and other cruel, inhuman or degrading treatment or punishment*", Annex II goods. The Regulation also requires national export authorisations for exports of certain items, *"that could be used" for such purposes,* Annex III goods. In December 2011, Annex III of the Regulation was amended to include a new category of controlled goods: *"Products which could be used for the execution of human beings by means of lethal injection… Short and intermediate acting barbiturate anaesthetic agents."* This included but was not limited to amobarbital, pentobarbital, secobarbital and thiopental and their respective sodium salts. Although this amendment is intended to halt transfer of such drugs for lethal injection, the Regulation could potentially be amended to also cover weaponized "incapacitating chemical agents" intended for law enforcement with a prohibition on transfer to end users likely to misuse these weapons for torture and ill-treatment. If such a measure were to be agreed, additional relevant "incapacitating chemical agents" could be added to Annex III.

> "When it comes to arms control, all of us…need reminding that treaties such as the CWC are engagements, not between governments, but between States Parties. Governments may represent States Parties in the [relevant regime fora]… but organs of civil society are also elements of those same states, no less responsible for proper implementation of the treaty."[40]

Life and chemical science community: One important nexus of activities of relevance to "incapacitating chemical agents", where civil society - particularly those in the life and chemical science communities – have been engaged is in building a "culture of responsibility" in science by developing, promulgating and applying codes of conduct, pledges and conventions regulating "dual use" research. Additional complimentary activities more directly focussed on the issue of "incapacitating chemical agents" that are worthy of consideration by concerned life and chemical scientists include: promoting the non-participation in and "whistle-blowing" on "incapacitating chemical agent" programmes of concern; education and awareness-raising amongst scientific communities, States Parties and the general public of the dangers of "incapacitating chemical agent" development and use.

In addition, informed civil society organisations can play important constructive roles in highlighting existing limitations in the BTWC, CWC and attendant control regimes with regard to "incapacitating chemical agents", and developing and promoting possible policy responses; monitoring existing implementation by States Parties and highlighting research and development activities of concern; predicting research trajectories in relevant scientific disciplines and highlighting potential future threats. Preparations by CWC States for the forthcoming 2013 CWC Review Conference, which in many countries will include consultation with relevant academics, NGOs and scientific bodies, provide important opportunities for civil society to bring concrete proposals to address "incapacitating chemical agents" and their means of delivery to the attention of relevant State officials.

Health professionals: There are a range of declarations and regulations adopted by the World Medical Association (WMA) that guide health professionals in situations of conflict and unrest and additionally prohibit their involvement in torture, ill treatment and other forms of human rights abuse.[41] The WMA has also developed ethical guidelines prohibiting medical involvement in development of chemical or biological weapons.[42] In addition, national medical associations have established mechanisms to implement ethical standards including ethics boards that have the authority to suspend or disbar physicians from practising medicine in cases of extreme misconduct.

However, there are no widely accepted guidelines specifically determining the permissibility or non-permissibility of physician involvement in the development, testing or utilisation of "incapacitating chemical agents" intended for law enforcement. At the national level, the British Medical Association has taken the lead, most notably in its 2007 publication *Drugs as Weapons*, which recommended that national organisations representing healthcare professionals should:

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[40] Perry Robinson, J P (2010) Scientists and chemical weapons policies. In: *Assessing the Threat of Weapons of Mass Destruction*, (eds) Finney, J. and Slaus, I., IOS Press, p 89.

[41] For example, Declaration of Tokyo, Adopted by the 29th World Medical Assembly, Tokyo, Japan, October 1975, and editorially revised at the 170th Council Session, Divonne-les-Bains, France, May 2005 and the 173rd Council Session, Divonne-les-Bains, France, May 2006; World Medical Association, Regulations in Times of Armed Conflict, Adopted by the 10th World Medical Assembly, Havana, Cuba, October 1956, last amended by the 35th World Medical Assembly, Tokyo, Japan, 2004 and editorially revised at the 173rd Council Session, Divonne-les-Bains, France, May 2006.

[42] World Medical Association, Declaration on Chemical and Biological Weapons, Adopted by the 42nd World Medical Assembly Rancho Mirage, CA., USA, October 1990 and rescinded at the WMA General Assembly, Santiago 2005.

> "Work to promote the norms prohibiting the use of poisons, and therefore the BTWC and the CWC. They should further promote understanding that the use of drugs as weapons would violate such norms…Advocate against the use of drugs as weapons and not be involved in the training of military or law enforcement personnel in the administration of drugs as weapons." [43]

At present no other national medical associations appear to have issued statements or developed guidance on this matter, and the issue has not been formally addressed by the WMA. Given the potential importance of medical participation to development, testing and utilisation of "incapacitating chemical agents", the development of clear guidance by national medical associations and subsequently by the WMA constraining or prohibiting the involvement of health professionals in such activities is needed.

Conclusion

The international community's response to advances in weapons-related science and technology has often been inadequate and late, introducing partial and ineffective controls (if any are introduced at all) long after a new weapons technology has spread to and been employed by State and non-State actors. With the issue of "incapacitating chemical agents" – because the relevant technologies have yet come to fruition – there is still time to act. There is now an opportunity for the international community, and in particular the OPCW, to take a precautionary and preventative approach, and prohibit or severely restrict development and use of "incapacitating chemical agents" before the technology has had a chance to mature and proliferate. It is an opportunity that should not be squandered.

[43] British Medical Association (2007) *op.cit*, p 24.

Speaker's summary

MULTILATERAL FORA AND OPTIONS FOR POLICY DEVELOPMENT AT THE INTERNATIONAL LEVEL[44]

Sergey Batsanov

1. As we are approaching the conclusion of this very useful meeting my remarks will be a mixture of my previously developed thoughts on the subject of incapacitants, the new knowledge acquired here and some spontaneous personal conclusions that our discussion has generated over the last three days.

My impression is that various relevant international fora would probably not regard the issue of incapacitants as a particularly urgent one; at the same time it is not insignificant to the degree that it can or will be ignored. We are still at the stage when the issue of incapacitants needs to be better understood by all relevant stakeholders and, as a result, by states (governments) themselves. In that sense the process of learning has not yet concluded, and requires wider exchange of information and discussion among governments. That is the only way to "legitimize" the issue.

On the other hand, it is true that policy decisions are rarely taken on the basis of facts that are 100% clear; at the same time the degree of clarity achieved is always an important factor, influencing the nature and the scope of those decisions that may be possible today.

And to finish with introductory remarks, it may be worth suggesting that future discussions in relevant multilateral fora will be more productive if the participants have a clear understanding of each other's intentions and objectives. Suspicions about hidden agendas definitely will not help. In this context I would recommend to avoid using the Moscow theatre incident as an introductory theme or stimulant for further work. The incident, which was of course a tragedy, is no doubt relevant to the subject of incapacitants but if we create an impression that the whole issue became important just because of that incident then it would not be conducive to a productive search for solutions.

2. Before addressing options, advantages and disadvantages in terms of various international fora I would like to return briefly to the question of stakeholders. I believe it would be useful to prepare a list of all international agencies and institutions with a brief description of their respective mandates (as far as they are relevant to the subject of incapacitants), as well as a short paper, summarising the results of the two ICRC meetings in Montreux, and the one at Spiez (listing the risks, current state of affairs, immediate and longer term objectives) so as to see which aspects are covered by whose mandates and, therefore, which international bodies should be considered as primary potential actors and which are important but not in a position to take leading roles. I could imagine another meeting like this bringing all necessary players together, resulting in a mix of counter-terrorism, law enforcement, anti-narcotics and, of course, arms control communities. In terms of the agencies to be involved, that would mean, in addition to those represented here, UN Peacekeeping, the Counter-Terrorism Implementation Task

[44] Remarks by Ambassador Sergey Batsanov on 26 April 2012 at the ICRC Expert Meeting, "Incapacitating chemical agents": Law enforcement, human rights law and policy perspectives, Montreux, Switzerland 24-26 April 2012.

Force (CTITF) Office, and, as far as the UN Office of Drug Control (UNODC) is concerned – law enforcement experts or, better, the legal office (in addition to narcotics control officials). Other international stakeholders could include NATO, the European Commission and, possibly, Europol.

3. Without prejudging the outcomes of further reviews, I would imagine that the key areas for further work would be arms control and international humanitarian law. I will address the arms control dimension, and not the international humanitarian law. As far as arms control is concerned, we need to look at the Chemical Weapons Convention (CWC) and the Organisation for the Prohibition of Chemical Weapons (OPCW). There one can think of several options. One could be a discussion paper, based on the combination of policy 'option one' and 'option two', which we discussed earlier (See the summary in this report of discussions during Session 7). Another possibility could be to address concerns that development of incapacitating agents might be a 'slippery slope' leading to the revival of chemical weapons. I have already expressed my conviction that the CWC covers incapacitants in the same way it covers any other toxic chemicals – namely, their use for chemical weapons purposes is prohibited. However the concerns I've just mentioned could be alleviated if the Third CWC Review Conference adopts an interpretation emphasising that chemicals that cause temporary incapacitation or permanent harm due to their incapacitating toxicity are toxic chemicals in the meaning of the Convention and, as such, are subject to all relevant prohibitions and regulations. Such an interpretation will not change anything in the CWC and should draw upon the existing language and terminology in Article I and in the Annex on chemicals.

Another question that arises in relation to the OPCW has a more technical nature and is related to the ability of accredited laboratories to detect incapacitating agents (apart from those on the CWC Schedules). I stand to be corrected but it seems that this ability is close to zero. If that is indeed true, then corrective action is required. This is particularly important for the proper investigations of alleged use under Article X of Convention, as well as for the UN Secretary General's mechanism for Investigations of Alleged Use of chemical and biological weapons, which is now undergoing major refurbishment.

It is also possible for those governments willing to do so to start providing, on a voluntary basis, information about their work on incapacitating agents, as well as on related legislation, if any. However, one has to recognise that the OPCW Technical Secretariat would probably not be in a position to analyse this information.

Finally, some words on what is not achievable in the CWC context; first of all, the idea of prohibiting incapacitants entirely. The Convention does not prohibit entirely any chemical, including the most lethal agents, such as VX. The maximum one can do is to add a chemical to Schedule 1, in which case it would still be allowed in limited quantities for some permitted purposes. It should be noted that, for Schedule 1 chemicals, the list of such purposes does not include all non-prohibited purposes specified in Article II. More specifically, law enforcement including domestic riot control is not a legitimate purpose for Schedule 1 chemicals. This is just an example and not a proposal to include incapacitants on Schedule 1 – that would not work in any case. What would also not work is the idea of changing or specifying the language "law enforcement and domestic riot control", which is far from ideal but is an example of a "constructive ambiguity" necessary to have concluded the CWC.

4. To summarise, I see several possibilities of moving ahead in the arms control area. The work should be conducted carefully, without excessive expectation, and in a cooperative spirit, gradually building understanding among member states and other stakeholders.

Thank you.

SESSION 8 DISCUSSION

Status of expert discussions and analysis to date

There was a discussion among participants about whether further information was needed for a full understanding of the issue of "incapacitating chemical agents". With reference to the two expert meetings held by ICRC, the technical workshop held by the Swiss and Finnish governments, and many other reports and analyses, there was general agreement among participants that legal and technical discussions have now been exhausted.

However, some participants emphasised that there remained a need to structure and present the existing body of expert knowledge, discussion and analysis for government decision-makers who may not be familiar with the issue and those States that have not participated in expert discussions to date. Several participants suggested that it would be useful to have a short paper collecting this information and in particular explaining the broader international legal framework applicable to this issue in addition to the CWC.[45]

One participant suggested that it would still be beneficial to engage and share information with other relevant stakeholders, particularly those working in counterterrorism. They added that that it could be useful to have more information from those who remained interested in developing or using "incapacitating chemical agents" about their perception of the utility of these weapons despite their imperfect nature and the serious dangers associated with their use.

Moving the issue to the policy domain

There was a discussion among participants about how this issue might be taken forward at the policy level and in which fora. Several participants noted that there was now sufficient information for policy makers to take decisions. A participant noted that some assumptions would have to be made as no policy decisions are taken on the basis of absolute certainty. A participant took the view that an important gap in current knowledge is information about the positions of a range of governments on the issue of "incapacitating chemical agents". The participant suggested that a preparatory process of discussion between States is needed to avoid incorrect assumptions about their respective positions.

At the level of the OPCW and the CWC it was suggested that a process of policy discussion and clarification could take place informally before government policy decisions are taken. A participant noted that the platform for further discussion would need to include all stakeholders and that it need not be the same as the platform where decisions are taken, although at a certain stage government positions would have to be negotiated in a formal process.

Several participants stressed that any formal proposal to bring forward the issue for decision as part of the preparatory work for the Third CWC Review Conference would need to be simple and easily understood at the political level, as well as being presented sufficiently in

[45] In September 2012 the ICRC published a six-page synthesis and a shorter two-page summary of the subject, which fulfils this role. See: International Committee of the Red Cross (2012) *Toxic chemicals as weapons for law enforcement: A threat to life and international law?* Synthesis and Summary, September 2012, http://www.icrc.org/eng/resources/documents/legal-fact-sheet/toxic-chemicals-legal-factsheet-30-09-2012.htm; The ICRC's synthesis is also presented as the final section of this expert meeting report.

advance of the Review Conference itself. A participant added that any process would need a clear objective encompassing some key questions: What is the principle problem? What actions are required? What is the plan to respond to the problem?

A participant noted that it would be the responsibility of States Parties to the CWC to bring the issue forward for discussion at the OPCW, although external actors can encourage this process and provide input. In order to underline the importance of the issue it would be more effective to have a group of like-minded States bringing forward a proposal.

Toxic chemicals

A participant stressed that for future policy discussions it would be important to avoid misunderstandings of the topic. It was suggested that ill-defined phrases such as "incapacitating chemical agents" should be avoided and it would be better to refer to the subject as 'the use of toxic chemicals as weapons for law enforcement'. The participant added that this more accurately reflected the discussion both on a technical and legal basis. Another participant added that the issue is broader than solely anaesthetic chemicals (since other toxic chemicals could potentially be used to cause incapacitation) and so it is more accurate to refer to "toxic chemicals".

From the perspective of law enforcement, another participant said that it is important to distinguish between riot control agents, which are in widespread use for law enforcement, and the other toxic chemicals discussed at this expert meeting which have far more dangerous effects.

SYNTHESIS PREPARED BY THE INTERNATIONAL COMMITTEE OF THE RED CROSS

TOXIC CHEMICALS AS WEAPONS FOR LAW ENFORCEMENT: A THREAT TO LIFE AND INTERNATIONAL LAW?

Introduction

During the past ten years there has been much discussion and analysis of so called "incapacitating chemical agents" and of the use of these toxic chemicals as weapons for law enforcement. The International Committee of the Red Cross (ICRC) has raised concerns and highlighted significant risks associated with the development and use of these weapons. A small number of countries have raised their own concerns at meetings of States party to the Chemical Weapons Convention.

The ICRC has held two international expert meetings on "incapacitating chemical agents", involving government and independent experts. The first meeting, in March 2010, explored a range of issues, including: the history of interest and use; human impact and technical feasibility; ethical issues; operational contexts of use; and implications for international law. The second meeting, in April 2012, incorporated perspectives from law enforcement, human rights law, drug control law, as well as a wide ranging discussion of potential policy choices. In September 2011 the Swiss and Finnish governments held a technical workshop focusing on the underlying scientific and technical questions. Relevant reports and analyses have also been published by international experts and eminent organisations such as the British Medical Association and the Royal Society.

From the ICRC's perspective, the main dimensions of this subject – scientific and technical, operational, legal, and policy – have now been explored in detail in these settings.

This document is the ICRC's synthesis of the subject. (A shorter summary is also available).[1] It summarises the issue and describes the toxic chemicals in question, the relevant international law, the main risks, and the broad policy choices available to States. It is intended to inform and encourage national policy development, and to raise broader awareness of the ICRC's concerns.

What is the issue?

There has been continued interest in some countries in the development and use of certain toxic chemicals as weapons for law enforcement. This interest has focused on toxic chemicals that incapacitate through causing sedation or unconsciousness. These weapons have been described as "incapacitating chemical agents", "incapacitating agents", "knock-out gas", "calmatives", "pharmacological weapons", and "drugs as weapons".

Past military chemical weapons programmes weaponised a range of toxic chemicals as weapons to cause incapacitation or death, including nerve agents (e.g. sarin), blister agents (e.g. mustard gas), blood agents (e.g. cyanide), choking agents (e.g. phosgene), and incapacitating agents (e.g. BZ).

[1] **The synthesis and summary documents are both available as separate ICRC publications at:** http://www.icrc.org/eng/resources/documents/legal-fact-sheet/toxic-chemicals-legal-factsheet-30-09-2012.htm

From the late 1940's onwards weapons researchers sought to develop these "incapacitating agents" as chemical weapons that would incapacitate the victims for hours or days but with a relatively low risk of death. The focus throughout was on chemicals that altered or impaired the functioning of the brain. However, the search was an unsuccessful one. Hallucinogenic agents such as LSD and deliriant chemicals such as BZ were ultimately excluded because of their ineffectiveness and unpredictable effects. Toxic chemicals which were effective at causing incapacitation in small 'doses', such as derivatives of the powerful anaesthetic drug fentanyl, were excluded because they were too dangerous.

In 1993 the Chemical Weapons Convention was adopted. It banned the development, production, stockpiling and use of chemical weapons. However, the convergence of military and police operational requirements – military forces taking on more policing-type roles and police forces taking on counter-terrorism missions – provided a context for the development of toxic chemicals as weapons to continue, with focus again on dangerous anaesthetic and sedative drugs, but for use in law enforcement.

The development and use of so called "incapacitating chemical agents" as weapons raises a contradiction that has not been adequately addressed by government policy makers. On the one hand, in agreeing the Chemical Weapons Convention, States are "determined for the sake of all mankind, to exclude completely the possibility of the use of chemical weapons". On the other hand, the development of toxic chemicals as weapons for use in law enforcement has continued.

Which toxic chemicals?

Toxic chemicals

The toxic chemicals in question, and that have been considered or used as weapons for law enforcement in recent years, are mostly powerful anaesthetic and sedative chemicals that degrade the functioning of the brain. In developing these as weapons for law enforcement the aim has been to acquire a capability to cause mass anaesthesia or sedation in certain tactical situations.

The opioid chemical fentanyl and its variety of similar derivatives have been subject of most attention, as well as benzodiazepines such as midazolam, and alpha-2 adrenergic agonists such as dexmedetomidine. The effects of these toxic chemicals on humans are to cause sedation, unconsciousness and death by severely impairing the functioning of the brain. The severity of the effects is dependent on the 'dose' to which a person is exposed, which is an important concept in both pharmacology and toxicology. Victims will generally require medical attention to recover.

There is no dividing line, on a technical basis, between the types of toxic chemicals considered as "incapacitating chemical agents" for law enforcement and the toxic chemicals developed and used as "lethal" chemical warfare agents in past conflicts to incapacitate and kill. When used as weapons, some of the toxic chemicals considered for law enforcement can exert a potentially lethal effect in similarly small quantities to chemical warfare agents.

Not riot control agents

It is important to be clear that this issue is not about riot control agents such as CS, CN, OC or 'pepper spray', and PAVA, which are often referred to collectively as 'tear gas' and have long been considered legitimate means for law enforcement. They are in widespread use

both in hand-held spray devices targeted at individuals and in larger dispersal devices which are targeted at groups of people.

These irritant chemicals cause rapid irritation and pain in the eyes, respiratory tract, and skin, which lasts for a relatively short duration (15 to 30 minutes) after exposure. Their use is not without risks but, unlike many anaesthetic and sedative chemicals, there is a large difference between the 'dose' of a riot control agent that will cause pain and irritation and the amount that will be fatal. Medical attention is normally not required for victims to recover.

Put simply, riot control agents cause people to flee or to be temporarily compromised by the pain caused whereas toxic chemicals described as "incapacitating chemical agents" cause people to collapse and become extremely vulnerable to suffocation and further injury, whether intentional or unintentional. Riot control agents tend to be used where the use of conventional force is not appropriate or as an alternative to it, whereas "incapacitating chemical agents" are sometimes promoted as enablers for subsequent use of conventional force.

What is the applicable legal framework?

Deliberate poisoning has long provoked public abhorrence. This abhorrence has spanned several millennia as even ancient civilisations banned poisoning in warfare. It was first codified in modern international law in 1899 when countries met in The Hague to prohibit "poison or poisoned arms" including "projectiles, the only object of which is the diffusion of asphyxiating or deleterious gases".

After the First World War, with vivid images of the horrors of chemical warfare fresh in their minds, the international community sought to reinforce and expand the prohibition. Countries agreed the 1925 Geneva Protocol, which banned the use of chemical and biological weapons.

In armed conflict there is an absolute prohibition on the use of toxic chemicals as weapons under the 1925 Geneva Protocol, the 1993 Chemical Weapons Convention, and customary international humanitarian law. This includes a prohibition on the use of riot control agents as a method of warfare.

Outside armed conflict, the diverse legal framework of the Chemical Weapons Convention, the 1972 Biological Weapons Convention, international human rights law, and international drug control law regulates any use of toxic chemicals as weapons for law enforcement.

Chemical Weapons Convention

The Chemical Weapons Convention prohibits the development, production, stockpiling and use of chemical weapons, and makes provisions for the destruction of existing weapons stockpiles. Even though eight countries remain outside the Convention, customary international humanitarian law prohibits the use of chemical weapons by any party to an armed conflict.

Under the Convention, a specific provision is made for "law enforcement including domestic riot control" as one of the "purposes not prohibited". However, there is ambiguity on which toxic chemicals may be used as weapons for law enforcement and which "types and quantities" are consistent with these purposes.

Riot control agents are defined under the Convention[2] and are clearly permitted for law enforcement. However there is no other category of chemicals defined specifically. For the purposes of the Convention, all other chemicals, whether used to cause temporary incapacitation or to kill, are grouped together as toxic chemicals. [3]

The Convention does not make explicit which toxic chemicals other than riot control agents, if any at all, may be used as weapons for law enforcement. As a result, there remain differing interpretations of what this provision allows. Some take the view that only riot control agents may be used for this purpose. Others argue that an unspecified wider range of toxic chemicals may be used, up to but not including toxic chemicals on Schedule 1 of the Convention.

Biological and Toxin Weapons Convention

The Biological and Toxin Weapons Convention prohibits the development, production and stockpiling of biological and toxin weapons. Unlike the Chemical Weapons Convention, there is no provision permitting the use of any biological agents as weapons for law enforcement. Given suggestions that some biological agents, such as peptides, might be considered as "incapacitating agents" for law enforcement, it is important to recall the comprehensive nature of this prohibition.

International human rights law

International human rights law is the primary area of law constraining the use of force and weapons for law enforcement. It safeguards the right to life by placing strict constraints on the use of force and weapons that are 'potentially lethal'.

Under international human rights law, the toxic chemicals that have been described as "incapacitating chemical agents" must be considered as potentially lethal given current knowledge about their effects on humans and the significant risk of death and permanent disability.

Under human rights law the use of potentially lethal force should be avoided. It is a measure that must be absolutely necessary, meaning a measure of last resort, and strictly unavoidable to protect life or physical integrity. It must be preceded by other measures, following an escalation of force procedure. It must be proportionate to the aim pursued.

In the scenarios in which these toxic chemicals have been proposed for use, as weapons to incapacitate groups of people, it is not possible to control their effects or to target them solely at the persons who are threatening life. In these situations, such as hostage scenarios, the toxic chemicals will pose the same risks of death and permanent disability to aggressors and innocent bystanders alike (see below under "What are the risks to life?").

In light of the certainty that bystanders will also come to harm, the question to be asked is whether such a means is absolutely necessary to save the lives of those who are threatened, that is whether there are any other means available that would achieve the same aim while posing less of a danger to life; and whether this is an unavoidable measure of last resort, the State having exhausted all feasible less harmful means before it resorts to this means.

[2] The Chemical Weapons Convention defines riot control agents as: "Any chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure."
[3] The Chemical Weapons Convention defines a toxic chemical as: "Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals."

The only legal case decided to date relating to the use of these types of toxic chemicals as weapons for law enforcement is that of *Finogenov and others vs Russia* at the European Court of Human Rights. This case relates to the Moscow theatre siege incident of 2002, where Russian special forces pumped toxic chemicals into a theatre auditorium to incapacitate hostage takers and hostages alike in an attempt to resolve this difficult situation. In 2011 the European Court of Human Rights found that the Russian government violated the right to life of the hostages through inadequate planning and implementation of the rescue operation. However, it judged that use of the toxic chemicals itself did not violate the right to life, accepting the argument that they were not intended to kill.

There are a number of open questions about this judgement. For example, the Court was not provided information about the specific toxic chemicals used and thus was in a difficult position to judge whether the adverse effects of their use should have been foreseen. The dangerous effects of anaesthetic and sedative chemicals are well known, and were illustrated by the deaths of 129 hostages in this incident and permanent disabilities suffered by survivors. In addition, it is evident that the 'dose' of a chemical delivered cannot be controlled in such a tactical situation and that it is extremely difficult, if not impossible, in such situations to provide the immediate medical care that might be characterised as adequate to protect life.

International drug control law

The international drug control treaties are another area of international law that governs the uses of certain toxic chemicals. The 1961 Single Convention on Narcotic Drugs and the 1971 Convention on Psychotropic Substances place strict controls on certain toxic chemicals with few exceptions.

The lists of drugs controlled under these two treaties include some of the toxic chemicals that have been considered as weapons for law enforcement. Fentanyl and many of its derivatives are among the list of controlled substances under the 1961 treaty and many benzodiazepines are among the list of controlled substances under the 1971 treaty.

Article 4 of the 1961 Convention and article 5 of the 1971 Convention require that the production, manufacture, export, import, distribution of, trade in, use and possession of controlled drugs must be limited exclusively to "medical and scientific purposes".

In summary, this overlapping legal framework leaves little room, if any, for the legitimate use of toxic chemicals – other than riot control agents – as weapons for law enforcement under international law.

What are the risks to life?

There is no such thing as a safe "incapacitating chemical agent" used as a weapon, and this will not change with foreseeable advances in science and technology. Sedative and anaesthetic chemicals are used safely as drugs in medicine. However, the use of these toxic chemicals as weapons to cause effective incapacitation of a group of people will inevitably cause deaths and serious injuries among some, including permanent disabilities and other long term effects. In theory, the user of these toxic chemicals as a weapon would seek to render all those targeted temporarily unconscious and then enable them to make a full recovery. In reality, it is not possible to carry out this mass anaesthesia safely in a tactical situation.

In a medical setting these chemicals are administered by consent on an individual basis by medical professionals, and in a highly controlled environment. Precautions are necessary to

limit the risk of death and other adverse health effects. The dose of a chemical used is calculated and administered precisely according to the individual characteristics of the patient (e.g. age, weight, health, and existing medication). While a person is unconscious their vital signs are monitored and their breathing is supported because it can often be impaired during anaesthesia. Even then the risks cannot be eliminated.
In a tactical situation, when the same types of chemicals are used as weapons against a group of people without their consent, none of these safeguards are feasible. It is not possible to control the 'dose' of the chemical that each victim is exposed to, let alone make adjustments for wide variations in effects due to differences in age, weight and health among those targeted. It is extremely difficult, if not impossible, to provide the necessary immediate medical care including support for breathing, which is often impaired during anaesthesia.

The risks of death and permanent disability are greatly increased due to this inability to prevent overdose or to ensure breathing and other vital signs are monitored and supported. Secondary risks to life and health arise due to airway obstruction, the impact of falling, and the inability of those rendered unconscious to protect themselves from other dangers in the surrounding environment.

The tactical utility of using these toxic chemicals as weapons for law enforcement is also questionable. It is a common misconception that incapacitation can ever be instant. Even an intravenous injection of an anaesthetic in a consensual medical setting will take 15 to 30 seconds to have effect. In a tactical situation, when such a chemical is delivered through the air as a weapon it will take at least several minutes to cause complete incapacitation in all those targeted. Therefore, their use will never immediately prevent aggressors from using force. The ease of countermeasures may also be overlooked. Gas masks and antidotes for certain toxic chemicals may be available to aggressors for protection but not to innocent bystanders.

What are the other potential risks, in particular to international law?

Erosion of the prohibitions of chemical and biological weapons

A major risk to upholding international law is that the development and use of these toxic chemicals as weapons for law enforcement will erode the historic prohibition of poisoning and the specific prohibition of chemical weapons set out in the Chemical Weapons Convention. The Convention is the result of international political decisions forgoing weapons deemed abhorrent to the public conscience. It is the foundation for ensuring that the ban on chemical weapons endures, and continuing interest in the use of toxic chemicals as weapons for law enforcement endangers its integrity.

With increasing convergence of chemistry and biology, and any consideration of biological agents, such as peptides, as "incapacitating agents", this erosion could also extend to the prohibition of biological weapons as well.

Proliferation

The continued development and use of toxic chemicals as weapons for law enforcement is likely to present broad and unpredictable risks for security, including inevitable proliferation. Research, development, production, stockpiling and use of toxic chemicals as weapons that are prohibited in warfare will proceed within a law enforcement framework. Acquisition of weapons by specialised police units or special forces, and even by military forces in international operations such as peacekeeping, could be expected. Use of these weapons, or demand for such use, may range from limited domestic law enforcement scenarios to

wider military operations in which the boundaries between law enforcement and conduct of hostilities in armed conflict can become blurred.

Proliferation will likely occur among different forces within countries and among a growing circle of countries. This spread will be unpredictable and is unlikely to be uniform. Different countries may develop different toxic chemicals with different effects as weapons for use in a variety of circumstances. Such proliferation could be expected over time to extend to non-state and criminal groups.

Depending on the extent of proliferation there could be the risk of an "arms race" of new chemical weapons and defensive countermeasures, which would be accentuated by any military acquisition of these weapons. Those without access to new chemical agents may revert to traditional chemical warfare agents as chemical weapons are seemingly re-legitimised. It is likely perceptions would emerge that acquisition of chemical weapons for a wide range of law enforcement operations was being used to justify military acquisition, or even as a cover for wider military chemical weapons programmes.

Hostile exploitation of 'dual-use' science and technology

Any continuing programmes to develop and weaponise toxic chemicals for law enforcement are likely, by default, to establish a pathway for the application of advances in science and technology to the development of new chemical weapons. Developments in legitimate scientific research, in particular those in the pharmaceutical health sector, might be explored for weapons applications. Concerns over the misuse of legitimate 'dual-use' science and technology might become reality as new drugs developed to facilitate medical treatment become candidates for weapons development.

Contemporary interest in toxic chemicals as weapons for law enforcement has focused on using anaesthetic chemicals to cause unconsciousness. However, incapacitation can be achieved through manipulating or impairing various processes in the body, or through causing effects such as convulsions. If programmes to develop toxic chemicals as weapons for law enforcement are established and expand, there is a risk that a range of toxic chemicals would be explored and weaponised with various adverse effects on human metabolism, consciousness, behaviour, and identity. A desire to attempt temporary incapacitation may not be sought by all weapons developers. Some could exploit this to focus on new highly "lethal" agents, or chemicals that cause long term injury or disabilities.

A 'slippery slope' back to chemical warfare

The development and use of toxic chemicals as weapons for law enforcement creates a 'slippery slope' that will increase the likelihood that chemical weapons could be reintroduced to armed conflicts. Although current interest in these weapons is for certain law enforcement operations, if acquired and used by special forces or military forces for law enforcement operations, it might generate an interest to use such means for law enforcement within the context of an armed conflict, possibly even in the conduct of hostilities. Several trends could accentuate the risk of their use during the conduct of hostilities.

Firstly, particularly within non-international armed conflicts that are the prevalent types of armed conflict today, there will be operations that amount to conduct of hostilities and others that are part of law enforcement and such situations may change rapidly, leading to an increased blurring of lines. Secondly, there will be situations where it is difficult to establish with precision when the threshold to an armed conflict is crossed. Thirdly, there may be situations in which the existence of an armed conflict is denied by a party to a conflict. And, lastly, the notion of law enforcement can carry different meanings for different actors.

If the use of these toxic chemicals as weapons in armed conflict did occur then there may be an additional risk of retaliation and escalation to other chemical weapons, as occurred in many previous incidences of chemical warfare. The initial use and any retaliation would constitute unambiguous violation of the Chemical Weapons Convention. The regime "to exclude completely the possibility of the use of chemical weapons", which took most of the 20th century to construct, would have been breached, perhaps irreparably.

What are the policy choices for States?

There are four broad policy choices that can be envisaged. The first two assume that it can be legitimate under international law to use certain toxic chemicals – other than riot control agents – as weapons for law enforcement in some circumstances; a subject on which there remain differing views. The second two approaches can be taken independently of whether the use of toxic chemicals as weapons for law enforcement is assessed to be legitimate or not under international law:

- **Continuing ambiguity** on the use of toxic chemicals as weapons for law enforcement.
- **Regulation** of the use of toxic chemicals as weapons for law enforcement.
- **Moratorium** on the use of toxic chemicals as weapons for law enforcement.
- **Prohibition** of the use of toxic chemicals as weapons for law enforcement.

In reviewing policy choices individual States will first need to recall their existing legal responsibilities and obligations. They will also need to assess the risks to life, the risks to international law, and the risks to security against any perceived benefits of developing and using toxic chemicals as weapons for law enforcement. In particular, States will need to consider the potential implications of their policy choices on reducing or increasing these risks.

Continuing ambiguity

This is the approach currently being implemented where ambiguity remains on which toxic chemicals are permitted as weapons for law enforcement, and in which circumstances. In the absence of national policy decisions, there is room for different interpretations among countries. State practice in response to a variety of unpredictable events will determine what is acceptable, and the extent of the resulting risks.

A variation of this approach is to attempt further clarification of ambiguities through continued discussion among a wider group of actors and States. However, it is submitted that the existing body of analysis provides sufficient information to make informed policy decisions.

Regulation

This approach would aim to set internationally agreed boundaries on the types and quantities of toxic chemicals and their means of delivery that would be considered acceptable as weapons for law enforcement, or at least to increase transparency about States' views in this regard, including any current holdings of such weapons.

Defining these boundaries would require a degree of international negotiation and the development of a consensus that does not currently exist. Since there is no dividing line, on a technical basis, between the toxic chemicals proposed as "incapacitating chemical agents" and those developed as "lethal" chemical warfare agents, from a practical perspective it may not be possible to set meaningful boundaries about what is acceptable.

Moratorium

This approach would involve States enacting a moratorium on the research, development, stockpiling and use of toxic chemicals (other than riot control agents) as weapons for law enforcement. A moratorium would provide a means of temporarily limiting the risks posed by continuing ambiguity. It would be an intermediate measure that could lead either to prohibition or to regulation.

A moratorium would provide time for a wider variety of States, particularly those that have not been involved in discussions to date, to understand the issues at hand and to develop longer term decisions on national policy while at the same time demonstrating recognition of the risks of continuing ambiguity. Any moratorium would need to be accompanied by a process within and among States to clarify existing legal constraints, assess risks and benefits, and either to decide on prohibition or regulation.

An internationally agreed moratorium could be more effective due to wider participation. However, individual States or like-minded groups could enact moratoria independently as a means of acknowledging the risks and highlighting these to other States.

Prohibition

This approach would involve States enacting a prohibition on the research, development, stockpiling and use of toxic chemicals (other than riot control agents) as weapons for law enforcement. It would clarify that only riot control agents would be used for these purposes. National prohibitions could be established independently as a matter of national policy, and without the need for international agreement, as at least one State has already done.[4] As more States enacted prohibitions, either individually or as a like-minded group, they would set an example for others in responding to the risks associated with the use of toxic chemicals as weapons for law enforcement.

For States that have concerns about the development of toxic chemicals as weapons for law enforcement, and that have no intention of pursuing such weapons themselves, enacting an explicit national prohibition would contribute to lessening the risks associated with continuing ambiguity.

Ultimately an international prohibition could be agreed at the multilateral level that either clarified an existing prohibition under international law, or developed the existing legal framework to exclude current ambiguity.

What action is needed?

There is an absolute prohibition on the use of chemical weapons in armed conflict. However, it has been a subject of debate whether the use of toxic chemicals as weapons for law enforcement is desirable, and whether it could be consistent with international law. A lack of clarity on this issue over the past ten years presents serious risks to life, to international law, and to security.

Significant efforts have been made to examine relevant scientific and technical, operational, legal, and policy issues, including during two expert meetings held by the ICRC. States that

[4] Germany (1994) *German CWC Implementation Act (Ausführungsgesetz zum Chemiewaffenübereinkommen – CWÜAG)* 2 August 1994, amended 11 October 2004.

have been involved in these discussions[5] now have the information required to make informed policy decisions. Leadership is needed from individual States – or a like-minded group – to take national policy decisions and promote them at the multilateral level.

At a time when attention is turning from completing chemical disarmament to preventing the re-emergence of chemical weapons, policy development on the issues raised here should be a high priority. In addition, the third Review Conference of the Chemical Weapons Convention in April 2013 provides an important opportunity to build and shape international consensus.

International Committee of the Red Cross
Geneva, September 2012

Further reading

International Committee of the Red Cross, Geneva (2013) *Report of an Expert Meeting. "Incapacitating chemical agents": Law enforcement, human rights law and policy perspectives, Montreux, Switzerland, 24-26 April 2012.*

Spiez Laboratory, Swiss Federal Office for Civil Protection (2012) *Technical workshop on incapacitating chemical agents, Spiez, Switzerland, 8-9 September 2011*.

Royal Society, London (2012) *Brain Waves 3: Neuroscience, conflict and security*.

International Committee of the Red Cross, Geneva (2010) *Report of an Expert Meeting. "Incapacitating chemical agents": Implications for international law, 24-26 March, 2010.*

British Medical Association, London (2007) *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals.*

[5] **States that participated in one or both ICRC Expert Meetings are:** Australia, China, Czech Republic, Finland, France, Germany, India, Norway, Pakistan, Russia, South Africa, Switzerland, United Kingdom, and United States.

ANNEX 1: EXPERT MEETING PROGRAMME

DAY 1: TUESDAY 24 APRIL 2012

Session 1: Introduction and reports from previous meetings

Chair: Knut Dörmann, Head, Legal Division, ICRC

09.00 – 09.30
- Welcome and opening remarks

Knut Dörmann, Head, Legal Division, ICRC

09.30 – 10.30
- ICRC Expert Meeting. "Incapacitating chemical agents": Implications for international law, Montreux, Switzerland, 24-26 March 2010.

Neil Davison, Science Adviser, Arms Unit, Legal Division, ICRC

- Technical workshop on incapacitating chemical agents, Spiez, Switzerland, 8-9 September 2011.

Stefan Mogl, Spiez Laboratory, Federal Office of Civil Protection, Switzerland

- Discussion

Session 2: Law enforcement perspectives

Chair: Neil Davison, Science Adviser, Arms Unit, Legal Division, ICRC

11.00 – 13.00
- Introduction of new weapons for law enforcement: The assessment process and issues that would be raised by "incapacitating chemical agents".

Colin Burrows, Critical Intervention Consultancy Services, UK

Discussant: **Chris Lawrence**, Canadian Police Research Centre, Canada

- Discussion

Session 2 (continued)

14.30 – 15.30
- Scientific and medical assessment of new weapons for law enforcement: Issues that would be raised by "incapacitating chemical agents".

Peter Blain, Medical Toxicology Centre, University of Newcastle, UK

- Discussion

Session 3: International human rights law perspectives

Chair: Knut Dörmann, Head, Legal Division, ICRC

16.00 – 18.00
- Assessing "incapacitating chemical agents" under human rights law: Issues and challenges.

Louise Doswald-Beck, Geneva Academy of International Humanitarian Law and Human Rights, Switzerland

Vesselina Vandova, INTERIGHTS, UK

- Discussion

DAY 2: WEDNESDAY 25 APRIL 2012

Session 4: What is law enforcement?

Chair: Knut Dörmann, Head, Legal Division, ICRC

08:30 – 09:30

- Distinguishing law enforcement from the conduct of hostilities.

Cordula Droege, Legal Adviser, Thematic Unit, Legal Division, ICRC

- Discussion

Session 5: International arms control and drug control frameworks

Chair: Neil Davison, Science Adviser, Arms Unit, Legal Division, ICRC

09.30 – 10.30

- Constraints of the Chemical Weapons Convention on the use of toxic chemicals for law enforcement: What is understood by "types and quantities" consistent with these purposes?

Alexander Kelle, University of Bath, UK

- Discussion

11.00 – 12:00

- Constraints of the Biological Weapons Convention on the use of biological agents and toxins.

Ngoc Phuong Huynh, United Nations Office for Disarmament Affairs, Geneva

- Discussion

12:00 – 13.00

- Control of substances under the international drug control Conventions.

Paul Rabbat, International Narcotics Control Board Secretariat, Vienna

- Discussion

Session 6: Policy on "incapacitating chemical agents" to date

Chair: Neil Davison, Science Adviser, Arms Unit, Legal Division, ICRC

14.30 – 15.30

- "Incapacitating chemical agents" in context: An historical overview of States' policy.

Julian Perry Robinson, University of Sussex, UK

- Discussion

Session 7: Options for policy development

Chair: Knut Dörmann, Head, Legal Division, ICRC

16.00 – 16.30

- "Incapacitating chemical agents": Potential policy options.

Ralf Trapp, Independent disarmament consultant, France

- Discussion

16.30 – 17.45

- **Policy discussion 1**: Continue with the *status quo* with State practice eventually defining what is acceptable regarding the use of "incapacitating chemical agents" for law enforcement.

Discussants:

Peter Beerwerth, Federal Foreign Office, Germany
Michael Crowley, University of Bradford, UK

- Discussion

DAY 3: THURSDAY 26 APRIL

Session 7 (continued)

08:30 – 10.00

- **Policy discussion 2**: Regulation of "incapacitating chemical agents": **(a)** Increased transparency on the types, quantities and delivery systems used for law enforcement **and/or (b)** Specific national and/or international constraints on the types, quantities and delivery systems used for law enforcement.

Discussants:

Sergey Batsanov, Pugwash Conferences on Science and World Affairs, Geneva
Stefan Mogl, Spiez Laboratory, Federal Office of Civil Protection, Switzerland

- Discussion

10.30 – 11.45

- **Policy discussion 3:** National and/or international moratoria on research, development, stockpiling and use of "incapacitating chemical agents".

Discussants:

Julian Perry Robinson, University of Sussex, UK
John Walker, Foreign and Commonwealth Office, UK

- Discussion

11.45 – 13:00

- **Policy discussion 4:** National and ultimately international prohibitions on research, development, stockpiling and use of "incapacitating chemical agents".

Discussants:

Alexander Kelle, University of Bath, UK
Bennie Steyn, South African National Defence Force, South Africa

- Discussion

Session 8: Multilateral fora and options for policy development at the international level

Chair: Knut Dörmann, Head, Legal Division, ICRC

14.30 – 16:30

- How can policy options be carried forward in the international context? For example, at the Third Review Conference of the Chemical Weapons Convention and in other multilateral fora.

Michael Crowley, University of Bradford, UK
Sergey Batsanov, Pugwash Conferences on Science and World Affairs, Geneva

- Discussion
- End of meeting

ANNEX 2: SPEAKER AND CHAIRPERSON BIOGRAPHIES

Sergey BATSANOV is a long-time Russian practitioner and scholar in the field of international security, arms limitation, non-proliferation and counter-terrorism. From 1976 till 1989 he worked on the whole range of arms control, disarmament, non-proliferation and outer space-related issues in the Soviet MFA; in 1989-1993 he was Soviet, then Russian Ambassador to the Conference on Disarmament in Geneva. He participated in numerous sessions of General Assembly and other UN bodies, and in a number of conferences to review the operation of various disarmament treaties (Review Conferences), such as the NPT, BWC, CWC, Sea-Bed Treaty, ENMOD.

He was elected Chairman of the Ad-Hoc Committee on Chemical Weapons in the penultimate year of negotiations on the CWC (1991) and the Chair of the CWC Final Drafting Group during the last year of negotiations in 1992. During 1993 -2004 worked in the Hague in the OPCW Preparatory Commission, and then in the OPCW, as the Director for Special Projects, dealing, among other things, with designing and building this new international organization, strategic planning and analysis, political and financial risk management, internal reorganization, counter-terrorism, universality of the Convention, as well as the issues of compliance and implementation support. In 1997 he temporarily returned to the Russian Government (MFA) to coordinate the work on the ratification of the Chemical Weapons Convention (August-December 1997).

Since 2005 he has been the Director of the Geneva Office of Pugwash Conferences on Science and World Affairs, since 2007- a member of the Pugwash Council (the Governing Body of the Organisation). In Pugwash Ambassador Batsanov is dealing with issues of nuclear disarmament, BMD, CTBT, Iranian nuclear file (track 2 meetings), WMD Free Zone in the Middle East, multilateral disarmament machinery (CD, UNDC, First Committee); he is also a member of the Pugwash Steering Committee on Chemical and Biological Weapons. He is particularly active in Track 2 diplomacy (Israel-Palestine, Iran-US).

Concurrently, S. Batsanov is a Senior Adviser with the United Nations Inter-regional Crime and Justice Research Institute (UNICRI), involved in a range of projects, relating to counter-terrorism, illicit trafficking, CBRN risk mitigation and international crisis management. He is also a member of the International Advisory Board of the Geneva Center for the Democratic Control of Armed Forces (a Geneva-based Inter-governmental Think Tank, dealing primarily with Security Sector Reform and Security Sector Governance). From December 2010 until July 2011 Batsanov served as a member of the OPCW Advisory Panel on Future Priorities.

Peter BLAIN is Director of the Medical Toxicology Centre at the University of Newcastle upon Tyne. He is Professor of Environmental Medicine and a Consultant Physician (acute Medicine). He is also Consultant in Emergency Response Medicine to the Health Protection Agency and Department of Health. Professor Blain is a Fellow of the Royal Colleges of Physicians of London and Edinburgh, the Faculty of Occupational Medicine, the Society of Biology and the British Toxicology Society. Professor Blain was made a Commander of the British Empire (CBE) in 2002 for services to defence medicine.

Professor Blain's research interests are primarily in clinical toxicology and the translation of mechanistic toxicology research to clinical practice. His major research projects are in neurotoxicology, diagnostics biomarkers, CBRN medical countermeasures and emergency response interventions.

He is currently chairman of the Advisory Group on Military Medicine (MOD) and the Expert Group on the Medical Management of Casualties from Terrorism (DH). He is a senior medical advisor to the UK Government on the medical aspects of less-lethal technologies and human incapacitants.

Colin BURROWS is the director and lead consultant of Critical Intervention Consultancy Services and provides operational review, policy support and training to Government departments, policing and other organisations involved with managing conflict and responding to violent situations, he works both within the UK and internationally. Colin retired as the Acting Assistant Chief Constable, in the Police Service of Northern Ireland in 2002 having completed 31 years' service. His career included a four year secondment as Senior Police Advisor to the then Home Office Police Scientific Development Branch advising on operational issues and the use of technology. Throughout much of his police service and subsequently, he has worked closely with the UK's Association of Chief Police Officers (ACPO) in the development of concepts and procedures related to the policing of 'critical incidents'. He was awarded the Queens Police Medal in 1991. In 1992, he gained a Master of Philosophy degree, the title of his thesis was 'The Use of Lethal Force by Police'. Colin has authored numerous papers and articles and is regularly called upon to provide expert review and evidence in judicial proceedings.

Upon retirement from the police service he was as part of his consultancy work, appointed as a 'Specialist Advisor' to the United Kingdom Government's Steering Group on Alternative Approaches to the Management of Conflict and Development of Less-lethal options. This programme was described by a Government Minister as being more detailed and wide-ranging than any other. In addition to running his consultancy service Colin is also chair of the International Law Enforcement Forum on Minimal Force Options.

Michael CROWLEY, Project Coordinator of the Bradford Non-lethal Weapons Research Programme (BNLWRP), has worked for nearly 20 years on arms control, security and human rights issues, including as Executive Director of VERTIC. He has acted as chairperson of the Bio-weapons Prevention Project. Prior to this he worked as Senior Research Associate at the Omega Research Foundation where he explored options for effective restriction of the development and trade in security equipment and technology utilized in torture and ill-treatment.

Crowley has also managed the Arms Trade Treaty project at the Arias Foundation in Costa Rica and worked as Senior Arms Trade Analyst at BASIC. He has also held several research and policy positions with Amnesty International, both in the UK Section and at the International Secretariat. He holds a BSc in Genetics and an MRes, and is currently completing a PhD on the regulation of RCAs and incapacitants, at Bradford University.

Neil DAVISON is Science Adviser in the Arms Unit, Legal Division of the International Committee of the Red Cross (ICRC). His current work focuses on the challenges presented by so called "incapacitating chemical agents", and in monitoring other new and novel weapons, including those promoted as "non-lethal". Prior to joining the ICRC in 2011, Neil

was a senior policy adviser at the Royal Society, the UK's national academy of science. There he was responsible for science and international security policy, working primarily on nuclear, biological, and chemical arms control, non-proliferation and security issues. From 2002 to 2007 Neil was a researcher in the Department of Peace Studies at the University of Bradford in the UK. And in 2000 he completed training as a biological weapons inspector with the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC). Neil holds a PhD in Peace Studies from the University of Bradford and a BSc in Biology from University College London, UK.

Knut DOERMANN has been Head of the Legal Division of the International Committee of the Red Cross (ICRC), since December 2007. He previously served as Deputy Head of the Legal Division between June 2004 and November 2007 and Legal Adviser in the Legal Division between December 1998 and May 2004. He was a member of the ICRC Delegation to the Preparatory Commission for the International Criminal Court.

He holds a Doctor of Laws (Dr. Iur.) from the University of Bochum in Germany (2001). He was Managing Editor of Humanitäres Völkerrecht - Informationsschriften (1991-1997). Prior to joining the ICRC, he was Research Assistant (1988-1993) and Research Associate (1993-1997) at the Institute for International Law of Peace and Armed Conflict, University of Bochum.

Dr. Dörmann is and has been a member of several groups of experts working on the current challenges of international humanitarian law. He has extensively presented and published on international law of peace, international humanitarian law and international criminal law. He received the 2005 Certificate of Merit of the American Society of International Law for his book *Elements of War Crimes under the Rome Statute of the International Criminal Court*, published by Cambridge University Press.

Louise DOSWALD-BECK is a Professor of International Law at the Graduate Institute of International Studies and at the Geneva Academy of International Humanitarian Law and Human Rights. She was formerly Director of its predecessor, the University Center for International Humanitarian Law.

Doswald-Beck began her career as a lecturer at the Universities of Exeter and London. Between 1987 and February 2001, she was a legal adviser at the International Committee of the Red Cross and became Head of the Legal Division in March 1998. During her period at the ICRC, she played a major role in negotiations that led to various international instruments such as: the Statute of the International Criminal Court and its Elements of Crimes, Protocols II (amended) and IV of the Convention on Certain Conventional Weapons, the Ottawa Convention on Anti-Personnel Landmines, Protocol II to the Hague Convention on Cultural Property and the San Remo Manual on armed conflicts at sea. Between March 2001 and August 2003, she was Secretary-General of the International Commission of Jurists and then became a member of this organization. She has written extensively on subjects relating to the use of force, humanitarian law and human rights law, and is the co-author of the ICRC's study on customary international humanitarian law. Her most recent book "Human Rights in Times of Conflict and Terrorism" was published by Oxford University Press in September 2011.

Cordula DROEGE is a legal adviser at the legal division of the ICRC, where her interests focus, among others, on the law governing the conduct of hostilities and the relationship

between human rights and international humanitarian law. In her previous position, she was the legal adviser of the ICRC for Israel and the Occupied Territories. Before joining the ICRC in 2005, Cordula worked in a number of positions in the field of international law and human rights law, including at the International Commission of Jurists in Geneva, the Inter-American Court of Human Rights and the Max Planck Institute for International Law.

Ngoc Phuong HUYNH completed her MA in International Relations at the Graduate Institute of International Studies. She is currently working as an Associate Political Affairs Officer for the Implementation Support Unit (ISU) for the Biological Weapons Convention (BWC) housed in the United Nations Office for Disarmament affairs in Geneva, Switzerland. Her duties include acting as a member of the Secretariat for all meetings of the BWC since the creation of the ISU in 2007, liaising with international organizations, interacting with States Parties to the Convention on implementation, universalization and building confidence in the treaty regime. She is regularly invited as a speaker, lecturer or chair at various conferences, workshops, training programmes and roundtables around the world, including for Interpol, the United Nations Interregional Crime and Justice Research Institute, and the United Nations Security Council Resolution 1540 Committee.

Alexander KELLE is a political scientist by training and a Senior Lecturer in Politics and International Relations at the Department of Politics, Languages and International Studies (PoLIS) at the University of Bath, UK. He received his PhD from J.W. Goethe University in Frankfurt am Main in 1996. Before coming to Bath he held positions at Queen's University Belfast, University of Bradford, Stanford University, Goethe University, Frankfurt and the Peace Research Institute Frankfurt. His research in general addresses international security cooperation and the foreign and security policies of Western liberal democracies.

Chris LAWRENCE. With over 30 years of police related experience Chris' past assignments have included Patrol, Underwater Search and Recovery, Marine Enforcement, Tactical and Rescue Unit, Criminal Investigation, and Training in one of Canada's largest municipal police services. Since 1996, Chris has been an instructor at one of North America's largest police training facilities, where his duties focused on subject control and use of force. Chris was also seconded to a national research center where he was assigned as a Project Manager for research involving Less-Lethal Weapons, In-Custody Death and Personal Protective Equipment. He continues his relationship with the Centre acting as a subject matter expert in police procedures and use of force when required. Chris holds a Master's degree in Leadership and Training specializing in Justice and Public Safety from British Columbia's Royal Roads University, he is a Technical Advisor to Force Science Institute Ltd. and is a member of the Canadian and the International Law Enforcement Forum. He has presented on police use of force and sudden in-custody deaths throughout North America, as well as Australia and England, to police executives, investigators, trainers, and line officers, as well as medical and legal staff and has been permitted to provide expert evidence in several North American jurisdictions. Chris is also the author of many articles related to these subjects.

Stefan MOGL is a member of the Swiss National Authority for the CWC and a member of the OPCW Scientific Advisory Board. He is Head of the Chemistry Department at SPIEZ LABORATORY since 2007. The chemistry department includes an OPCW designated laboratory, a Schedule -1 facility, an office for chemical arms control and industry declarations and specialist groups dealing with detection and decontamination of chemical warfare agents and response to chemical terrorism. Stefan Mogl was OPCW Inspector from

1997-2000 and Head of the OPCW laboratory from 2000-2005. He holds degrees in chemistry (Polytechnik Winterthur, 1990) and industrial hygiene (ETH Zürich, 1997) and an MBA (British Open University, 2003).

Paul RABBAT is a Drug Control Officer with the Narcotics Control and Estimates Section at the International Narcotics Control Board Secretariat, which he joined in 2010. Prior to taking up his current position, he was Associate Terrorism Prevention Expert at the United Nations Office on Drug and Crime's Terrorism Prevention Branch. From 2005-2008, he was also Head of Section for International Criminal at the Max Planck Institute for Foreign and International Law. He holds an LL.B. from the University de Montréal and an LLM. (International Criminal Law) from the University of Sussex and has published in the areas of Human Rights, constitutional law, international criminal law and terrorism.

Julian Perry ROBINSON is a chemist and patent lawyer by training, and is now Professor Emeritus in SPRU – Science & Technology Policy Research, University of Sussex, England. He joined SPRU in 1971 from the Stockholm International Peace Research Institute where he led the SIPRI project on chemical and biological weapons. He has also held research appointments at the Free University of Berlin and the Harvard University Center for International Affairs. He has been active in the Pugwash Conferences on Science and World Affairs since 1968, and has served as advisor or consultant to a variety of national and international organizations, including the World Health Organization, other parts of the United Nations system, the UK National Authority for the Chemical Weapons Convention, and the International Committee of the Red Cross. His several associations with the ICRC began some 40 years ago, initially in work on the 1973 ICRC publication *Weapons that may Cause Unnecessary Suffering or have Indiscriminate Effects: Report on the Work of Experts*.

Latterly he has been working at the UK end of the Harvard Sussex Program (HSP), which is an inter-university collaborative activity that performs research, teaching and publication on chemical/biological-warfare armament and arms limitation. With Matthew Meselson of Harvard University he edited, during 1988-2011, one of the few journals in the field, *The CBW Conventions Bulletin*. His other activities have included executive editorship of *Public Health Response to Biological and Chemical Weapons: WHO Guidance* published in 2004, and leadership of international teams producing risk assessments of radiological, biological and chemical terrorism done during 2002-2007 for different organs of the European Union. He has served on panels of the UK Royal Society and the US National Academies that have addressed aspects of CBW, including incapacitating chemical agents.

Ralf TRAPP is an independent consultant in the area of chemical and biological weapons arms control. A chemist and toxicologist by training, he worked with the GDR Academy of Sciences in the field of chemical toxicology between 1978 and 1990. From 1985 to 1987 he was a researcher at the Stockholm International Peace Research Institute (SIPRI), and from 1991 to 1992 at the Stiftung Wissenschaft und Politik Ebenhausen (Germany). He acted as technical adviser on chemical weapons disarmament to the GDR and subsequently the German delegation to the Geneva Conference on Disarmament. In 1993, he joined the Technical Secretariat of the OPCW where he worked in the areas of industry verification, verification policy and review, international cooperation, government relations and political affairs, and strategic planning. He was a main contributor to the preparation and conduct of both CWC Review Conferences, and also the secretary of the OPCW's Scientific Advisory Board.

After leaving the OPCW in 2006, Trapp has been working as an OPCW consultant, the legal coordinator of the first EU Joint Action in support of the BWC, and has provided consulting services to, amongst others, the European Commission, the Stockholm International Peace Research Institute and the United Nations Counter-terrorism Implementation Task Force. He has been involved in a number of international projects to provide science and technology advice to the CWC as well as the BWC, including studies organised by IUPAC and the Inter-Academy Panel on International Issues. Ralf Trapp is external member of the Accademia delle Scienze dell' Istituto di Bologna, Fellow of the International Union of Pure and Applied Chemistry (IUPAC) and member of the German Chemical Society as well as the American Chemical Society.

Vesselina VANDOVA is Senior Lawyer at INTERIGHTS, the International Centre for the Legal Protection of Human Rights, based in London. She supports victims of extraordinary rendition, disproportionate use of force during security operations, and other violations in the area of security and the rule of law. She litigates cases before regional and international human rights courts and tribunals. She has also trained lawyers from Central and Eastern Europe and the former Soviet Union in international human rights law, and has published on issues relating to extraordinary rendition and legal protection of non-citizens against removal. Prior to joining INTERIGHTS, Vesselina Vandova was a staff attorney for the Bulgarian Lawyers for Human Rights. Vesselina Vandova has an LL.M. degree from New York University School of Law.

ANNEX 3: LIST OF PARTICIPANTS

GOVERNMENT EXPERTS

Katrina McColl	Director, Counter-Proliferation and Arms Control, Department of Defense, Australia
Josy Meyer	Director, CWC Implementation Section, Australian Safeguards and Non-Proliferation Office, Department of Foreign Affairs and Trade, Australia
	* * *
Haitao Wang	Lieutenant Colonel, CWC and BWC Affairs, Foreign Affairs Office, Ministry of Defense, China
Quian Wang	Third Secretary, Ministry of Foreign Affairs, China
	* * *
Jaroslav Straka	Division of Chemical Weapons Prohibition, State Office for Nuclear Safety, Czech Republic
Pavla Vyskocilova	Legal Adviser, Ministry of Defense, Czech Republic
	* * *
Markku Mesilaakso	Head of Division, Finnish Defense Forces Technical Research Centre, Finland
Paula Vanninen	Director, Finnish Institute for Verification of the Chemical Weapons Convention, Finland
	* * *
Augustin Baulig	Scientific Advisor, Defense and National Security General Secretariat, France
Romain Esmenjaud	First Secretary, Permanent Mission of France to the Conference on Disarmament, Geneva, Switzerland
Mathieu Jagour	Desk Officer for Chemical Weapons, Ministry of Foreign Affairs, France
Marin Sirakov	Counsellor, Permanent Mission of France to the Conference on Disarmament, Geneva, Switzerland
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Peter Beerwerth	Head, Biological and Chemical Weapons Division, Department of Disarmament and Arms Control, Federal Foreign Office, Germany
Joachim Hecker	Desk Officer, Biological and Chemical Weapons Division, Department of Disarmament and Arms Control, Federal Foreign Office, Germany
Malcolm Ward	Wing Commander, Arms Control and OSCE, Armed Forces Staff III 5, Federal Ministry of Defence, Germany

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Thomas Mosberg-Stangeby	First Secretary, Permanent Representation of Norway to the Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague, Netherlands

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Afrasiab Afrasiab	Deputy Director of Chemical Conventions and Weapons, Strategic Plans Division, Joint Staff Headquarters, Pakistan
Aszfar Qureshi	Director, National Authority (CWC) and Disarmament, Ministry of Foreign Affairs, Pakistan

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Vladimir Ladanov	First Secretary, Permanent Mission of the Russian Federation to the Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague, Netherlands

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Teddy Ceke	Multilateral Counsellor, South African Embassy in The Hague, Netherlands
Melanie Reddiar	Director, Scientific Support, Non Proliferation Secretariat, South African Council for the Non-Proliferation of Weapons of Mass Destruction, South Africa
Bennie Steyn	Chemical and Biological Defence Advisor to the Surgeon General, South African National Defence Force, South Africa

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Seraina Caduff	Senior Adviser, State Secretariat for Economic Affairs, Switzerland
Jonathan Cuénoud	Legal Officer, Directorate of International Law, Federal Department of Foreign Affairs, Switzerland
Stefan Mogl	Head of Chemistry, Federal Office of Civil Protection, Spiez Laboratory, Switzerland
Joachim Tomaschett	Desk Officer, CWC Affairs, Federal Department of Foreign Affairs, Switzerland

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Clive Rowland	Senior Policy Adviser, Arms Control and Counter Proliferation Policy, Ministry of Defense, United Kingdom
Graham Smith	Capability Adviser: Public Order, Home Office, United Kingdom
John Walker	Senior Principal Research Officer, Arms Control and Disarmament Research Unit, Foreign and Commonwealth Office, United Kingdom

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Joe Corriveau	Director, Research and Technology Directorate, Edgewood Chemical Biological Center, US Army, United States
Robert Mikulak	Ambassador, Permanent Representative of the United States to the Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague, Netherlands

INDIVIDUAL EXPERTS

Sergey Batsanov	Ambassador, Director and Member of Council, Pugwash Conferences on Science and World Affairs, Geneva Office, Switzerland
Peter Blain	Professor, Medical Toxicology Centre, University of Newcastle, United Kingdom
Colin Burrows	Director, Critical Intervention Consultancy Services, United Kingdom
Michael Crowley	Project Coordinator, Bradford Non-Lethal Weapons Research Project, Department of Peace Studies, University of Bradford, United Kingdom
Louise Doswald-Beck	Professor of International Law, Geneva Academy of International Humanitarian Law and Human Rights, Switzerland
Ngoc Phuong Huynh	Associate Political Affairs Officer, United Nations Office for Disarmament Affairs, Geneva, Switzerland
Alexander Kelle	Senior Lecturer in Politics and International Relations, University of Bath, United Kingdom
Christopher Kennedy	Senior Chemical Demilitarisation Officer, Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague, Netherlands
Chris Lawrence	Canadian Police Research Centre, Ottawa, Canada
Dinah PoKempner	General Counsel, Human Rights Watch, New York, United States
Paul Rabbat	Drug Control Officer, International Narcotics Control Board Secretariat, Division for Treaty Affairs, United Nations Office on Drugs and Crime, Vienna, Austria
Julian Perry Robinson	Professor, Science Policy Research Unit (SPRU), University of Sussex, United Kingdom
Valeria Santori	Senior Policy Officer, Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague, Netherlands
Ralph Trapp	International Disarmament Consultant, France

Vesselina Vandova	Senior Lawyer, Security & the Rule of Law, INTERIGHTS, United Kingdom

ICRC

Robin Coupland	Medical Adviser, Assistance Division, Geneva
Neil Davison	Science Adviser, Arms Unit, Legal Division, Geneva
Knut Doermann	Head, Legal Division, Geneva
Cordula Droege	Legal Adviser, Thematic Unit, Legal Division, Geneva
Ghnima Kemmar	Assistant, Arms Unit, Legal Division, Geneva
Stéphanie Nussbaumer	Advisor for Police and Gendarmerie, Unit for Relations with Arms Carriers, Integration and Promotion of the Law Division, Geneva
José Serralvo Perez	Legal Attaché, Legal Division, Geneva
Helena Sunnergardh	Legal Attaché, Legal Division, Geneva

MISSION

The International Committee of the Red Cross (ICRC) is an impartial, neutral and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. The ICRC also endeavours to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. Established in 1863, the ICRC is at the origin of the Geneva Conventions and the International Red Cross and Red Crescent Movement. It directs and coordinates the international activities conducted by the Movement in armed conflicts and other situations of violence.

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