



Submission by the Omega Research Foundation on the impact on human rights of the use of less lethal weapons and ammunition technology in the context of assemblies, including peaceful protests.

Introduction: This Omega Research Foundation (Omega) paper is a contribution to the preparation by the Office of the High Commissioner for Human Rights (OHCHR) of a Report on the promotion and protection of human rights in the context of peaceful protests Pursuant to HRC38/11, paragraph 21. Whilst recognising the importance of examining the potential human rights impacts of new communications and surveillance technologies, our contribution will focus upon developments in the contemporary less lethal weapons market , the nature of State use and misuse of such weapons, particularly in the context of assemblies, including peaceful protests, and on how States should respond to these developments. Drawn from Omega’s ongoing investigations, this paper incorporates information pertaining to specific less lethal weapons and the related activities of companies manufacturing and/or promoting such weapons. Unless explicitly stated in the text no inference should be drawn that the manufacturers/promoters of the products discussed are linked directly to any specific instances of human rights violations detailed in this submission.

The UN Special Rapporteur on the rights to freedom of peaceful assembly and of association and the Special Rapporteur on extrajudicial, summary or arbitrary executions have stated that the proper management of assemblies requires the protection of a broad range of rights. These include the rights to: “freedom of peaceful assembly, expression, association and belief; participation in the conduct of public affairs; bodily integrity, which includes the rights to security, to be free from cruel, inhuman or degrading treatment or punishment, and to life; dignity; privacy; and an effective remedy for all human rights violations”.¹ Even if participants in an assembly forfeit their right to peaceful assembly by using violence, they still retain all of their other rights, subject to the normal limitations.²

The link between the excessive use of force and torture and other ill-treatment has been well-established. The European Court of Human Rights has consistently held that “recourse to physical

¹ UN Special Rapporteur on the rights to freedom of peaceful assembly and of association and UN Special Rapporteur on extrajudicial, summary or arbitrary executions, Joint Report submitted to the Human Rights Council on the management of public assemblies (UN Special Rapporteurs, Joint Report), 04 February 2016, UN Doc. A/HRC/31/66, para. 8.

² Ibid, para. 9.

force which has not been made strictly necessary by a person's own conduct is in principle an infringement of the [the prohibition of torture and other ill-treatment]".³ As such, physical force should be used on a strictly exceptional basis.⁴ Even where it is deemed necessary to use force in the context of an assembly, this must respect the principles of necessity, proportionality, legality and precaution. Furthermore, as far as is possible, only those engaged in violence or whose conduct otherwise necessitates the use of force should be targeted. Any security official who employs force which indiscriminately affects people not engaged in violence, others exercising their right to peaceful assembly, and bystanders, risks being responsible for conducting human rights violations. For this reason, and also due to the risk of escalating tensions between participants and law enforcement, dispersal by force must be resorted to only when strictly unavoidable,⁵ using the minimum amount of force necessary to reduce the levels of violence, for the shortest period of time required, and where the harm caused is not greater than the harm prevented.

The use of less lethal weapons in public order policing is evolving. Images showing police in the 1960s using attack dogs and police batons against civil rights protesters in Birmingham, Alabama are symbolic of the injustice of those times, and the British security forces' use of dangerous "baton rounds" in Northern Ireland in the 70s and 80s continues to have social and legal repercussions today. However, the policing of public gatherings has changed almost beyond recognition since the Alabama protests, with law enforcement officials in many countries now equipped with a much wider array of weapons and equipment. Even today, less lethal weapons continue to evolve, as do the manner in which they are used.

The UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (UN Basic Principles), adopted in 1990, called on governments and 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", including "the development of non-lethal incapacitating weapons for use in appropriate situations".⁶ Crucially, this instrument also stated that development and deployment "should be carefully evaluated in order

³ Case of *Izci v. Turkey*, judgment of 23 July 2013, para 55. This case concerned the police use of a chemical irritant spray and striking weapons against the participants in a public assembly marking Women's Day celebrations in Beyazit Square in Istanbul on 6 March 2005.

⁴ Case of *Monetero Aranguren (Detention Center of Catia) v. Venezuela*, Judgment of 5 July 2006, para. 67.

⁵ *Ibid*, para. 61.

⁶ United Nations Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (UN BPUFF), 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, Principle 2.

to minimize the risk of endangering uninvolved persons, and the use of such weapons should be carefully controlled".⁷

The continued use by law enforcement officials of inappropriate or dangerous weapons and equipment, particularly those that result in the infliction of arbitrary, excessive, unwarranted or indiscriminate force leading to injuries and deaths, is traumatic on the persons and communities involved. Many of these cases occur repeatedly in marginalised communities over months or even years and have a severe negative human rights impact. Even if such modes of use of force are short term or for a single event it may have a 'chilling effect' - dissuading people from exercising their right to freedom of peaceful assembly again.

How large is the market for less lethal weapons?

The growth of less lethal weapons manufacture and trade has been notable, and trade continues to increase. For example, in 1978, the military and police industry standard reference publication *Jane's*, identified only 13 companies in five countries manufacturing weapons marketed for crowd control.⁸ By 1999, *Jane's* listed 50 companies in 17 countries manufacturing "Less Lethal Weapons" and "Riot Control Equipment".⁹ In *Jane's* publications from 2014-15, this number had risen to 89 manufacturers in 28 countries.¹⁰ These numbers provide just a snapshot of the total size of the less lethal weapons industry, but they provide a comparative illustration of its rate of growth. To further illustrate the current size of this industry, the Omega Research Foundation's company databases contain 34 active companies that manufacture and/or supply less lethal weapons and equipment in Brazil and South Africa alone. Just two of these companies were included in the most recent *Jane's* publication mentioned above. Omega's databases contain details of over 200 companies in over 60 countries currently manufacturing less lethal weapons.¹¹ There are no reliable statistics for the size of the trade in less lethal weapons and equipment, partly because no States adequately regulate the trade, or collect meaningful data on it. Commercial market research organisations' reports of the current and projected scale in the global trade in less lethal weapons predict it growing. For example, according to

⁷ Ibid, Principle 3.

⁸ Archer, D.H.R. (Ed) (1978) 'Jane's Infantry Weapons 1978'. Jane's Publication Group, UK.

⁹ Heyman, C. (Ed) (1998), 'Jane's Police and Security Equipment 1998-99. Jane's Information Group Limited, UK.

¹⁰ IHS Jane's Police & Homeland Security Equipment, 2014-2015, and IHS Jane's Weapons Ammunition, 2014-2015, IHS Global Limited.

¹¹ Omega Research Foundation proprietary company database and information system. For the sake of consistency with the Jane's figures, this search did not include mechanical restraints or protective body armour. These countries were chosen as Omega has recently conducted extensive research on both.

Allied Market Research, “the non-lethal weapons market is expected to garner \$9,656 million by 2022, registering a compound growth rate of 8% during the forecast period 2016-2022.¹² Whilst such commercial predictions should be treated with caution, it is clear that the trade in less lethal weapons is global and undergoing change with new producers and products coming onto the market all the time.

Technical and Manufacturing Standards

Whilst the UN Basic Principles outline the need for less lethal weapons and a broad range of means of projecting force, they do not define what weapons or equipment could be considered to be less lethal, nor what level of force inflicted on a person is appropriate. There is a need for further definition in what constitutes a less lethal weapon or equipment for all types of law enforcement officials, and across all types of use including military, security, police and places of detention. Given that civilian and private security personnel often have access to less lethal weapons, they should be included in any such analysis.

Currently, there is no international agreement on the technical or performance standards that less lethal weapons and equipment should achieve, or be measured against, in order to minimise risk or unintended consequences. Some national technical standards exist, for some types of law enforcement equipment, for example the UK has a standard for chemical irritant sprays, and the US has a National Institute of Justice (NIJ) standard for handcuffs – each of these is technical, detailed and exhaustive. Although the UK, Canada, and USA have developed a joint technical standard for the testing of projectile electric shock weapons, this is not for the acceptable performance parameters of the weapon itself.

Standards need to be developed for each method of projecting force – from batons to tear gas launchers, grenades to sprays. The purpose should be to understand the human rights impacts of each weapon or equipment and develop technical parameters for acceptable performance of each technology. Taking human rights standards as a starting point, an analysis of the technical and physical parameters of each weapon type would elaborate how force is delivered, and delineate acceptable/unacceptable limits. For instance, is it acceptable to use electricity for pain compliance?, if so what level of electric shock, applied for how long and what is the minimum effective dose of electric shock? Alternatively, what concentration of chemical irritant allows for the minimum effective dose to be delivered, and in what form – liquid, spray, smoke etc? Such a human rights focussed technical review would necessitate subsequent changes in equipment design, as most law

¹² <https://www.alliedmarketresearch.com/non-lethal-weapons-market> (accessed 18/10/2019)

enforcement equipment does not currently have cut-off mechanisms to stop maximum force being delivered. Thus, developing cut-off mechanisms that can facilitate delivery of the minimum effective force would improve less lethal weapons and equipment. For example, chemical irritant sprayers that allow the trigger to be depressed to dispense large quantities of irritant in one go, versus others with a trigger and automatic cut off mechanism, that would need retriggering to dispense another dose, thereby reducing the likelihood of their misuse.

Internationally agreed technical standards could also ensure that oversight and accountability mechanisms are built into the weapons/equipment at the design stage, for example using digital monitoring or data logging technology. One example is the Taser electric shock projectile weapon, which has a data logging facility, supplying a range of use of force data including how long the electric shock lasted, repeated application of electric shocks etc. (However it should be noted that despite such inbuilt monitoring mechanisms, the use of this particular weapon by law enforcement officials has resulted in numerous cases of alleged ill-treatment, and also evidence of serious injury and death resulting from its use).

Recommendation: OHCHR should work with interested parties to explore the practical steps necessary to formulate international standards for the design, technical characteristics, and performance parameters of less lethal weapons and equipment, consistent with international human rights and policing standards.

Selection & testing

With regards to the selection and testing of law enforcement equipment, States have obligations under international human rights standards, notably the UN Basic Principles:

“2. 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.”

“3. 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.”

The UNODC/OHCHR 2017 Resource Book on the Use of Force and Firearms in Law Enforcement already contains valuable guidance in this area, as does the OHCHR 2019 United Nations Human Rights Guidance on Less-Lethal Weapons in Law Enforcement.

A crucial step is for States to introduce a legally constituted and independent process of selection, testing, procurement, issuance and use – so that only that equipment which is both appropriate to achieve a legitimate policing objective, and is technically capable of functioning whilst minimising risks to the target or bystanders is used. Much of the equipment currently used around the world is inherently inappropriate, including equipment that launches multiple inaccurate projectiles, impacts with excessive force, or disperses excessive quantities of toxic chemicals. For instance, a 2001 report, *The Attribute-Based Evaluation (ABE) of Less-Than-Lethal, Extended-Range, Impact Munitions*, found that commercially available impact munitions were inaccurate to the point that they could not reliably hit a desired target at range, and that they impacted with variable force.¹³ Many of the impact munitions examined in 2001 are still widely manufactured and currently used by law enforcement in policing assemblies.

Many States have some process for testing equipment, but this can be little more than a basic acceptance test that checks the manufacturers' specification. An example of good practice is the UK system, which over time has been refined in light of previous poor practices, particularly in Northern Ireland. It consists of a statement of user needs, exploring gaps in police capabilities. This is then developed into an Operational Requirement taking into account legal and human rights requirements, which informs the parameters that equipment must fulfil. A scoping of commercially available options or the need for a new product development is carried out. This then leads to a rigorous testing process, including full technical and subsequent medical assessment, alongside development of policies and guidelines for use and training needs. Following this, a decision to select and trial equipment can be made. Results of the trial may lead to recommendation that the equipment is issued to all forces, subject to conditions or caveats. A use of force monitoring process is also now included post-deployment, which could highlight unforeseen consequences.

An examination of the UK process, including an analysis of some of its shortcomings, is included in the final report of the Anthony Grainger Inquiry¹⁴ (which was instituted following the death of an unarmed man). The report examines the UK system of selecting, testing and deploying less lethal weapons in some detail. Although it does not directly address the policing of assemblies, the report identified

¹³ Kenny, J., Heal, C., and Grossman, M. (2001) *The Attribute-Based Evaluation (ABE) of Less-Than-Lethal, Extended-Range, Impact Munitions*. State College, PA: Pennsylvania State University

¹⁴ The Anthony Grainger Inquiry, Report into the Death of Anthony Grainger, 11 July 2019 <https://www.graingerinquiry.org.uk/> (accessed 14/10/2019)

several pertinent failings of the present system including political interference in decision making and, furthermore, that the process of testing and selecting equipment prior to deployment is not legally binding on chief police officers. Despite this, the UK has gradually refined and improved the selection and testing process over the past 10 or so years and has collaborated with a number of other States including Canada, the Netherlands, and the USA, on testing and selection of weapons and equipment.

Mechanisms and forums to facilitate information exchange and cooperation between States are important in helping to enable the development and promotion of common international standards and best practice. At present such opportunities are limited and informal, though two important existing forums are:

- The European Working Group on Non-Lethal Weapons (<https://www.non-lethal-weapons.org/>) which comprises some 14 European states' military and police researchers on weapons and capabilities. It holds a bi-annual symposium which provides an important forum for police and military officials, academics and human rights and humanitarian law experts to collectively review less lethal weapons development and address issues surrounding its employment in practice.
- The International Law Enforcement Forum (ILEF) (<https://sites.google.com/view/ileforum>) is managed by serving and ex-law enforcement personnel, and seeks to promote an international approach to the development, testing and monitoring of less lethal weapons and minimal force options. Focused on the law enforcement community, it organises a forum of police practitioners.

Recommendation: The OHCHR should work with interested parties, including international bodies, to explore the practical steps necessary to formulate common international standards and best practices for testing and assessment of less lethal weapons and equipment, ensuring that no equipment is used unless it has been strictly assessed. Only equipment that fulfils a legitimate law enforcement function, and can be used whilst safeguarding human rights protections should be permitted. To ensure this is the case a rigorous, objective and systematic process for selection must incorporate a technical assessment of the equipment, be grounded in human rights law and standards, and be independent of corporate, policing or political influence or interference.

Recommendation: The OHCHR should also work to establish and promote reporting standards for the use of force, which require sufficient detail to establish what force and equipment was used, in what circumstances, and what the outcomes were, in all circumstances of use. The OHCHR should encourage States to make such use of force data publicly available in a timely manner to facilitate

oversight and accountability. Data should be of sufficient accuracy, detail and quality to allow both qualitative and quantitative analysis. This should allow unforeseen issues and unexpected outcomes to be identified; feedback into the testing, selection, and training processes as well as policy and guidance to be facilitated, as well as accountability steps to be established wherein penalties for misuse of force or equipment should be effective and dissuasive.

Training and technical assistance

Law enforcement officials should be trained in techniques of de-escalation and conflict resolution as a first requirement in order to avoid any use of force, and only then in any techniques to deploy force. They should be trained on the lawful use of force, using international human rights law, policing and criminal justice standards. Training should be independent of any equipment manufacturer, and be based on human rights principles. Training should emphasise using force only when it fulfils the criteria of legality, necessity, proportionality, and accountability. Training should reiterate that force should only be used as a last resort, only using the minimum amount force to achieve a legitimate objective and then ceasing any use. Officials should be trained to think of less lethal weapons in the same way as lethal weapons, with acknowledgement that they can cause death and serious injury.

Law enforcement officials should only use a weapon or equipment if they have been trained on it, and achieved the required level of competency – assessed by a pass/fail test. Retraining and requalification should occur at a minimum annually. If there is a case of serious injury or death resulting from the use of a weapon/equipment the official should temporarily have permission for use withdrawn until an enquiry is completed.

Recommendation: The OHCHR should work with relevant parties to establish standards and guidelines for the training of law enforcement personnel in the use of less lethal weapons and equipment.

Trade

One important and often neglected component which can aid in addressing law enforcement use and misuse of new and evolving less lethal weapons, is analysis of the means by which States procure such technologies, particularly the role of international trade in such acquisition. Unfortunately, at present, only a minority of States regulate at least a part of the trade in less lethal weapons - and an even smaller number provide any public information on the licensed trade of such goods. Consequently there are no accurate or comprehensive publicly available, independently verifiable, figures on the

number of companies involved in the manufacture, promotion and supply of such goods, nor on the number of State-sanctioned transfers conducted, the volume and nature of goods transferred, nor any details of the recipients.

From Omega's primary research into this trade, it is clear that it includes certain weapons and equipment which, though marketed as less lethal and promoted to the law enforcement community, are inherently abusive or dangerous. This category encompasses a narrow range of goods currently manufactured and/or promoted by a limited number of companies, but operating in all regions of the world. The trade in less lethal law enforcement weapons and equipment which can have a legitimate function, but which can and are readily misused, encompasses a far broader range of goods, many of which are produced and traded on a significant scale by a large number of companies throughout the world.

It should be underlined that this trade is international in nature with many companies promoting and apparently supplying their products to law enforcement bodies within their own countries, to other States in their regions and to customers worldwide. Whilst global marketing is of course conducted via the internet, there are numerous specialised arms and security equipment trade fairs and marketing events regularly taking place in all regions, sanctioned and/or facilitated by the host States.

It is necessary to control and report on this trade to ensure that equipment is not transferred to those law enforcement agencies who will employ it to conduct or facilitate human rights violations, including in the policing of assemblies. States have obligations under international human rights law and standards to do this, and consequently all States should introduce effective national regulatory systems which:

- **Prohibit** the trade in law enforcement equipment that has no practical use other than for the purpose of torture and other cruel, inhuman or degrading treatment or punishment; or that poses an undue risk of serious injury or loss of life.
- **Strictly control** the trade in less lethal weapons and equipment that can have legitimate uses, but which can be readily misused for torture, ill-treatment or other serious human rights violations. The export, import or other transfer of such weapons should require explicit State authorisation, on a case by case basis, following a risk assessment procedure to ensure the goods are not sent to end users who will misuse them. All transfer applications and subsequent State authorisations or denials should be publicly reported.

In addition to controls on the trade in equipment, the trade and transfer of potentially abusive training, as well as technical assistance and expertise which could facilitate human rights abuses,

should be controlled. While professional training of police in the appropriate use of less lethal weapons and equipment can reinforce and operationalise human rights standards and good practice, the transfer of abusive or dangerous methods and tactics, or training with inappropriate weapons, can instead lead to abusive practices being entrenched. States should control the supply of all technical assistance including instruction, advice, training and the transmission of working knowledge or skills, particularly any that could aid the commission of torture and other ill-treatment. Such controls should ensure that the supply of technical assistance related to goods or working knowledge or skills which have no practical use other than for torture or other ill-treatment is prohibited. Prior state authorisation should be required for any provision of training or other technical assistance relating to goods or techniques and tactics have a legitimate law enforcement use but which could be abused for human rights violations. All overseas training offered by state or private entities should undergo an export licensing and risk assessment check.

Recommendation: The OHCHR should encourage all States to introduce national measures to regulate the transfer of less lethal weapons and associated technical assistance and training, such measures should prohibit the trade in inherently abusive less lethal law enforcement weapons and equipment; and strictly regulate the trade in less lethal law enforcement equipment and associated technical assistance and training that can be readily misused for torture, ill-treatment and other serious human rights violations.

Recommendation: The OHCHR should also encourage all States to engage with international initiatives to regulate the trade in less lethal weapons and other relevant goods, for instance, by joining the Alliance for Torture Free Trade and supporting the ongoing UN process to examine the feasibility of developing common international standards regarding the trade in goods used for torture, other ill-treatment and capital punishment.

Types of less lethal weapons

In the following section, this submission outlines some of the less lethal means of force that are most commonly used in the policing of public gatherings, highlighting recent developments in both the technologies themselves and how they are used. This section is not exhaustive, but presents the types of concerns that the human rights community needs to examine further. Developments in new technologies of projecting force may have an important role to play in safeguarding human rights, but only when combined with robust selection and testing standards, rigorous training, policies and guidelines and effective oversight and accountability mechanisms.

Kinetic impact projectiles



12 gauge (shotgun) kinetic impact projectiles, ©Robin Ballantyne, Omega Research Foundation.

Kinetic impact projectiles are intended to cause blunt trauma rather than penetration; their desired effect is to elicit compliance through pain. While they are often called “rubber bullets” or “plastic bullets”, projectiles can also be made of wood or other materials.

Kinetic impact projectiles can cause serious injuries including lacerations, broken bones, concussion and other head injuries, and internal organ damage. When fired from close range or at sensitive parts of the body, the risk of serious injury or death is significantly increased. When penetration occurs there are further risks, including serious infections and vascular injuries which can lead to amputation or death. While the risk of penetrative injuries will vary depending on the characteristics of the projectile(s), range is an important factor, with one study finding “At a range of less than 20m there is almost certainly going to be penetration”¹⁵.

On 17 March 2017, a Military Police officer in the Brazilian State of Pernambuco shot Edvaldo da Silva Alves in the thigh with a kinetic impact projectile from a distance of less than five metres during a peaceful protest against high levels of violence and insecurity. Although the projectile was surgically removed from da Silva Alves’ body, he later died of a general infection caused by his injuries.¹⁶

¹⁵ Dhar, S.A. et al., “Pattern of rubber bullet injuries in the lower limbs: A report from Kashmir”, *Chinese Journal of Traumatology* 19 (2016) 129-133, 130.

¹⁶ “Polícia conclui que Caso Itambé foi homicídio”, 2 June 2017, *Folha PE*, <https://www.folhape.com.br/noticias/noticias/investigacao/2017/06/02/NWS,29761,70,622,NOTICIAS,2190->

In some countries, rubber coated steel bullets, rubber-metal composite projectiles, or metal pellets (typically shotgun fired and commonly referred to as “birdshot” or “buckshot”) are used. Given the high risk of serious injury or death their use entails, these projectiles should be considered a form of lethal force and their use should be prohibited.

Ammunition containing small pellets poses a significant risk of severe eye injuries and blinding. In 2017 Amnesty International India reported that continued use of shotgun-fired pellets by Indian security force in Kashmir against protestors has resulted in the blinding of hundreds and the deaths of at least 14 people since July 2016¹⁷. In 2018, the BBC reported that the Pellet Victims Welfare Trust (PVWT), an informal group of pellet victims, had some 1,233 victims registered with it, most of them blinded in at least one eye by pellets¹⁸. To date, pellet guns continue to be used by the Indian security forces.

Recent developments: Attempts have been made by manufacturers to make kinetic impact projectiles less likely to cause serious or life-threatening injury, either through excessive impact energy or penetration. For instance, foam tipped projectiles, frangible or collapsible nosed projectiles are designed to lessen peak impact energy on impact over a wider area. However, some models are not aerodynamically stable and tumble in flight, resulting in the hard base of the projectile striking the person.

There have been changes to the calibre of projectiles. Where older models were based on 1.5” or 37/38mm weapons, there has been a move to 40mm calibre, which now includes some military style launched grenades. Launchers for such projectiles are increasingly multi-barrelled, allowing for higher rates of fire, or are multi-barrel vehicle-mounted with very high/rapid rates of fire. Technology for determining the range of target has recently been built-in to some weapons in an attempt to control the impact energy and lessen the risk of injury. For example, the USA company Eclipse Defense Technologies offers a credible variable velocity compressed air launcher in 37, 40 or 60mm calibre. No independent testing of this weapon is known, but it presents one possible solution to the risk problems of projectiles impacting with excessive force – although it may not overcome the issue of inaccuracy at longer ranges.

The OSCE/ODIHR Human Rights Handbook on Policing Assemblies contains useful guidance on the use of kinetic impact projectiles.¹⁹ It states that they are “very high on the use of force continuum and

[POLICIA-CONCLUI-QUE-CASO-ITAMBE-FOI-HOMICIDIO.aspx](#) (accessed 10 October 2019). Further information on file at Omega.

¹⁷ <https://amnesty.org.in/losing-sight-kashmir-impact-pellet-firing-shotguns/> 18th September 2017.

¹⁸ <https://www.bbc.co.uk/news/world-asia-india-46368231>

¹⁹ OSCE-ODIHR, *Human Rights Handbook on Policing Assemblies*, 2016, pp. 80-81.

next on the scale to the use of firearms”, and that “impact weapons should never to be shot indiscriminately into a crowd”.

Recommendation: The use of kinetic impact projectiles should be strictly limited to situations of violent disorder posing a risk of harm to persons, where the projectiles are used in order to contain and stop the violence and only when less extreme means are insufficient to achieve this objective.

Recommendation: Only impact projectiles of sufficient accuracy to consistently hit the required target at the required range should be used. Impact within a 10cm diameter at the required range is an acceptable measure. The point of aim should be the point of impact with a flat trajectory.

Recommendation: Projectiles must be carefully targeted and aimed only at persons directly involved in such violence and must never be aimed at the head, upper body or groin areas. They should never be intentionally rebounded off the ground before striking the target. Such ‘skip firing’ should be expressly prohibited.

Recommendation: All multiple projectiles are inaccurate. They cannot be targeted only to an individual engaged in violence and can cause unwarranted injury. They should not be employed for crowd control purposes. Metal pellets (including “birdshot” or “buckshot”) should be prohibited. Wooden projectiles should be prohibited. Any projectile that impacts with excessive energy or risks causing unwarranted injury, including rubber coated metal bullets, or rubber metal composite bullets should be prohibited.

Recommendation: Where possible, clear warnings should be given before firing. Medical care must be promptly made available to anyone injured by such projectiles.

Stun grenades



Left: 40mm cartridge launched stun projectile; Right: Hand-thrown stun grenades ©Robin Ballantyne, Omega Research Foundation.

Stun grenades, also known as flashbangs and distraction or disorientation devices are explosive devices that can be either hand-thrown or weapon-launched. Upon detonation, they emit extremely loud noise, intended to temporarily disorientate and unbalance those in the immediate vicinity. They also emit a bright flash of light intended to induce 'flash blindness' for a period of several seconds. Some stun grenades emit multiple/rapid loud bangs and/or flashes and some also dispense chemical irritants, inert smoke or multiple rubber balls/projectiles.

Stun grenades were first produced in the 1960s, but their use has shifted greatly over time. First used as training aids by the British Special Air Service, they were later adopted for room clearance or hostage situations, first by military special forces and then by Special Weapons and Tactics (SWAT) teams. New practices in their use mean that law enforcement agencies in many countries now also use stun grenades for the dispersal of public gatherings.

Stun grenades are indiscriminate in nature. The closer a person is to the explosion, the higher the risk of serious injury or death. The concussive blast of the detonation can cause burns, start fires (particularly when used in enclosed spaces), cause hearing damage, eye injuries, and psychiatric

trauma.²⁰ There is a further risk of serious injury or death when stun grenades propel shrapnel and fragments with great energy.

In October 2014, Rémi Fraisse died from injuries caused by a stun grenade explosion during a protest against the construction of a dam. The stun grenade reportedly exploded in close proximity to Fraisse's back, severing the top of his spinal cord and killing him instantly. In response, the French Government announced the suspension of the use of the grenade in question for law enforcement purposes. French law enforcement continues to use other stun grenades. The Council of Europe Commissioner for Human Rights' "Memorandum on maintaining public order and freedom of assembly in the context of the 'yellow vest' movement in France", states that 4,942 hand-held sting grenades (hand-thrown stun grenade also containing kinetic impact projectiles) had been used against yellow vest protesters up to 4 February 2019.²¹ Although the Commissioner noted the lack of clear data on injuries,²² detailed reports allege that stun grenades have caused serious injuries to the upper and lower limbs, particularly the feet and hands, as well as to the head and torso.²³ These include five instances of participants' hands being blown off.

When used to disperse a public gathering, it is frequently the case that multiple stun grenades are used in a short space of time, sometimes in conjunction with other means of force such as chemical irritants. This is intended to sow panic among participants, which can lead to secondary injuries caused by crushes or falls. The use of indiscriminate force of this nature can also be traumatic and may have a 'chilling effect' - dissuading people from exercising their right to freedom of peaceful assembly again.

Human rights bodies have given relatively little attention to the use of stun grenades in the context of public gatherings compared to other less lethal technologies. This is presumably due to the rapid increase in their use having taken place relatively recently.

Recent developments: There has been a recognition by some law enforcement personnel and manufacturers that explosive stun grenades are unsuitable. Consequently, new types that use small quantities of pyrotechnic substances to create a loud bang and flash without the risk of shrapnel or

²⁰ See Physicians for Human Rights and INCLO, *Lethal in Disguise: The health consequences of crowd-control weapons*, 2016, pp. 66-68.

²¹ Council of Europe Commissioner for Human Rights, Memorandum on maintaining public order and freedom of assembly in the context of the "yellow vest" movement in France, 26 February 2019, <https://rm.coe.int/commdh-2019-8-memorandum-france-en/1680932f57> (accessed 11 October 2019), para. 16.

²² Ibid, para. 17.

²³ Dufresne, D. "Novembre 2018 – Juin 2019 : Une répression française", <https://alloplacebeauvau.mediapart.fr/> (accessed 11 October 2019).

high heat generation have been developed, including some that are reloadable using detonators or that have very low net explosive weight and potentially lower the risk of injury.²⁴

Recommendation: Explosive stun grenades should never be used for crowd dispersal.

Chemical irritants



Above left: Chemical irritant grenades, Above Middle: Hand-held irritant sprays, Left: Cartridge launched CS irritant projectiles. ©Robin Ballantyne, Omega Research Foundation.

Chemical irritants, also referred to as ‘riot control agents’ (RCAs) are a range of substances designed to deter or temporarily disable by producing sensory irritation and pain in the eyes and upper respiratory tract. The most commonly used chemicals are CN or CS (often called tear gas) and OC or PAVA (often called pepper spray). These chemicals can be delivered in a variety of ways, including via hand-held aerosol sprays, larger ‘back-pack’ style sprays, hand thrown grenades, water cannon, weapon-launched projectiles and grenades, and fixed position dispensers which deliver irritants into a specific area. More recently, unmanned ground vehicles and unmanned aerial vehicles (drones) capable of carrying RCA-spraying devices or RCA projectile launchers have also been used to disperse

²⁴ See for example Thomas Lowe Defence UK / ALS Less Lethal <http://www.lesslethal.com/tld> or Typhon <https://typhondistracton.com/>

irritants²⁵. One of the most widely used less lethal weapons is the cartridge launched chemical irritant projectile.

Exposure to chemical irritants can result in profuse tearing of the eyes, coughing, chest tightness, difficulty breathing, vomiting, chemical burns, blistering of the skin, and in extreme cases death either through asphyxiation or chemical poisoning. The European Court of Human Rights has stated that strong doses of pepper spray “may cause necrosis of tissue in the respiratory or digestive tract, pulmonary oedema or internal haemorrhaging”²⁶.

The risks associated with the use of chemical irritants vary depending on a range of factors including the type of chemical agent and means of delivery used, the location and environmental conditions, the concentration and quantity of irritant used, and the age and physical condition of those exposed.

The use of chemical irritants in confined spaces or in situations where it is difficult for crowds to disperse, such as sports stadiums, for example, not only increases the risk of overexposure but can also create panic leading to secondary crush injuries. The risks of this type of misuse were recently highlighted when several people in Hong Kong required medical attention after police deployed tear gas inside the Kwai Fong MTR station²⁷.

The mechanism used to disperse chemical agents can also increase the risk of death or serious injury. Wide area dispersal methods such as water cannons and certain multiple projectiles, for example, are inherently indiscriminate, and therefore carry the risk of affecting innocent bystanders or groups which are particularly at risk from the effects of chemical irritants such as elderly people, children, pregnant women or people with respiratory problems²⁸. Meanwhile, launched projectiles containing chemical irritants carry the added risk of causing penetration wounds, concussion, other head injuries,

²⁵ Crowley, M. Statement delivered on behalf of the Omega Research Foundation and Bradford University at the 4th Review Conference of the Chemical Weapons Convention, November 2018 <https://omegaresearchfoundation.org/sites/default/files/uploads/Publications/CWCC%20RC4%20Plenary%20Statement%20Crowley.pdf> ; Crowley, M. Tear gassing by remoted control, Omega Research Foundation, Bradford University and the Remote Control Project, December 2015, <https://omegaresearchfoundation.org/publications/tear-gassing-remote-control-december-2015>

²⁶ Case of Oya Ataman v. Turkey, judgment of 5 December 2006, paras. 17-18.

²⁷ South China Morning Post, ‘Tear gas fired in Kwai Fong station: Hong Kong police told by MTR Corporation to think of public safety after unprecedented indoor deployment during protest’, 12 August 2019, <https://www.scmp.com/news/hong-kong/politics/article/3022367/tear-gas-fired-kwai-fong-station-hong-kong-police-told-mtr> (accessed 14/10/2019).

²⁸ According to the American Academy of Paediatrics, “Children are uniquely vulnerable to physiological effects of chemical agents. A child’s smaller size, more frequent number of breaths per minute and limited cardiovascular stress response compared to adults magnifies the harm of agents such as tear gas.” Colleen A. Kraft, “AAP Statement in Response to Tear Gas Being Used Against Children at the U.S. Southern Border”, American Academy of Paediatrics, 26 November 2018, available at <https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/AAP-Statement-in-Response-to-Tear-Gas-Being-Used-Against-Children-at-the-U-S-Southern-Border.aspx> (accessed 17 December 2018).

and death, if they hit a person directly. The risks associated with this type of dispersion mechanism was recently demonstrated in Iraq, when a man was killed after being shot in the head at close range by a military style 40mm low-velocity projectile CS grenade²⁹. The use of such military style grenades in the policing of public assemblies is a worrying new development.



40mm CS grenade removed from the skull of a protestor, Iraq 2019, © Steven Nabil, Twitter

Recent Developments: Compressed air launchers that propel a range of small plastic projectiles filled with chemical irritant, dye or other substances have provided a method of projecting force that lowers the potential risk of negative outcomes. They allow for chemical irritants to be delivered at a distance without being encased in metal, although they still require an impact to break open the projectile to deliver the irritant, and if the impact is on the face or eye, this can result in serious or life threatening injuries.

New types of chemical irritants are beginning to enter service. A Brazilian company promotes a spray which contains camphor and menthol³⁰ - irritant ingredients that are not listed or classified by the OPCW as 'riot control agents', although this in itself may pose a challenge to the CWC control regime.

²⁹ Nabil, S. (@thestevennabil) "Shot straight from a close distance according to the medical staff at the hospital", 8 Oct 2019, 11:54am, <https://twitter.com/thestevennabil/status/1181523364726263810> (accessed 14/10/2019).

³⁰ See <https://www.polydefensor.com.br/> (accessed 14/10/2019)

Development and widespread promotion of multi-barrel launchers means that the quantities of chemical irritants being used has increased. Backpack or large capacity sprayers are also now readily available and widely promoted.

Malodorants, foul smelling liquids for use against individuals and crowds, have been developed by a number of companies. They are promoted as harmless substances that simply dissuade people - however their effects can be long lasting, humiliating, and debilitating, and medical issues including severe vomiting and rashes have been reported. Their use against houses has also been described as collective punishment.³¹ Most notable is Skunk developed by Israeli company Odortec³², which has been sprayed by water cannon. It is now promoted and available in the USA in 40mm rounds, large sprayers and other devices.³³ Malodorants have potentially longer lasting effects compared with certain other commonly used chemical irritants and pose a threat of collective punishment. As odour is a cultural / subjective effect their use may amount to humiliation or degrading treatment or punishment. Malodorants are not presently listed or classified by the OPCW as 'riot control agents'.

Dyes are increasingly used in water cannon sprays, and are available as launched marking rounds, either visible or ultraviolet. Water cannon with dye has recently been used in Hong Kong, as well as by Indian security forces in Kashmir, and police in Uganda. The aim is to mark people involved in an incident for later capture or identification. However, the spray is indiscriminate and bystanders, journalists, and others not involved in any form of violence which could justify use of force, have been sprayed or later arrested.³⁴

Recommendation: Given their inherently indiscriminate nature and the potentially serious injuries they can produce, chemical irritants should only be employed in the context of public gatherings when the level of violence has reached such a degree that law enforcement officials cannot contain the threat by directly targeting violent persons, and even then, only using the absolute minimum amount necessary.

³¹ See Crowd Control: Israel's Use of Crowd Control Weapons in the West Bank, Btselem, January 2013, https://www.btselem.org/publications/summaries/201212_crowd_control (accessed 14/10/2019) and Israeli Police Target ultra-Orthodox Protesters With Weapon Developed Against Palestinians, and It Stinks <https://www.haaretz.com/israel-news/.premium-haredim-hit-with-weapon-developed-against-palestinians-and-it-stinks-1.5628103> 7/12/2017 (accessed 14/10/2019)

³² See <http://www.skunk-skunk.com> (accessed 14/10/2019)

³³ See Mistral Group distributor <http://www.mistralsecurityinc.com/Our-Products/Skunk/Crowd-Control> (accessed 14/10/2019)

³⁴ Tsang, E. 2019. 'Indelible blue dye fired from water cannons by Hong Kong police – protesters adjust with new clothes and removal tips'. *South China Morning Post*, 1 September 2019. Available at: <https://www.scmp.com/news/hong-kong/politics/article/3025234/indelible-blue-dye-fired-water-cannons-hong-kong-police> (accessed 15/10/2019).

Recommendation: Grenades and launched cartridges pose an elevated risk of serious injury or death because they are made of metal or hard plastic. As such any fragmentation or direct impact can produce devastating injuries. Metal or hard plastic projectiles should be replaced with other technologies that allow for less dangerous delivery of chemical irritant - such as accurate sprays or smaller plastic or rubber projectiles typically launched by compressed air launchers. These smaller plastic projectiles can carry fewer risks than metal or hard plastic projectiles, although it is recognised that these continue to pose a high risk if the impact is on the face.

Recommendation: Grenades, launched cartridges and any mass dissemination of chemical irritants (e.g. via large backpack-style sprayers) should be prohibited in confined spaces. Targeted use of chemical irritants (e.g. via hand-held spray) should only be resorted to when strictly necessary, proportionate and for the shortest possible time using the minimum amount of irritant necessary to reduce the level of violence and to re-establish control. Furthermore, the direct firing of any projectile or grenade against a person should be strictly prohibited.

Recommendation: Only chemical irritants that have been fully tested and found to be safe in normal conditions of use should be employed. Use of any others should be suspended until an independent body of medical, scientific, legal, and other experts has rigorously assessed the modes of use, the effect of such chemicals and the potential medical effects caused. It should then be possible to demonstrate a legitimate and safe use of such chemical devices for law enforcement, subject to specific operational rules consistent with human rights standards.

Acoustic devices



Left: Vehicle-mounted; Centre: Free-standing; Right: Free-standing acoustic devices. ©Robin Ballantyne, Omega Research Foundation.

Acoustic devices, also called sound cannons, loud hailers, or hail and warn devices, are loudspeaker devices that can project sound at very loud volumes over long distances³⁵. They can facilitate intelligible voice communication, which can have a positive benefit to the exercising of people's rights. However, certain devices can also produce high volume sounds at various frequencies – designed as an alert, warning or deterrent. Acoustic devices can be free-standing, mounted on vehicles, embedded in riot control shields, body-worn, or hand-held³⁶. The most prominent manufacturer and promoter of acoustic devices is the LRAD Corporation, a US company, which identifies its products not as weapons but as “21st century public safety and mass notification solutions”.³⁷

At public gatherings, law enforcement or state forces most commonly use acoustic devices for voice communication – to give instructions or commands. Certain devices which emit a “deterrent tone” or “alert function”- a high decibel, narrow frequency, focused set of sound waves which can be highly irritating or cause pain - have been employed to disperse a crowd or attract the attention of a group of people.

³⁵ For example, the German-made ‘Herbertzhorn’ can “stop & keep any person at a distance of up to 300m”. See: Unival Group. 2019. *Unival: Herbertzhorn* available at <https://unival-group.com/en/unival-herbertzhorn.html> (accessed 11 October 2019).

³⁶ For instance, UK company, Cerberus Black, offers the hand-held ‘A-WASP Acoustic Warning Signal Protector’. See: Cerberus Black, 2019. *A-WASP Acoustic Warning Signal Protector* available at <http://cerberusblack.com/a-wasp/> (accessed 11 October 2019).

³⁷ LRAD Corporation. 2019. *LRAD 100X* available at https://lradx.com/lrad_products/lrad-100x/ (accessed 11 October 2019); LRAD Corporation. 2019. *About LRAD Corporation* available at <https://lradx.com/about/> (accessed 11 October 2019).

The degree of pain or irritation caused by such devices in alert/deterrent mode is relatively indiscriminate, and depends on the sound volume and duration, as well as the person's distance from the device (and also varies according to the technical properties of the device used). The use of certain acoustic devices at close range, high volume, and/or for prolonged period can potentially cause temporary pain, loss of balance, and reportedly in certain cases significant harm to the eardrums and inner ear, and permanent hearing loss.

Symptoms such as these were alleged following police use of an LRAD 100X to disperse a public gathering in New York in December 2014. Some of those present subsequently brought a legal complaint for civil rights violations, alleging injuries including "migraines, sinus pain, dizziness, facial pressure, ringing in ears, and sensitivity to noise".³⁸ One of the plaintiffs was diagnosed with vertigo as well as tinnitus in both ears, while another was diagnosed with hearing loss caused by nerve damage. In this instance, police officers allegedly used the acoustic device's deterrent tone 15 to 20 times within a three-minute period, angling the device towards protesters at a distance of fewer than 10 feet.³⁹ Similarly, the Israeli Defence Force have previously used an acoustic device termed "The Scream" to disperse people in 2005,⁴⁰ and again in 2011,⁴¹ and which has reportedly resulted in those targeted suffering dizziness, nausea, and ringing in ears.⁴²

Recent developments: Long-range acoustic devices in their current form are a relatively recent addition to the policing of public gatherings. The first of its kind, LRAD Corporation's long-range acoustic device was developed in the early 2000s.⁴³ The equipment continues to evolve, however, as evidenced in the development of acoustic devices integrated within vehicular systems that have multiple force options. Such vehicles may feature firing ports for armed personnel within the vehicle, may have chemical irritant dispersal systems, or may incorporate less lethal projectile launchers.

³⁸ Anika Edrei et al v. City of New York et al, 16 Civ. 1652 (RWS) (S.D.N.Y. May. 31, 2017), available at <https://www.courthousenews.com/wp-content/uploads/2017/06/LRAD.pdf> (accessed 11 October 2019), p. 7.

³⁹ Moynihan, C. "Noise as a Weapon? Police Use of Sound Cannons Questioned," *New York Times*, 1 June 2017, available at <https://www.nytimes.com/2017/06/01/nyregion/sound-cannon-protest-lawsuit-long-range-acoustic-device.html> (accessed 11 October 2019).

⁴⁰ Teibel, A. 2005. "Israeli Army Gets 'The Scream'," *CBS News*, 10 June 2005, available at <https://www.cbsnews.com/news/israeli-army-gets-the-scream/> (accessed 11 October 2019).

⁴¹ Katz, Y. 2011. "Kalandiya: IDF uses 'Scream' anti-riot device for 1st time," *The Jerusalem Post*, 22 September 2011, available at <https://www.jpost.com/Defense/Kalandiya-IDF-uses-Scream-anti-riot-device-for-1st-time> (accessed 11 October 2019); Rawnsley, Adam. 2011. "'The Scream': Israel Blasts Protesters With Sonic Gun," *Wired*, 23 September 2011, available at <https://www.wired.com/2011/09/the-scream-israel-blasts-rioters-with-sonic-gun/> (accessed 11 October 2019).

⁴² Teibel, A. 2005. "Israeli Army Gets 'The Scream'," *CBS News*, 10 June 2005, available at <https://www.cbsnews.com/news/israeli-army-gets-the-scream/> (accessed 11 October 2019).

⁴³ LRAD Corporation. 2019. *About LRAD Corporation* available at <https://lradx.com/about/> (accessed 11 October 2019).

Recommendation: Acoustic devices should be used for communications purposes only, not to inflict sounds that could be painful or cause hearing damage.

Any acoustic device for use in law enforcement should be designed and employed in a manner to reduce to a minimum the risk of causing harm and injury to third persons, and as far as possible, to restrict the impact of the sound to the person(s) targeted.

Drones



Left: Hercules 10 Protector UAV (UAV is equipped with three chemical irritant sprayers); *Right:* UAV with chemical irritant dispenser ©Robin Ballantyne, Omega Research Foundation.

Although the use of lethal unmanned aerial vehicles (drones) is a prominent concern for human rights organisations, the application of drones as a delivery mechanism for less lethal weapons in policing public gatherings requires greater attention.

Recent developments: The development and use of ‘drones’ as a means of delivery of chemical irritants is an emerging trend. Such drones are capable of carrying chemical irritant sprayers or projectile launchers. Whilst certain current drones are equipped with small capacity sprayers or of launching only small individual tear gas projectiles, others are capable of dispersing RCAs over wide areas for example by firing or dropping multiple RCA projectiles. This kind of “wide-area” and “remote control” dispersal of chemical irritants is a concerning development, raising questions as to whether, and under what circumstances, this use adheres to international human rights standards.⁴⁴

⁴⁴ Corney, N., and Crowley, M. 2019. *A review of less lethal weapons manufacture, trade and (mis)use – human rights and trade control implications*; Crowley, M. Contemporary development, promotion and use of remote control RCA delivery mechanisms: challenges for effective State Regulation, 2019, Both available at: <https://omegaresearchfoundation.org/publications> (accessed 15 October 2019).

Recommendation: The OHCHR should work with states to develop a suitable mechanism to determine which, if any, “wide-area”, “remote control” chemical irritant delivery mechanisms may be justifiable for use in extreme, large-scale law enforcement situations. As with other equipment types, there should be a process of rigorous testing to ensure that any use of these devices are safe and is in strict conformity with human rights standards.

Other less lethal weapons

Developments in other potentially concerning less lethal weapons that the OHCHR should examine, include:

Optical and laser systems. Weapons based on using light or lasers to temporarily disrupt the sight of a person have been developed.⁴⁵ Such systems can result in blindness, even though that would be a prohibited design purpose. For instance, Laser warning devices, at a range below the Nominal Optical Hazard Distance (NOHD) can blind a person. Multi-colour or strobe systems that could potentially induce epilepsy at the correct frequency should be prohibited.

Directed Energy Weapons (DEW). A range of millimetre wave and microwave systems has been developed by the USA and China. For instance, the US military is developing the Active Denial System for crowd control, which uses a high-powered millimetre wave to cause a burning sensation to anyone targeted.⁴⁶ Microwave systems designed to stop vehicles by interfering with or destroying engine electronics could have a catastrophic effect on human implanted electronic devices such as pacemakers, drug pumps etc.

Electric shock weapons. There continue to emerge new developments in wireless projectile technology. For instance, the Turkish-made - WATTOZZ wireless projectile electric shock device claims to be “the unique and most advanced non-lethal Law Enforcement weapon in the world”, firing a wireless electric shock projectile up to 10m.⁴⁷

Barriers. Recent changes include the development of offensive, rather than defensive, barrier systems incorporating other force options, such as tear gas. The Bozena riot system, for example, is a vehicle-

⁴⁵ As an example of one type, see GlobalSecurity.org. 2018. ‘Chinese Blinding Lasers’. Available at: <https://www.globalsecurity.org/military/world/china/laser-blinding.htm> (accessed 15 October 2019).

⁴⁶ US Department of Defense: Non-Lethal Weapons Program. 2019. ‘Active Denial System FAQs’. US Federal Government. Available at: <https://jnlp.defense.gov/About/Frequently-Asked-Questions/Active-Denial-System-FAQs/> (accessed 15 October 2019).

⁴⁷ Albayraklar Savunma. 2019. ‘WATTOXX the world’s best non-lethal weapon’. Available at: <https://wattozz.com/wattozz-the-worlds-best-non-lethal-weapon/> (accessed 15 October 2019).

mounted, large shield barrier system, which can include a water pump, foam tank, and loud speaker system.⁴⁸

Shields. There have been recent changes in the design and use of shields, from defensive devices, to function as weapons with sound, light, electric shock and/or gas dispensing functions. For instance, a Russian company, NIIPH, has promoted the Legion shield, with a built-in 18.5x45mm launcher including rubber and chemical ammunition.⁴⁹

Conclusions and overarching recommendations It is clear from this brief review, that at a time of unprecedented global unrest and social protest, an increasing number of law enforcement agencies are employing less lethal weapons to control public gatherings, as well as manage prisons and police borders on a greater scale, both in number and geographical spread, than ever before. Furthermore, the international market for such goods is large, dynamic and rapidly evolving, with new products continually coming onto the market place, as well as new manufacturing facilities being established

However there is grossly inadequate State oversight and regulation in the acquisition and employment of weapons for law enforcement purposes. There is wide divergence in the types and quantities of weapons used, selection and testing procedures, procurement practices, policies and procedures for use, and the content of training, both between countries and between different agencies within the same country. Oversight and accountability mechanisms are similarly inadequate. Inappropriate and dangerous weapons and equipment continue to be used by law enforcement agencies worldwide, and in a manner that facilitates human rights violations.

Consequently, the Omega Research Foundation believes it is important that all States:

- *Ensure effective national assessment of new weapons to be employed in law enforcement, and undertake subsequent monitoring and regulation of their trade and use:* In line with the recommendations of the UN Human Rights Council and the UN Special Rapporteur on extrajudicial, summary or arbitrary executions, all States should ensure that the selection and testing of all (lethal and less lethal) weapons developed or acquired for law enforcement is carried out in each State by a legally constituted, independent, multidisciplinary and transparent panel of experts, free of direct commercial or law enforcement interests. This independent panel should:

⁴⁸ Way Industries. 2019. 'Bozena: Riot New'. Available at: <https://www.bozena.eu/riot-new/> (accessed 15 October 2019).

⁴⁹ Legion shield, displayed on the NIIPH company stand and at Milipol 2017, Paris, November 2017. Details on file with Omega.

- ensure that all weapons (whether developed or acquired) are not inherently of a nature to violate relevant international human rights law and standards; and,
- identify whether there are specific circumstances in which use of developed or acquired weapons may breach international human rights law and attendant standards, and restrict such use accordingly.

Furthermore, all States should establish effective laws and regulations based upon international human rights standards to strictly control the use of all weapons in law enforcement, and establish effective monitoring mechanisms to ensure such laws and regulations are adhered to, and kept under review. In addition, States should establish effective laws and regulation to control the trade in less lethal weapons, prohibiting any transfers of such goods that are likely to facilitate human rights violations.

- *Establish an international expert group to examine application of international human rights law to “less lethal” weapons:* States should request a suitable body, such as the UN Human Rights Council, the Office of the UN High Commissioner for Human Rights, or the UN Office on Drugs and Crime, to develop guidance/procedures for evaluating the human rights compatibility or incompatibility of less lethal weapons. If appropriate, the relevant body could also recommend constraints on the use of any less lethal weapons deemed compatible with human rights standards, and develop guidelines for monitoring and ensuring subsequent use is in accordance with human rights law.

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For enquiries regarding this report: info@omegaresearchfoundation.org

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