



From Condemnation to Concrete Action: A Five-Year Review of Incendiary Weapons

Memorandum to Convention on Conventional Weapons Delegates November 2015

Incendiary weapons rank among the cruelest means of armed conflict. The fire and heat they produce cause excruciatingly painful burns that are difficult to treat and can lead to long-term psychological harm and severe disfigurement. They also start fires that can destroy buildings and infrastructure.

This paper provides a five-year review of developments related to incendiary weapons. It describes the harm that such weapons, including white phosphorus, inflict, and the shortcomings of 1980 Convention on Conventional Weapons (CCW) Protocol III on incendiary weapons. The paper lays out evidence of recent use of incendiary weapons, including in Syria and Libya in 2015 and in Ukraine in 2014, as well as allegations of use in Yemen in 2015. It also examines the evolution of state policy and practice and views on the proposal to review the CCW protocol.

Over the past five years, many states have expressed concern at the ongoing harm that incendiary weapons cause. Some have condemned the weapons' use and called for CCW Protocol III to be strengthened. It is time, however, for states to take more concrete steps to address the dangers of incendiary weapons and the weaknesses of Protocol III.

The upcoming Fifth Review Conference of the CCW, to be held in Geneva in December 2016, gives states an important opportunity to address the serious harm that incendiary weapons cause. To lay the groundwork for that major event, the 121 states parties to the CCW¹ should use the meeting of states parties in November 2015 to:

¹ As of November 1, 2015, the Convention on Conventional Weapons had 121 states parties, and CCW Protocol III had 112 states parties. See UN Office at Geneva, "The Convention on Certain Conventional Weapons: States Parties and Signatories," <http://www.unog.ch/80256EE600585943/%28httpPages%29/3CE7CFC0AA4A7548C12571C00039CB0C?OpenDocument> (accessed November 1, 2015).

- Condemn the use of incendiary weapons;
- Agree to a new mandate that sets aside time to discuss the implementation and adequacy of Protocol III; and
- Commit to work to strengthen Protocol III, including by:
 - Adopting an effects-based definition of incendiary weapons, and
 - Prohibiting, at a minimum, the use of all incendiary weapons in civilian areas, while recognizing that an absolute ban would have the greatest humanitarian benefits.

States parties have never conducted a review of the 35-year-old CCW protocol on incendiary weapons. They should now look at how the shortcomings of the protocol have impeded its effectiveness, and they should strive to reduce the horrific harm that incendiary weapons inflict on civilians.

The seriousness of the situation, the value of stronger law, and the upcoming review conference make it both critical and timely for states to take action.

Incendiary Weapons and the Harm They Cause

Incendiary weapons are munitions that produce heat and fire through the chemical reaction of a flammable substance. Incendiary weapons can be designed to burn people or materiel, penetrate plate metal, produce smokescreens, or provide illumination. They contain chemical compounds such as napalm, white phosphorous, thermite, or chlorine trifluoride. Despite these differences, all incendiary weapons share a key technical characteristic: they burn at a very high temperature.

Incendiary weapons also present a common threat to civilians. They can inflict cruel and lasting injuries on people and start fires that often destroy property. Incendiary weapons cause thermal and chemical burns, respiratory damage, shock, asphyxiation, and carbon monoxide poisoning, often leading to a slow death. Victims who survive their initial injuries may suffer from intense pain, severe infections, organ failure, lowered resistance to disease, severe disfigurement and lifelong disability, psychological trauma, and an inability to reintegrate into society.

Thermal Burns

Incendiary weapons produce serious thermal burns through the action of their chemical agents and through secondary fires. Severe burn injuries have been called “the greatest trauma to which the body can be exposed,” in part because the affected

skin is a vital organ.² The burns from incendiary weapons can reach the level of fourth or fifth degree because of their extreme depth and coverage.

Such burns go beyond destroying the skin, which in itself can leave terrible scarring and deformities. Fourth- and fifth-degree burns involve damage to the muscles, ligaments, tendons, nerves, blood vessels, and even bones.³ Even third-degree and deep second-degree burns on just 10 to 15 percent of the skin's surface can profoundly affect the entire body. Effects include shock, irregular circulation, and severe infection of the burn area, which can carry over to other parts of the body.

The recovery process is very slow and very painful, often lasting weeks or months, and requiring daily changing of dressings, which can be excruciating. Doctors have compared the process of daily wound cleansing to being "flayed alive."⁴ Many victims die, and those who survive are left physically and psychologically scarred.⁵

Respiratory Damage

In addition to thermal burns, the heat and smoke from incendiary weapons can have serious effects on the respiratory system. Inhaling hot gas and combustion products can cause respiratory burns and other pulmonary complications that include inhalation injuries, pneumonia, and fluid build-up in the lungs.⁶ Damage to the respiratory tract can also lead to severe infection.

Because incendiary weapons often produce carbon monoxide or other noxious gases, victims can die from carbon monoxide poisoning. Even if victims survive, smoke inhalation can cause long-term respiratory problems. These dangers are even more severe when incendiary weapons are used in confined spaces.

Long-Term Effects and Permanent Damage

Burn injuries from incendiary weapons often cause lasting physical and psychological disabilities. Permanent damage can include loss of function in hands due to intense

² Stockholm International Peace Research Institute, *Incendiary Weapons* (Cambridge, Massachusetts: The MIT Press, 1975), p. 136 (quoting G. Liljedahl Birke, "Studies on Burns: XV," *Acta Chirurgica Scandinavica*, Supplement 441 (1971), p. 5).

³ UN Department of Political and Security Council Affairs, "Napalm and Other Incendiary Weapons and All Aspects of Their Possible Use: Report of the Secretary-General," A/8803/Rev. 1, 1973, p. 31.

⁴ Denise Chong, *The Girl in the Picture* (New York: Penguin Group, 1999), pp. 66-67.

⁵ UN Department of Political and Security Council Affairs, "Napalm and Other Incendiary Weapons and All Aspects of Their Possible Use," p. 30.

⁶ Stockholm International Peace Research Institute, *Incendiary Weapons*, pp. 142-143.

scarring and skin damage,⁷ contractures (restriction of underlying muscles and joints from superimposed scars or inadequate skin grafts), and loss of strength and activity. Less tangible harm manifests as psychological trauma and an inability to assume former roles in society.⁸

The burn injury itself is often prolonged and especially painful. Treatment of severe pain with drugs can result in dependency and later withdrawal symptoms. Isolation during treatment, and being forced to “confront ... the sight of one’s own naked and burned body ... and the stench of one’s own rotting flesh” can be particularly horrifying, according to a survivor of an incendiary weapons attack.⁹ Victims are sometimes socially shunned because of their severe scarring and disfigurement, which can cause them to withdraw from society.

White Phosphorus

Although some states parties maintain that white phosphorus is excluded from the definition of incendiary weapons in CCW Protocol III, the harm caused by these weapons is comparable to that of other incendiary weapons.¹⁰

White phosphorus is a chemical substance that ignites when exposed to atmospheric oxygen at temperatures above 30 degrees C (84 degrees F), and continues to burn while exposed to oxygen until it is exhausted. The chemical reaction creates intense heat of about 815 degrees C (1,500 degrees F) and produces both light and a thick chemical smoke.¹¹

These characteristics make white phosphorus useful for tasks such as creating smokescreens to conceal troop movements; illuminating areas; marking and signaling; providing tracers for ammunition; and detonating mines, fuel supplies, and ammunition caches. But some armed forces have used white phosphorus for its incendiary effects, including in targeting people or materiel or “smoking out” sheltered persons in order to kill them with other weapons.

⁷ UN Department of Political and Security Council Affairs, “Napalm and Other Incendiary Weapons and All Aspects of Their Possible Use,” p. 35. Hands suffer particular damage from napalm because victims try to wipe the sticky substance off their body.

⁸ Stockholm International Peace Research Institute, *Incendiary Weapons*, p. 146.

⁹ *Ibid.*, p. 149.

¹⁰ The definition of incendiary weapons in Protocol III is discussed in more depth below.

¹¹ Phosphorus oxides react with moisture in the air to produce a smoke cloud of phosphorous-containing acids. The smoke is impenetrable to infrared optics, making it especially effective for protecting tanks from guided missiles.

White phosphorus can cause horrific injuries no matter how it is used. It is highly soluble in fat, and therefore in human flesh. When white phosphorus comes in contact with skin, it causes severe thermal and chemical burns, often down to the bone.¹² These injuries heal slowly and are prone to infection. Because white phosphorus burns when exposed to oxygen, clean and dressed wounds can reignite when dressings are removed.

If all fragments of white phosphorus are not removed, it can exacerbate wounds after treatment. Doctors may uncover already-treated wounds to find that they have grown larger and deeper. White phosphorus can also enter the bloodstream through burns and cause multiple organ failure. As a result, burns on only 10 percent of the body are often fatal.¹³ Throughout the lengthy period of treatment, victims remain at risk of death.

Protocol III: Shortcomings and Solutions

In order to regulate the use of incendiary weapons and reduce the harm that they cause, negotiating states adopted Protocol III to the CCW by consensus in October 1980.¹⁴ The drafters of the protocol were responding to the death, disfigurement, and painful injuries that incendiary weapons inflicted on civilians during the Vietnam War and other armed conflicts.¹⁵ They sought to establish protections against such suffering in the future by restricting the circumstances in which such weapons could be used.¹⁶ In particular, the new protocol limited the use of incendiary weapons in “concentrations of civilians” as well as their use in attacks on “forests and other kinds of plant cover.”¹⁷

¹² David J. Barillo, Leopoldo C. Cancio, and Cleon W. Goodwin, “Treatment of White Phosphorous and Other Chemical Burn Injuries at One Burn Center over a 51-Year Period,” *Burns*, vol. 30 (2004), p. 450. See also Lisandro Irizarry et al., “White Phosphorus Exposure,” <http://emedicine.medscape.com/article/833585-overview> (accessed October 28, 2015).

¹³ “Identification of Explosive White Phosphorus Injury and Its Treatment,” signed by Dr. Gil Hirshorn, colonel, head of the Trauma Unit, Headquarters of the Chief Military Medical Officer, Ref. Cast Lead SH9 01293409 (original Hebrew on file at Human Rights Watch); “Exposure to White Phosphorus,” signed by Dr. Leon Fulls, Ministry of Health War Room, January 15, 2009, Ref. Cast Lead SH9 01393109 (original Hebrew on file at Human Rights Watch); Global Security, “White Phosphorus,” <http://www.globalsecurity.org/military/systems/munitions/wp.htm> (accessed October 28, 2015).

¹⁴ Convention on Conventional Weapons (CCW) Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), adopted October 10, 1980, 1342 U.N.T.S. 171, entered into force December 2, 1983.

¹⁵ For more information, see Human Rights Watch and Harvard Law School International Human Rights Clinic (IHRC), *The Human Suffering Caused by Incendiary Munitions: Memorandum to Convention on Conventional Weapons Delegates*, March 2011, <http://hrp.law.harvard.edu/wp-content/uploads/2011/04/sufferingweapons.pdf>, p. 2.

¹⁶ *Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts: Volume 1 (Geneva, 1974-1977)*, http://www.loc.gov/rr/frd/Military_Law/pdf/RC-records_Vol-1.pdf (accessed October 28, 2015), p. 215. The *Official Records* of the conference state that participants “devoted efforts to the further narrowing down of divergent views on the desirability of prohibiting or restricting the use of incendiary weapons, including napalm.” *Ibid.*, p. 215.

¹⁷ CCW Protocol III, art. 2.

Protocol III, however, has significant shortcomings that have prevented it from achieving its goal. It contains definitional loopholes and weak regulations that open the door to use of incendiary weapons of certain types and in certain places.

States should therefore revisit the protocol and adopt the amendments described below, which could significantly increase its effectiveness.

Definitional Loopholes

The definition of incendiary weapons in Protocol III is overly narrow and fails adequately to deal with multi-purpose incendiary munitions. It focuses on the purpose for which the weapons were designed, rather than the impact that they have.

Article 1 of the protocol defines an incendiary weapon as any weapon that is “*primarily designed* to set fire to objects or to cause burn injury to persons through the action of flame, heat, or combination thereof, produced by a chemical reaction of a substance delivered on the target.”¹⁸ As a result, regulating a weapon under Protocol III depends on how the developer, manufacturer, and/or user describe its purpose. Under this definition, the nature or magnitude of impact is not taken into account, as long as the incendiary weapon is found to have a primary purpose that is beyond the scope of the protocol.

This “primarily designed” language allows certain munitions that produce incendiary effects, such as white phosphorus, to escape regulation. White phosphorus munitions arguably do not meet Protocol III’s definition of incendiary weapon because they are generally designed to produce smokescreens. These munitions, however, often have a broad area effect and can cause severe injuries to civilians and combatants alike.

The implications of this definitional loophole are evident in Israel’s use of white phosphorus artillery projectiles in Gaza in 2009.¹⁹ Although some observers described the white phosphorus shells as “smoke munitions,” the munitions caused serious bodily harm to civilians, killing at least 12 and injuring dozens more.²⁰ The shells also

¹⁸ *Ibid.*, art. 1(1) (emphasis added).

¹⁹ Specifically, M825E1 155mm artillery projectiles were used by the Israel Defense Forces. See Human Rights Watch and IHRC, *The Need to Re-Visit Protocol III on Incendiary Weapons: Memorandum to CCW Delegates*, November 2010, <http://hrp.law.harvard.edu/wp-content/uploads/2011/04/protocolmemo.pdf>, p. 7.

²⁰ Human Rights Watch and IHRC, *Strengthening the Humanitarian Protections of Protocol III on Incendiary Weapons: Memorandum to Convention on Conventional Weapons (CCW) Delegates*, August 2011, <https://www.hrw.org/news/2011/08/22/strengthening-humanitarian-protections-protocol-iii-incendiary-weapons>, p. 5.

indiscriminately set fire to civilian structures over a wide area, including classrooms in a United Nations compound. Israel is not a state party to Protocol III, but the protocol could be read to allow even states parties to use such white phosphorus munitions despite their cruel effects.

Protocol III's exception for those munitions with "incidental" incendiary effects exacerbates the "primarily designed" problem. Article 1(b)(i) exempts from the definition of incendiary weapons "[m]unitions which may have incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems." This text can be understood to exclude incendiary munitions from regulation even if their incidental effects are substantial. As explained above, the incendiary effects of white phosphorus can be substantial yet viewed as "incidental" to the screening or illuminating effects.

A More Comprehensive Definition

The definition of incendiary weapons in Protocol III should be amended to focus on how incendiary weapons affect people—the cruel nature of the injuries they cause and their tendency to injure soldiers and civilians without distinction—regardless of the purpose for which weapons are primarily designed. Such a definition would encompass white phosphorus and other weapons that cause significant suffering through fire and heat yet are not clearly included in the existing definition.

There is precedent for an effects-based definition in the CCW and other international humanitarian law treaties.²¹ CCW Protocol I, for example, prohibits the use of "any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays."²² This protocol focuses on the effect that the weapon has on people, rather than its design or purpose.

States should also amend the incidental effects clause of the definition by exempting munitions only when their incendiary effects are both minimal *and* incidental. This amendment would reduce civilian harm while allowing military commanders to retain the ability to use certain illuminants, tracers, obscurants, and pyrotechnics for marking and signaling as long as the munitions had limited incendiary effects.

²¹ Additional Protocol I to the Geneva Conventions prohibits the use of weapons "of a nature to cause superfluous injury or unnecessary suffering." By looking solely at injuries and suffering, that provision emphasizes the impact of the weapon rather than any design or purpose of the weapon. See Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), adopted June 8, 1977, 1125 U.N.T.S. 3, entered into force December 7, 1978, art. 35(2).

²² CCW Protocol on Non-Detectable Fragments (Protocol I), adopted October 10, 1980, 1342 U.N.T.S. 137, entered into force December 12, 1983.

Weak Regulations

Although Protocol III seeks to restrict the use of incendiaries, its regulations provide weak protections and permit the use of incendiary weapons in ways that still could be dangerous to civilians.

The protocol prohibits the use of air-dropped incendiary weapons in “a concentration of civilians,” but it imposes less restrictive regulations on surface-launched incendiary weapons. Article 2(3) prohibits surface-launched attacks within a concentration of civilians *except* when the “military objective is clearly separated from the concentration of civilians” and “all feasible precautions are taken” to minimize effects on civilians.

From a humanitarian perspective, the delivery system of an incendiary weapon—be it airplane, artillery, rocket launcher, mortar, or any other—is irrelevant. Protocol III’s inconsistent provisions are a result of the political landscape that the drafters were facing, since air-dropped napalm was used heavily throughout the Vietnam War and thus seen as a more serious threat than surface-launched incendiary munitions at the time.²³ This outdated historical distinction fails to recognize that incendiary weapons, whether air or ground delivered, have the same harmful impacts.

The weaker regulations for surface-launched incendiary weapons are problematic for several other reasons. The exception for “clearly separated” military objectives presents risks for civilians given the broad area impact of incendiary weapons, especially of ground-launched models, and the frequency with which targets are missed.²⁴ Since states adopted Protocol III in 1980, ground-launched attacks have been increasingly common. Finally, non-state armed groups are more likely to have

²³ The Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts (CDDH) was convened in 1974 in order to consider the prohibition or restriction of the use of conventional weapons that may cause “excessive injury” or have “indiscriminate effects.” As a result, a Conference of Government Experts on the Use of Certain Conventional Weapons was held in Lucerne in 1974. During this conference, experts advocated in favor of either a total ban or mere restrictions on the use of incendiary weapons. The final report from this group emphasizes the dangerousness of air-dropped incendiary weapons in particular. This focus may shed light on an otherwise seemingly arbitrary distinction in Protocol III that has weaker regulations for incendiary weapons based on method of delivery. The 1974 report explains, for example, “One expert noted that it was the practice in his country to classify air delivered incendiary munitions ... as ‘firebombs.’ Firebombs contain scatter-type agent, generally napalm, and have been extensively used in recent conflicts both as antimateriel weapons and as antipersonnel weapons.... These experts stressed that firebombs had also been used against civilian houses and dwellings.” International Committee of the Red Cross (ICRC), *Report on the Conference of Government Experts on the Use of Certain Conventional Weapons (Lucerne, 24.9-18.10.74)* (Geneva: International Committee of the Red Cross, 1975), http://www.loc.gov/rr/frd/Military_Law/pdf/RC-conf-experts-1974.pdf (accessed October 28, 2015), pp. 20-22.

²⁴ Ground-launched models in the form of multiple launch rocket systems, tube artillery, and large mortars are particularly known for having wide area effects.

ground-launched incendiary weapons than air-dropped models. Rebel groups are unlikely to be deterred from using such ground-launched weapons if the norm against them is less than absolute.

Stronger Rules on Use

Replacing the flawed regulations with a complete ban on incendiary weapons would have the greatest humanitarian impact. In addition to strengthening binding law, an absolute prohibition would increase the stigmatization of use and contribute to the pressure put on states to stop using incendiary weapons. There is ample precedent for such bans, including in the CCW, which has prohibitions on blinding lasers and weapons that injure people with undetectable fragments.²⁵

At a minimum, states parties should eliminate the distinction between air-dropped and surface-launched incendiary weapons and extend the Article 2 prohibition of attacks in civilian areas to all types of incendiary weapons. Whatever their delivery system, incendiary weapons cause the same injuries, and the inconsistency in restrictions is a historical legacy that has no relevance today.

Use of Incendiary Weapons

The repeated use of incendiary weapons during the 35 years since Protocol III's adoption reveals that the protocol has failed adequately to fulfill its goal of reducing the human suffering associated with incendiary weapons.

A total of 29 countries have produced at least 182 different types of incendiary weapons, including white phosphorus, according to respected international sources,²⁶ and these munitions have proliferated to a range of states and non-state armed groups. From 1980 through mid-2015, incendiary weapons have reportedly been used in approximately 15 different conflicts on at least three continents.²⁷ From 2000 to 2010,

²⁵ CCW Protocol on Blinding Laser Weapons (Protocol IV), adopted October 13, 1995, entered into force July 30, 1998; CCW Protocol I.

²⁶ See generally Leland S. Ness and Anthony G. Williams, eds. *Jane's Ammunition Handbook 2007-2008* (Surrey, UK: Jane's Information Group Limited, 2007); Duncan Lennox, ed., *Jane's Air Launched Weapons* (Surrey, UK: Jane's Information Group Limited, 1999).

²⁷ In the 1980s, incendiary weapons were used or allegedly used in four separate conflicts, with one incident in 1983 in Chad resulting in 200 deaths and more than 300 injuries, "some by phosphorous and napalm bombs," according to the government of Chad. This trend continued into the next decade: In the 1990s incendiary weapons were used or allegedly used in at least three conflicts, including a November 1994 napalm bombing by nationalist Serb aircraft from the Republic of Serbian Krajina on a Bihać safe area in northwest Bosnia. The early 2000s saw a rise in the number of incidents, especially those involving white phosphorus, and from 2000-2010, incendiary weapons were used or allegedly used in at least five separate conflicts. See Statement of Korom Ahmed, secretary of state for foreign affairs and co-operation of Chad, 2463rd Meeting of the Security Council, S/PV.2463, August 11, 1983, para 23; Chuck Sudetic,

there was reported use of white phosphorus munitions in particular in at least five different conflicts. These instances of use were largely responsible for renewed talks on incendiary weapons in CCW meetings, and attacks with the weapons have continued since that time, including in 2015.

Syria

From November 2012 to the present, Human Rights Watch has documented about 60 attacks with incendiary weapons that Syrian government forces launched in at least eight of the country's 14 governorates.²⁸ These figures, however, do not represent every instance of incendiary weapon use in Syria; the actual number of attacks is likely far higher. It is not clear if other parties to the conflict used incendiary weapons in 2015 or in previous years.

One of the first attacks in Syria involving an incendiary weapon was recorded in November 2012 in Daraya in Rif Dimashq governorate.²⁹ The Damascus suburb was also the site of some of the most recent apparent incendiary weapon attacks, in mid-August 2015. Evidence for these attacks comes from photographs and video of the aftermath of the attacks and the remnants of one of the weapons, testimony from first responders and residents, and reports by groups such as the Daraya Media Center and the Violations Documentation Center in Syria.

Syrian government forces attacked Daraya at least two times on August 11, 2015, and at least two times on August 14 with air-dropped weapons comprised of improvised canisters, described by first responders, opposition fighters, local activists, and research organizations as containing a napalm-like incendiary substance.³⁰ According to a local activist, one of these attacks on August 11 attack resulted in at least eight

"Napalm and Cluster Bombs Dropped on Bosnian Town," *New York Times*, November 19, 1994. See also "Report of the Secretary-General Pursuant to Security Council Resolution 959 (1994)," S/1994/1389, December 1, 1994, para. 15. For more information on past use of incendiary weapons, see Human Rights Watch and IHRC, *The Human Suffering Caused by Incendiary Munitions*.

²⁸ For more information on additional attacks, see Human Rights Watch, *Syria's Use of Incendiary Weapons*, November 2013, <https://www.hrw.org/news/2013/11/11/syrias-use-incendiary-weapons>; Human Rights Watch and IHRC, *Incendiary Weapons: Recent Use and Growing Opposition*, November 2014, <https://www.hrw.org/news/2014/11/10/incendiary-weapons-recent-use-and-growing-opposition>.

²⁹ "Syria: Incendiary Weapons Used in Populated Areas," Human Rights Watch news release, December 12, 2012, <http://www.hrw.org/news/2012/12/12/syria-incendiary-weapons-used-populated-areas>.

³⁰ See, for example, Violations Documentation Center in Syria, *Flash Reports: Over Seventy Cylinder Bombs Loaded with Incendiary Substances Falls on Daraya City*, August 2015, <http://www.vdc-sy.info/index.php/en/reports/1440027730#.VjFpVqS7zQz> (accessed October 28, 2015); Southern Front, "Brief: Napalm Attack on Daraya," August 26, 2015.

civilian casualties.³¹ Dr. Amjad Abu Jamal, who treated casualties from the August 11 and 14 attacks at a field hospital, told the Violations Documentation Center in Syria:

Most of the victims we received at the hospital suffered first-degree burns in uncovered parts of the body like the hands. Those burns resulted from an incendiary substance we believe to be napalm.³²

One of the attacks on August 11 destroyed more than 15 homes as well as a dozen shops and warehouses, according to the Daraya Media Center.³³ An activist who witnessed one of the attacks in Daraya on August 14 told Human Rights Watch:

I saw the helicopters in the sky while it was dropping the weapons and cylinders fell 400 meters from me. The damages were not caused by the cylinder but by the huge fires that resulted.³⁴

Video footage and photographs taken in Daraya immediately after the August 11 attack and posted online show burning buildings and plumes of smoke.³⁵ The Syria Civil Defense, which took photographs and video of the remnants and contents of munitions used in the attacks, said the fires burned for more than 12 hours.³⁶ According to an activist who witnessed the attacks, pouring sand or dirt on the fires started by the attacks proved more effective in bringing them under control than using water.³⁷

A review by Human Rights Watch of the photographs and video of remnants of the weapons from the Daraya attacks as well as eyewitness accounts of the attacks indicate that locally produced improvised weapons containing a flammable gelled substance akin to napalm were used. Gelled fuel generally clings to skin and clothing, and victims are likely to spread it over their bodies, particularly onto their hands, as they try to wipe it off. First responders reported that the gelled fuel was friction sensitive and ignited readily on contact. They said the substance did not appear to be

³¹ Facebook interview with local activist in Daraya, August 18, 2015.

³² Violations Documentation Center in Syria, *Flash Reports*, p. 2.

³³ Daraya Media Center report, emailed to Human Rights Watch, August 2015.

³⁴ Facebook interview with local activist in Daraya, August 18, 2015.

³⁵ See, for example, Syria Civil Defense, Facebook post, August 12, 2015, <https://www.facebook.com/SyriancivildefenseinDamascusCountryside1/posts/1063116243713684>; Daraya Media Center, Facebook post, August 11, 2015, <https://www.facebook.com/daraya.council/posts/415224905338750> (accessed October 28, 2015).

³⁶ Email from Syria Civil Defense, to Human Rights Watch, August 12, 2015.

³⁷ Facebook interview with local activist in Daraya, August 18, 2015.

pyrophoric, meaning that it did not ignite spontaneously, but rather required a spark or flame to ignite.³⁸

Earlier attacks in populated areas in Syria, including multiple attacks on schools, exemplify the significant suffering caused by incendiary weapons. For example, Syrian government forces used incendiary weapons on Urm al-Kubra, Aleppo, on August 26, 2013. According to the Violations Documentation Center, this attack resulted in at least 37 civilian deaths and 44 civilian injuries.³⁹

A female student who witnessed the bombs landing on her school in Aleppo told NBC News, “We just saw people burning.... My classmates were burning. It felt like Judgment Day.”⁴⁰ Dr. Saleyha Ahsan, a British emergency medicine doctor who was volunteering at Atarib Hospital at the time, treated many of the victims, including 15-year-old Anas Said Ali. Dr. Ahsan told Human Rights Watch:

The hair on his head almost melted to his head and he had ... fragment[s] stuck to the side of his face and hair. His face was swollen and it was difficult for him to open his eyes.... He died two weeks later from complications caused by the severe burns.⁴¹

The Aleppo attack was not the only incendiary weapons strike on a school. On December 3, 2012, Syrian government forces dropped incendiary bombs on Quseir, Homs, injuring at least 19 civilians and setting fire to at least eight homes. A local activist in Quseir who witnessed the attack told Human Rights Watch:

[W]hen I reached the school, I saw at least seven bombs burning on the playground and releasing white smoke that had a terrible smell.... When I went to the field hospital there were at least 20 wounded people—that included women and children. I saw at least three of them severely burned, like I have never seen before.⁴²

³⁸ Email from Syria Civil Defense, to Human Rights Watch, August 12, 2015.

³⁹ Violations Documentation Center in Syria, *Burning to Death: A Special Report on the Use of Incendiary Bombs In Aleppo and Dara'a Governorates*, October 2013, <http://www.vdc-sy.info/pdf/reports/1382274490-English.pdf> (accessed October 30, 2015), pp. 8-12.

⁴⁰ Elizabeth Chuck, “Doctor: Napalm-Like Attack on Syrian Schoolkids was ‘Apocalyptic,’” *NBC News*, August 30, 2013, http://worldnews.nbcnews.com/_news/2013/08/30/20262021-doctor-napalm-like-attack-on-syrian-schoolkids-was-apocalyptic (accessed October 28, 2015).

⁴¹ Dr. Saleyha Ahsan, email message to Human Rights Watch, November 4, 2013.

⁴² Human Rights Watch, *Syria’s Use of Incendiary Weapons*, p. 12.

According to the activist, the Free Syrian Army opposition group was not active in the school, a single-story building.

Syrian government forces have used both traditional and improvised incendiary weapons. In most of the incendiary attacks that Human Rights Watch has documented, Syrian forces used one of three types of ZAB-series aircraft bombs manufactured by the Soviet Union.⁴³ According to the March 2014 report of the UN Commission of Inquiry on Syria, however, Syrian forces have also dropped incendiary barrel bombs.⁴⁴

Barrel bombs are improvised weapons that require less technical expertise to manufacture and hence are often made locally and at low cost. While not all barrel bombs have incendiary effects, the ease with which they can be made and delivered along with their indiscriminate nature exacerbates the harm caused by incendiary weapons in the Syrian conflict. The incendiary weapons used by Syrian government forces during the August 2015 attack on Daraya were locally produced, and according to a local activist, resembled domestic gas cylinders.⁴⁵

Ukraine

Incendiary weapons have also been used in the recent conflict in Ukraine, although it is uncertain by whom. No use has been recorded since the February 2015 ceasefire.

During field missions in the second half of 2014, Human Rights Watch researchers documented use of incendiary weapons in two locations of Donetsk province in eastern Ukraine. Residents of the town of Ilovaisk, 30 kilometers southeast of Donetsk, told Human Rights Watch that weapons resembling fireworks fell on the town over the course of three nights and burned three homes. They could not provide the exact date of the attack although one resident said it was after August 14, and possibly during a time when intense battles were taking place between Ukrainian forces and Russia-supported rebels.⁴⁶

⁴³ *Ibid.*, p. 5.

⁴⁴ UN Commission of Inquiry on Syria, “7th Report of the UN Commission of Inquiry on Syria,” A/HRC/25/65, February 12, 2014, <http://www.ohchr.org/EN/HRBodies/HRC/IICISyria/Pages/Documentation.aspx> (accessed October 28, 2015), Annex VI, paras. 3, 4, and 22.

⁴⁵ Facebook interview with local activist in Daraya, August 18, 2015.

⁴⁶ Human Rights Watch researchers also found a field about 18 kilometers south-southwest of Ilovaisk with an abandoned firing position with several misfired 122mm Grad 9M22S rockets equipped with the 9N150 incendiary warhead that contains 180 hexagonal incendiary capsules, which burn for two minutes. See Yuri Lyamin and Michael Smallwood, “9M22S Incendiary Rocket Components Documented in Eastern Ukraine,” post to “The Hoplite” (blog), Armament Research Services, October 14, 2014, <http://www.armamentresearch.com/9m22s-incendiary-rocket-components-documented-in-eastern-ukraine/> (accessed November 3, 2015). The sheer size of the misfired rockets

During a visit to Luhanskoe, located south of Donetsk, residents told Human Rights Watch that something that looked like fireworks fell on the small village on the night of July 25-26, leaving burning remnants that were hard to extinguish. Several homes burned, although they could not determine if the fires were due to the “fireworks” or Grad rockets launched at the same time. Human Rights Watch researchers found hexagonal capsules from the incendiary weapons at both sites that it identified as incendiary capsules delivered by Grad 9M22S rockets equipped with the 9N150 incendiary warhead.

Human Rights Watch has been unable to determine who launched the attacks in Ilovaisk or Luhanskoe.

Libya

There were allegations of new use of air-dropped incendiary weapons in Libya between June and August 2015, but Human Rights Watch has not been able to independently confirm whether incendiary weapons were used or the circumstances of the attacks.⁴⁷

During a 2011 research mission to Libya, Human Rights Watch observed stockpiles of incendiary weapons including napalm, mortar rounds, and ZAB bombs in the armories of former Libyan leader Muammar Gaddafi, who was deposed in the 2011 revolution.

Yemen

Human Rights Watch is also investigating allegations of use of incendiary weapons in Yemen near the Saudi Arabian border in September 2015. In particular, it is investigating reports that the coalition led by Saudi Arabia used air-delivered incendiary weapons for antipersonnel and anti-material purposes, rather than for obscuring a battlefield or for marking/signaling.⁴⁸

(three meters in length and weighing 66 kilograms), and the fact they bore clear signs of having been misfired, make it highly unlikely that the pro-Russian rebel forces or anyone else had planted them there.

⁴⁷ See Hesham Ahmed, “3picturs from bengahazi.libya As d source Hafter’chopers striking civil areas with a strange bombs @marywareham @hrw >,” Twitter post, August 14, 2015, 5:46pm, <https://twitter.com/HESHAMassomod/status/632352636369522688/> (accessed October 28, 2015); “غارة بالفسفوري على غارة بالفسفوري على 2015,” June 25, 2015, video clip, YouTube, <https://www.youtube.com/watch?v=BjyijyMdxdu> (accessed October 26, 2015); Hesham Ahmed, “@marywareham @HananMSalah @hrw @IntlCrimCourt phosphorous bombs Internationally banned #libya_derna,” Twitter post, June 25, 2015, 4:45am, <https://twitter.com/HESHAMassomod/status/614036783395917825> (accessed October 28, 2015).

⁴⁸ “23-9-2015 Helicoptero Apache ataca Convoy Rebelde en Yemen,” video clip, YouTube, September 23, 2015, https://www.youtube.com/watch?v=AsZ_loB4VPw (accessed October 28, 2015).

Use of White Phosphorus

White phosphorus has been used in many conflicts since 1990 by a number of different actors. For example, in November 2004, the United States used ground-launched white phosphorus munitions in Fallujah, Iraq.⁴⁹ Israel acknowledged dropping white phosphorus bombs during its conflict against Hezbollah in 2006.⁵⁰ The next year, the United Nations accused the Ethiopian military of employing white phosphorus munitions in an attack against al-Shabaab in the Shirkole area of Mogadishu, Somalia, which killed 15 al-Shabaab fighters and 35 civilians.⁵¹ In May 2008, the US military reported at least 44 incidents of Taliban militants storing and using white phosphorus munitions in Afghanistan, illustrating use of these weapons by non-state armed groups as well as state armed forces.⁵²

Use of white phosphorus by the Israel Defense Forces (IDF) in Gaza was particularly egregious from a humanitarian perspective. From December 2008 to January 2009, the IDF launched approximately 200 white phosphorus artillery rounds over populated areas of Gaza.⁵³ During this offensive, the white phosphorus munitions employed caused significant harm to civilians; Human Rights Watch found dozens of civilian casualties in the six incidents it documented.⁵⁴ The white phosphorus shells also damaged civilian structures, including a school, a market, a humanitarian aid warehouse, and a hospital.⁵⁵

⁴⁹ "US Used White Phosphorus in Iraq," *BBC News*, November 16, 2005, http://news.bbc.co.uk/2/hi/middle_east/4440664.stm (accessed October 28, 2015).

⁵⁰ Meron Rappaport, "Israel Admits Using Phosphorus Bombs during War in Lebanon," *Haaretz*, October 22, 2006, <http://www.haaretz.com/news/israel-admits-using-phosphorus-bombs-duringwar-in-lebanon-1.203078> (accessed October 28, 2015).

⁵¹ Jeffrey Gettleman, "A U.N. Report on Somalia Accuses Eritrea of Adding to the Chaos," *New York Times*, July 27, 2007, <http://www.nytimes.com/2007/07/27/world/africa/27somalia.html> (accessed October 28, 2015); Monitoring Group on Somalia, "Report of the Monitoring Group on Somalia pursuant to Security Council Resolution 1724 (2006)," S/2007/4136, July 17, 2007, http://www.un.org/ga/search/view_doc.asp?symbol=S/2007/436 (accessed October 28, 2015), pp. 12-13.

⁵² "Reported Insurgent White Phosphorus Attacks and Caches," Combined Joint Task Force-101, CENTCOM press release, May 11, 2009, <http://www.centcom.mil/en/news/press-releases/reported-insurgent-white-phosphorus-attacks-and-caches> (accessed October 28, 2015). See also "Taliban 'Used White Phosphorus,'" *BBC News*, May 11, 2009, <http://news.bbc.co.uk/2/hi/8045012.stm> (accessed October 28, 2015); "U.S. Accuses Afghan Militants of Using White Phosphorus," *Guardian*, May 11, 2009, <http://www.theguardian.com/world/2009/may/11/taliban-phosphorus-attacks-afghanistan> (accessed October 28, 2015); Michael Evans, "Taliban Using White Phosphorus, Some of it Made in Britain," *Times*, May 12, 2009, <http://www.thetimes.co.uk/tto/news/world/asia/article2610301.ece> (accessed October 28, 2015).

⁵³ Amos Harel, "IDF Probes Improper Use of White Phosphorus Shells in Gaza," *Haaretz*, January 21, 2009, <http://www.haaretz.com/print-edition/news/idf-probes-improper-use-of-phosphorus-shells-in-gaza-strip-1.268545> (accessed October 28, 2015).

⁵⁴ Human Rights Watch, *Rain of Fire: Israel's Unlawful Use of White Phosphorus in Gaza*, March 2009, <https://www.hrw.org/report/2009/03/25/rain-fire/israels-unlawful-use-white-phosphorus-gaza> (accessed October 28, 2015), p. 7

⁵⁵ *Ibid.*, p. 1

The use of white phosphorus in Gaza provoked both international and domestic outrage, illustrating the increased stigma against it.⁵⁶ In 2013, lawyers Michael Sfard and Emily Schaeffer filed a petition on behalf of 117 petitioners before Israel's High Court of Justice calling for the IDF to cease its use of white phosphorus in civilian areas. Although the court dismissed the petition, the case is considered a victory for the petitioners in many ways. The dismissal came after Israel's military pledged to the court that it would no longer use white phosphorus in populated areas except in two narrow situations that it revealed only to the justices, but which Justice Edna Arbel claimed are so narrow as to "render use of white phosphorus an extreme exception in highly particular circumstances."⁵⁷

Israel appears to have responded to external pressure by amending its practice as well as policy. Notably there were no confirmed reports of the use of white phosphorus munitions by Israeli forces during their military operations in Gaza in 2014. This development seems to reflect evolving attitudes toward incendiary weapons and those with white phosphorus in particular. In addition, it demonstrates the impact that can follow from the stigmatization of a particular type of weapon.

The long-lasting effects of white phosphorus, as well as incendiary weapons generally, have also been evident over the past five years. Mine action teams from Norwegian People's Aid (NPA) have discovered remnants of white phosphorus munitions in several countries, including in South East Asia.⁵⁸ In September 2014, a rebel-affiliated team clearing unexploded ordnance in Ukraine told media that it had destroyed incendiary weapons remnants in the course of its operations; a video showed that the remnants came from white phosphorus rounds.⁵⁹

⁵⁶ This outrage took many forms, including the UN Board of Inquiry report and the Report of the United Nations Fact-Finding Mission on the Gaza Conflict (the Goldstone Report), both of which specifically mentioned and condemned the use of white phosphorus in civilian areas. See "Summary of the Secretary-General of the Report of the United Nations Headquarters Board of Inquiry into Certain Incidents in the Gaza Strip between 27 December 2009 and 19 January 2009," A/63/855 and S/2009/250, May 15, 2009, para. 56; United Nations Office of the High Commissioner for Human Rights, "Report on the United Nations Fact-Finding Mission on the Gaza Conflict," AHRC/12/48, September 25, 2009, paras. 629, 648, and 649.

⁵⁷ B'Tselem, "HCJ Dismisses Petition Demanding the Military Cease Use of White Phosphorous," July 14, 2013, http://www.btselem.org/firearms/20130717_white_phosphorus_ruling (accessed October 28, 2015). The Israel Defense Forces (IDF) were also called on to conduct a "thorough and comprehensive examination" and adopt a permanent military directive, and the court specified that judicial review of the military's selection of means of warfare is allowed "when there are allegations that military measures have been used in a manner that contravenes the laws of war." Ibid. For additional information on reaction to Israel's attacks and its changes in policy and practice, see Human Rights Watch and IHRC, *Incendiary Weapons: Recent Use and Growing Opposition*.

⁵⁸ Norwegian People's Aid, *Weapons Policy*, January 2015, http://issuu.com/folkehjelp/docs/weapons_policy/1?e=3056008/11678742 (accessed October 28, 2015), p. 19.

⁵⁹ Alec Luhn, "The Sappers of Stepanivka," video clip, YouTube, September 18, 2014, <https://www.youtube.com/watch?v=YHxCp-bgQ9g> (accessed October 28, 2015).

White phosphorus thus poses a threat to civilians not only at the time of attack but also afterwards, if the rounds fail to function as designed. Remnants also present a dangerous obstacle to survey and clearance operations, and they can slow the process considerably due to the need for special tools to ensure their safe clearance and destruction.⁶⁰

States' Positions

Many states parties to the CCW have responded to recent use of incendiary weapons, including white phosphorus, by speaking out on the subject for the first time since Protocol III's adoption.⁶¹ Following the IDF's white phosphorus attacks on Gaza, three states noted concerns about incendiary weapons at a CCW meeting of states parties in November 2010.⁶² A number of countries addressed the problem of incendiary weapons at the 2011 Review Conference in statements to the plenary and a committee dedicated to reviewing the scope and operation of the CCW and its protocols.

Since then, nearly 30 states, the UN secretary-general, the International Committee of the Red Cross (ICRC), and nongovernmental organizations have expressed concern at the use of incendiary weapons at each annual meeting of states parties and in other fora, as well as in correspondence with Human Rights Watch.⁶³

⁶⁰ Norwegian People's Aid, *Weapons Policy*, p. 19.

⁶¹ Many of the statements referred to in this section are available on the following websites: UN Office of Geneva, "The Convention on Certain Conventional Weapons: Meetings of the States Parties," <http://www.unog.ch/80256EE600585943/%28httpPages%29/CE461DB2A1D128A5C12573CD004DB6F3?OpenDocument> (accessed November 1, 2015); Reaching Critical Will, "Convention on Certain Conventional Weapons (CCW)," <http://reachingcriticalwill.org/disarmament-fora/others/ccw> (accessed November 1, 2015).

⁶² Statement of Canada, CCW Meeting of the High Contracting Parties, Geneva, November 24, 2010, notes by Human Rights Watch; Statement of Croatia, CCW Meeting of the High Contracting Parties, Geneva, November 24, 2010, notes by Human Rights Watch; Statement of Djibouti, CCW Meeting of the High Contracting Parties, Geneva, November 24, 2010.

⁶³ Statements of Austria, Australia, Belgium, Canada, Costa Rica, Croatia, Cyprus, Djibouti, Ecuador, Estonia, France, Germany, the Holy See, Honduras, Ireland, Latvia, Lithuania, Mauritius, Mexico, the Netherlands, New Zealand, Nigeria, Norway, Pakistan, Palestine, Qatar, Slovenia, Switzerland, and the United States, CCW Fourth Review Conference, Geneva, November 2011, and Meetings of the High Contracting Parties, Geneva, November 2012, 2013, and 2014. See also Statement of the UN secretary-general, CCW Meeting of States Parties, November 15, 2012; Statement by the UN Mine Action Service, CCW Meeting of States Parties, November 15, 2012; Statements of the ICRC, CCW Fourth Review Conference, Geneva, November 2011, and Meetings of the High Contracting Parties, Geneva, November 2012, 2013, and 2014. Human Rights Watch received letters regarding incendiary weapons from the following: Slovenia (2015); Cyprus, Estonia, Finland, Jamaica, Kazakhstan, Latvia, Mauritius, Mexico, Moldova, Saudi Arabia, and Slovenia (2012); Austria, Belgium, Canada, Estonia, Honduras, Ireland, New Zealand, Qatar, Saudi Arabia, and Switzerland (2011). The UN Commission of Inquiry on Syria has also expressed concern over the use on incendiary weapons, specifically barrel bombs with incendiary effects. UN Commission of Inquiry on Syria, "7th Report of the UN Commission of Inquiry on Syria," Annex VI, paras. 3, 4, and 22.

CCW Annual Meeting Reports

The final report of the 2011 CCW Review Conference and of the three meetings of states parties since have reflected concerns about the use of incendiary weapons, including white phosphorus, and/or the proposals for further CCW work on the topic.

In the 2013 and 2014 reports, states parties responded to use in Syria, and to a lesser extent, Ukraine although without naming the conflicts. The reports stated that: “The Meeting noted the concerns raised by a number of High Contracting Parties over the allegations of use of incendiary weapons against civilians.”⁶⁴

The 2011 and 2012 reports, adopted closer to the time of Israel’s use of white phosphorus, referred to white phosphorus in particular. They also highlighted “suggestions for further discussion.” The relevant excerpts stated:

The Conference notes the concerns raised during the discussions on Protocol III by some High Contracting Parties about the offensive use of white phosphorus against civilians, including suggestions for further discussion on this matter. The Conference further notes that there was no agreement on various aspects of this matter.⁶⁵

Concerns and Condemnation

Almost all states that have elaborated their views on incendiary weapons since 2010 have expressed concern at their humanitarian impacts, and many have explicitly condemned the use or effects of the weapon in specific conflicts.⁶⁶

In highlighting the devastating consequences of incendiary weapons in general, Norway, for example, described their effects as “horrific.”⁶⁷ Switzerland emphasized the considerable number of victims attributed to incendiary weapon attacks and expressed concern at the “grave effects” produced by these weapons.⁶⁸ Djibouti

⁶⁴ CCW Meeting of the High Contracting Parties, “Final Report,” CCW/MSP/2014/9, Geneva, November 13-14, 2014; CCW Meeting of the High Contracting Parties, “Final Report,” CCW/MSP/2013/10, Geneva, November 14-15, 2013.

⁶⁵ CCW Meeting of the High Contracting Parties, “Final Report,” CCW/MSP/2012/9, Geneva, November 15-16, 2012; CCW Fourth Review Conference, “Final Document (Part II),” CCW/CONF.IV/4/Add.1, Geneva, November 14-25, 2011.

⁶⁶ See, for example, Statements of Austria, Croatia, France, Germany, Mexico, the Netherlands, Pakistan, Palestine, Switzerland, and the United States, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁶⁷ Statement of Norway, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁶⁸ Statement of Switzerland, CCW Fourth Review Conference, Geneva, November 16, 2011; Letter from Valentin Zellweger, director, Directorate for International Law, Federal Department of Foreign Affairs of Switzerland, to Human Rights Watch, March 22, 2011.

similarly recognized the serious harm to victims, stating its "concern toward reducing the deep and traumatizing wounds inflicted upon civilian populations by incendiary weapons."⁶⁹ In 2014, the United States said it "shares in the international community's concern about the humanitarian impact of the indiscriminate use of all munitions, including incendiary weapons."⁷⁰ The ICRC also expressed concern, highlighting "the devastating harm that such weapons have on civilians when used in populated areas."⁷¹

Many states, including four in 2014, have criticized incendiary weapons from a legal perspective and referred to the weapons or their use as indiscriminate. For example, Croatia characterized use of incendiary weapons as "not only unacceptable from a humanitarian perspective, but as well as being in a direct contrast with the provisions of international law."⁷² Mexico recognized that some weapons causing "indiscriminate and inhumane effects some of which are prohibited by international law, like ... incendiary weapons."⁷³ Pakistan expressed concern at incendiary weapons' ability to cause "excessive injury and indiscriminate effects."⁷⁴ Referring to incendiary weapons, Switzerland described the use "of such weapons in populated areas as indiscriminate and contrary to the norms of IHL."⁷⁵ Lithuania in 2013 acknowledged the weapons' "indiscriminate impact."⁷⁶

Over the past two years, 12 states condemned the use of incendiary weapons specifically in Syria, and in 2014, three of those also condemned use in Ukraine.⁷⁷ Austria was "deep[ly] concerned" at the "unacceptable suffering that the use of incendiary weapons in Syria and Ukraine has caused for the civilian population."⁷⁸

⁶⁹ Statement of Djibouti, CCW Meeting of High Contracting Parties, Geneva, November 2010.

⁷⁰ Statement of the United States, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁷¹ Statement of the ICRC, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁷² Statement of Croatia, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁷³ Statement of Mexico, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014, translation by IHRC.

⁷⁴ Statement of Pakistan, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁷⁵ Statement of Switzerland, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014, translation by IHRC.

⁷⁶ Statement of Lithuania, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013. Some states implicitly criticized incendiary weapons for having indiscriminate effects by mentioning them in the context of general concerns about weapons with indiscriminate effects. See, for example, Statement of Ecuador, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁷⁷ Statements of Austria, Croatia, France, Germany, and the United States, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014 (condemning use in Syria); Statements of Austria, Croatia, and the United States, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014 (condemning use in Ukraine); Statements of Austria, Canada, Croatia, Ecuador, France, Germany, Ireland, Lithuania, the Netherlands, Norway, Switzerland, and the United States, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013 (condemning use in Syria).

⁷⁸ Statement of Austria, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

Croatia condemned the use of these weapons in Syria as “indiscriminate,”⁷⁹ and noted that it resulted in “significant humanitarian impact ... that should be of a direct concern to CCW State Parties.”⁸⁰ Croatia also expressed deep concern regarding “disturbing reports about the alleged use of incendiary weapons in the Ukrainian conflict.”⁸¹ The United States referred to reports of use in Syria and Ukraine as “disturbing” and “concerning” and “strongly condemn[ed] any intentional targeting of civilians.”⁸²

Speaking of Syria in particular, France described the use of incendiary weapons as “unacceptable” and “condemn[ed] it] with the utmost firmness.”⁸³ The Netherlands “condemn[ed] the use of incendiary weapons by the Syrian regime” and “recall[ed] that international humanitarian law prohibits the use of indiscriminate weapons and that such use may amount to a war crime.”⁸⁴ Germany, too, was “concerned about the alleged use of incendiary weapons in attacks by military aircrafts against civilian targets in Syria.”⁸⁵ Canada similarly “condemn[ed] any indiscriminate use of weapons against civilians in violation of international humanitarian law, [which] applies ... even if Syria is not a high contracting party to the Convention on Conventional Weapons and Protocol III on incendiary weapons.”⁸⁶

Several states highlighted the effects of weapons containing white phosphorus in their expressions of concern and condemnation. In 2014, Mexico noted the “particularly serious and permanent injury ... caused by white phosphorus.”⁸⁷ The same year, Palestine characterized the injuries as “horrific and painful.”⁸⁸ Cyprus wrote previously that it “shares the concerns of the International Community concerning the humanitarian consequences of the use of incendiary weapons, including white phosphorus.”⁸⁹ Slovenia echoed the humanitarian concerns “regarding the issue of

⁷⁹ Statement of Croatia, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁸⁰ Statement of Croatia, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁸¹ Statement of Croatia, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁸² Statement of United States, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014; Statement of United States, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁸³ Statement of France, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013, translation by IHRC.

⁸⁴ Statement of the Netherlands, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁸⁵ Statement of Germany, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014. That statement echoed one from the previous year in which Germany said it was “deeply concerned about the use of incendiary weapons by the Syrian regime.” Statement of Germany, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁸⁶ Statement of Canada, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

⁸⁷ Statement of Mexico, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014, translation by IHRC.

⁸⁸ Statement of Palestine, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁸⁹ Letter from Ambassador Euripides Evriviades, Ministry of Foreign Affairs of the Republic of Cyprus, to Human Rights Watch, June 5, 2012.

white phosphorous.”⁹⁰ Switzerland recognized the gaps in Protocol III and explained that “in spite of ... very serious effect[s], the use of white phosphorous did not necessarily violate Protocol III.”⁹¹

Calls to Strengthen Protocol III

Over the past five years, states parties have not only condemned problematic use, but also supported strengthening or amending the language of Protocol III. For example, in a 2015 letter to Human Rights Watch, Slovenia wrote that it “supports the idea to explore possibilities to strengthen the Protocol III to the CCW and identify ways to further and comprehensively address humanitarian consequences of the use of incendiary weapons, notably white phosphorus.”⁹² In 2014, the Netherlands voiced its support for “the commencement of formal discussions on Protocol III in order to further strengthen this protocol.”⁹³

In previous years, the Holy See expressed willingness to review the protocol, “in order to improve and strengthen provisions for the protection of civilians from the harmful effects of these weapons.”⁹⁴ Honduras also deemed it appropriate to “pronounce in favor of the amendment of Protocol III on the prohibitions or restrictions to the use of incendiary weapons.”⁹⁵ Qatar similarly expressed openness to amending Protocol III.⁹⁶

⁹⁰ Letter from Ambassador Roman Kirn, Embassy of the Republic of Slovenia in Washington, to Human Rights Watch, April 9, 2012.

⁹¹ Statement of Switzerland, CCW Fourth Review Conference, Geneva, November 16, 2011, translation by IHRC. The ICRC also recognized the definitional loophole, stating, “Protocol III contains a narrow definition of incendiary weapons, which excludes from the scope of the Protocol’s prohibitions and restrictions many weapons with significant incendiary effects. Weapons such as those containing white phosphorous can escape the restrictions on the use of incendiary weapons contained in Protocol III of the CCW because, although they have significant incendiary effects, these effects can be characterised as ‘incidental’ to the munitions’ main purpose.” Statement of the ICRC, CCW Fourth Review Conference, Geneva, November 15, 2011.

⁹² Letter from Karl Erjavec, deputy prime minister, Ministry of Foreign Affairs of the Republic of Slovenia, to Human Rights Watch, October 5, 2015.

⁹³ Statement of the Netherlands, CCW Meeting of High Contracting Parties, Geneva, November 2014.

⁹⁴ Statement of the Holy See, CCW Fourth Review Conference, Geneva, November 14, 2011, notes by Human Rights Watch.

⁹⁵ Letter from Col. Juan Angel Blanco Bejarano, director of humanitarian law, Joint Chiefs of Staff of the Honduran Armed Forces, to the Chairman of the Joint Chiefs of Staff of the Honduran Armed Forces, May 24, 2011 (transmitted to Human Rights Watch in letter from Permanent Mission of Honduras before the United Nations in Geneva, July 5, 2011) (unofficial translation).

⁹⁶ Letter from Ambassador Abdulla Falah Al Dosari, Permanent Mission of the State of Qatar before the United Nations in Geneva, to Human Rights Watch, October 24, 2011. See also Statement of Qatar, CCW Fourth Review Conference, Geneva, November 15, 2011, notes by Human Rights Watch. Civil society organizations, in addition to Human Rights Watch, have also called for strengthening Protocol III. Article 36, for example, noted that 22 states had proposed a ban on incendiary weapons in 1979 and highlighted the problems of the current protocol. A representative from Article 36 said, “[W]e believe this question should be revisited on the terms of that 22-nation proposal from 1979—that incendiary weapons should be prohibited from use.” Statement of Article 36, CCW Meeting of High Contracting Parties. Geneva, November 13, 2014.

In 2012, the UN secretary-general called on states parties to “to increase efforts to raise awareness and strengthen [the] rules” related to incendiary weapons.⁹⁷

Support for strengthening or amending the protocol has largely centered on closing the definitional loophole within Protocol III that permits use of weapons with incendiary effects, including white phosphorus. In 2014, Croatia “appeal[ed] to all actors for a more focused attention on this issue” and proposed exploring the possibility of amending Protocol III’s “definitions and scope by focusing on actual effects of the weapon, and not its intended effects.”⁹⁸ Norway noted that it is important to “focus on the actual effects and not the weapon’s design or intended effect.”⁹⁹

Some states have expressly mentioned a willingness to encompass white phosphorus in an amended definition. Mexico said in 2014 that it supported “the deliberations ... with a view to amending the Protocol III to include white phosphorus, in order to contribute to the protection of the civilian population.”¹⁰⁰ In earlier statements, Djibouti repeatedly highlighted this issue and expressed “the necessity of revisiting, redefining, and clarifying the clauses contained in Protocol III on Incendiary Weapons, in order to reach greater clarity in the designation of white phosphorus explosives.”¹⁰¹ Mauritius similarly “support[ed] [a] definition of incendiary weapons ... encompassing white phosphorus.”¹⁰²

Support for CCW Discussions

Some states have indicated support for a CCW mandate to discuss the problems of incendiary weapons and review Protocol III. In a 2015 letter, Slovenia wrote that it would “be in favor of the adoption of a new CCW mandate to discuss issues and concerns regarding the use of incendiary weapons in the course of last years in specific crisis situations, namely in Syria.”¹⁰³ In 2013, Austria said it was “important” to hold discussions to build on “calls ... to take a closer look at Protocol III on incendiary weapons and its implementation in light of current challenges.”¹⁰⁴

⁹⁷ Statement of the UN secretary-general, CCW Meeting of States Parties, November 15, 2012.

⁹⁸ Statement of Croatia, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

⁹⁹ Statement of Norway, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013.

¹⁰⁰ Statement of Mexico, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014, translation by IHRC.

¹⁰¹ Statement of Djibouti, CCW Fourth Review Conference, Geneva, November 2011; Statement of Djibouti, CCW Meeting of the High Contracting Parties, Geneva, November 24, 2010.

¹⁰² Letter from the Republic of Mauritius, to Human Rights Watch, August 2012.

¹⁰³ Letter from Karl Erjavec, deputy prime minister, Ministry of Foreign Affairs of the Republic of Slovenia, to Human Rights Watch, October 5, 2015.

¹⁰⁴ Statement of Austria, CCW Meeting of High Contracting Parties, Geneva, November 14, 2013. See also Statement of Austria, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014 (“Austria reiterates its position that it is

At the 2011 Review Conference, several states recommended establishing a forum for CCW discussions on incendiary weapons, including the effects of white phosphorus. Germany said it would be “appropriate to begin to study and examine the possible misuse of white phosphorous as a weapon, for instance by devoting one day of an experts’ meeting to presentations on the subject.”¹⁰⁵ Australia said it would “welcome a genuine exchange between experts ... on the scope and applicability of Protocol III on other weapons that can have the same effect as incendiary weapons.”¹⁰⁶ Switzerland was also “in principle in favor of the proposal which provides for a new mandate to deal with all the humanitarian problems caused by ... white phosphorus.”¹⁰⁷

The ICRC has also agreed that Protocol III should be reviewed. In 2014, it expressed “support [for] calls that have been made ... for further work on [incendiary weapons] in the context of the CCW, including an examination of the adequacy and implementation of Protocol III.”¹⁰⁸ In 2011, it highlighted the “considerable value in examining the military, technical, legal and humanitarian aspects of [incendiary] weapons either through work on this issue in the CCW’s Group of Governmental Experts or other settings.”¹⁰⁹

Most states that have elaborated their views on Protocol III in CCW statements or correspondence have said they are willing to consider holding discussions within the CCW framework.¹¹⁰ For example, Canada noted its “long standing policy of addressing the humanitarian impact of weapons on civilians” and pledged it would “examine all relevant proposals.”¹¹¹ Estonia also explained that it was “open to adopting further measures within the CCW and to review and improve the mechanisms of Protocol III ...

willing to examine the existing provisions on incendiary weapons under the Convention on Certain Conventional Weapons, and its Protocol III in particular, with regard to their application and efficacy.”).

¹⁰⁵ Statement of Germany, CCW Fourth Review Conference, Geneva, November 15, 2011.

¹⁰⁶ Statement of Australia, CCW Fourth Review Conference, Geneva, November 14, 2011.

¹⁰⁷ Statement of Switzerland, CCW Fourth Review Conference, Geneva, November 16, 2011, translation by IHRC.

¹⁰⁸ Statement of the ICRC, CCW Meeting of High Contracting Parties, Geneva, November 13, 2014.

¹⁰⁹ Statement of the ICRC, CCW Fourth Review Conference, Geneva, November 15, 2011. See also Statement of the ICRC, CCW Meeting of States Parties, Geneva, November 15, 2012, notes by Human Rights Watch.

¹¹⁰ See, for example, Human Rights Watch and IHRC, *Government Positions on Protocol III on Incendiary Weapons: Memorandum to the Convention on Conventional Weapons Delegates*, November 2012, https://www.hrw.org/sites/default/files/related_material/nov2012_arms_incendiarypii_o.pdf (listing states that were open to examining the protocol, including: Australia, Austria, Belgium, Canada, Djibouti, Estonia, Finland, Germany, the Holy See, Honduras, Ireland, Latvia, Mauritius, Mexico, New Zealand, Qatar, Slovenia, and Switzerland).

¹¹¹ Letter from the Honourable Lawrence Cannon, minister of foreign affairs of Canada, to Human Rights Watch, March 22, 2011.

in order to minimize the impact of armed conflicts on both the civilian population as well as combatants.”¹¹²

Many states that declared themselves open to discussion highlighted the issue of white phosphorus. Belgium wrote that it could “consider this issue [of white phosphorus] within the general framework offered by” the CCW.¹¹³ Ireland wrote that it was “open to proposals to consider particular weapons in the CCW context, including white phosphorus, within the overall mandate of the CCW to address weapons which may be deemed to be excessively injurious or to have indiscriminate effects.”¹¹⁴ Similarly, New Zealand stated that it would “consider the issues raised regarding white phosphorus in particular” and “look[ed] forward to discussions on the issue.”¹¹⁵

Over the five years covered by this paper, states have repeatedly articulated their humanitarian and legal concerns about incendiary weapons. Their statements have built momentum for adopting a mandate to address incendiary weapons and ultimately to strengthen Protocol III.

Time to Take Action

While the statements countries have made so far have advanced the debate on incendiary weapons, it is both critical and timely for them to take more concrete action at this point.

Value of a Stronger Protocol

The repeated use of incendiary weapons since Protocol III’s adoption, including in the past five years, demonstrates the ongoing nature of the problem and the need to strengthen the protocol.

An amended Protocol III would have many benefits. It would create stricter obligations for states parties. It would also increase the stigma surrounding the use of incendiary weapons and could therefore influence the actions of both states not party and non-state armed groups. As suggested by Israel’s choice not to use white phosphorus in its 2014 operations in Gaza, international and domestic stigmatization of a particular

¹¹² Letter from Urmas Paet, Ministry of Foreign Affairs of the Republic of Estonia, to Human Rights Watch, April 25, 2011.

¹¹³ Letter from Steven Vanackere, Ministry of Foreign Affairs of Belgium, to Human Rights Watch, May 13, 2011.

¹¹⁴ Letter from Aidan Cronin, private secretary on behalf of the minister of foreign affairs, Office of the Minister for Foreign Affairs of Ireland, to Human Rights Watch, February 5, 2011.

¹¹⁵ Letter from Hon. Georgina te Heuheu QSO, minister for disarmament and arms control for New Zealand, to Human Rights Watch, April 5, 2011.

weapon has the potential meaningfully to impact decisions around use. Furthermore, a stronger protocol would provide a more powerful basis for public condemnation of the use of incendiary weapons and send a clear message that inappropriate use of these weapons will not be tolerated.

Amending Protocol III is also vital to addressing inadequacies that were recognized more than 35 years ago during the drafting of the protocol. At a diplomatic conference in 1979, a delegate from Mexico expressed the view that a majority of states supported a total ban on incendiary weapons.¹¹⁶ But since Protocol III was a product of negotiation and compromise, an outright ban was not achieved.¹¹⁷ At the conclusion of the diplomatic conference that produced the CCW in 1980, many states said that they were disappointed by the weakness of Protocol III, especially its failure to prohibit all use of incendiary weapons.¹¹⁸ Several states recommended using the CCW's review conferences to improve the protocol.¹¹⁹ That has not happened yet, but the Fifth Review Conference in 2016 presents an opportunity to address shortcomings that have plagued the protocol from its inception.

A Timely Forum

The Fifth Review Conference is a well-timed and appropriate forum in which to take action on incendiary weapons. States parties can build on the momentum that has developed over the past five years. In addition, there is precedent for CCW review

¹¹⁶ Statement of Mexico, UN Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Committee of the Whole, Summary Record of the Fifth Meeting, Geneva, September 21, 1979, A/CONF.95/CW/SR.5, September 24, 1979, para. 17. But see W. Hays Parks, "The Protocol on Incendiary Weapons," *International Review of the Red Cross*, vol. 279 (November-December 1990), pp. 535 and 538 (saying "there appeared to be little support for a total prohibition on incendiary weapons" at the preparatory conference).

¹¹⁷ ICRC, *Report on the Conference of Government Experts on the Use of Certain Conventional Weapons (Second Session—Lugano, 21.1-26.2.1976)* (Geneva: International Committee of the Red Cross, 1976), https://www.loc.gov/rr/frd/Military_Law/pdf/RC-conf-experts-1976.pdf (accessed October 28, 2015), p. 11, para. 23 ("As for the possibility, contents and form of proposals relating to the use of incendiary weapons, several experts emphasized once again the need for any agreement on this score to find the broadest support practicable. Experts were cautioned in this context against trying to ban forms of use of incendiary weapons that were considered essential from a military point of view.").

¹¹⁸ See, for example, Statement of Mexico, UN Conference on Prohibitions or Restrictions of the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Second Session, Committee of the Whole, Summary Record of the 15th Meeting, Geneva, October 8, 1980, A/CONF.95/CW/SR.15, October 21, 1980, paras. 8-9; Statement of Romania, UN Conference on Prohibitions or Restrictions of the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Second Session, Committee of the Whole, Summary Record of the 14th Meeting, Geneva, October 3, 1980, A/CONF.95/CW/SR.14, October 10, 1980, para. 2.

¹¹⁹ See, for example, Statements of Mexico, Finland, and Egypt, UN Conference on Prohibitions or Restrictions of the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Second Session, Committee of the Whole, Summary Record of the 15th Meeting, Geneva, October 8, 1980, A/CONF.95/CW/SR.15, October 21, 1980, paras. 8-9, 11, and 15.

conferences to serve as platforms for change. The four previous conferences, held every five years since 1996, have all seen efforts to expand the CCW in some capacity.¹²⁰

During the First Review Conference held in 1995 and 1996,¹²¹ states parties adopted Protocol IV prohibiting the use and transfer of blinding laser weapons.¹²² They also adopted an amended version of Protocol II on landmines, booby-traps, and other devices, although it was widely seen as insufficient and led to a process outside UN auspices that resulted in the 1997 Mine Ban Treaty prohibiting the weapons.¹²³

At the Second Review Conference in 2001, states parties extended the convention's scope of application to apply in situations of non-international armed conflict.¹²⁴ They also established an open-ended Group of Governmental Experts (GGE) to address the problems of explosive remnants of war (ERW) and anti-vehicle mines.¹²⁵ The GGE drafted a new protocol on explosive remnants of war that was adopted by states in 2003 and entered into force in 2006.¹²⁶ While states parties could not reach agreement on an anti-vehicle mine protocol, 25 states committed to a declaration on the topic at the Third Review Conference in 2006.¹²⁷

Although CCW states parties did not achieve success in addressing the unacceptable harm caused by cluster munitions, the Third and Fourth Review Conferences were key moments in the history of efforts to ban them. When states failed to take action at the 2006 conference, Norway announced the launch of the Oslo Process that resulted in

¹²⁰ CCW Review Conferences were held in 1995/1996, 2001, 2006, and 2011. The next review conference is scheduled for December 2016.

¹²¹ The first session of the First Review Conference took place in Vienna from September 25 to October 13, 1995 and resumed from January 15 to 19, 1996. The second session was held from April 22 to May 3, 1996. See CCW First Review Conference, "Final Document, Part I: Final Report," CCW/CONF.I/16 (Part I), 1996, p. 6.

¹²² See ICRC, *Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects*,

https://www.icrc.org/eng/assets/files/other/icrc_002_0811.pdf (accessed October 28, 2015), p. 7.

¹²³ Ibid.

¹²⁴ Louis Maresca, "Second Review Conference of the Convention on Certain Conventional Weapons," *International Review of the Red Cross*, no. 85, March, 31, 2002, <https://www.icrc.org/eng/resources/documents/misc/59kc84.htm> (accessed October 28, 2015).

¹²⁵ Ibid.

¹²⁶ UN Office at Geneva, "CCW Protocol V on Explosive Remnants of War," [http://www.unog.ch/80256EE600585943/\(httpPages\)/C7DDB8CCD5DD3BB7C12571D8004247FA?OpenDocument](http://www.unog.ch/80256EE600585943/(httpPages)/C7DDB8CCD5DD3BB7C12571D8004247FA?OpenDocument) (accessed October 28, 2015).

¹²⁷ UN Office at Geneva, "Mines Other than Anti-Personnel Mines (MOTAPM)," <http://www.unog.ch/80256EE600585943/%28httpPages%29/7FAEF7CE8B841EFAC12579C1002CAF88?OpenDocument> (accessed October 28, 2015); CCW Third Review Conference, "Final Document Part III: Declaration on Anti-Vehicle Mines," CCW/CONF.III/11 (Part III), November 7-17, 2006, p. 36.

the adoption of the 2008 Convention on Cluster Munitions.¹²⁸ At the 2011 conference, a proposed CCW protocol that would have weakened the ban by permitting continued use of cluster munitions failed to secure consensus.¹²⁹

CCW review conferences have been pivotal in the evolution of the CCW and its protocols. States parties should therefore seize the opportunity of the 2016 conference to pursue significant work on incendiary weapons. Although lethal autonomous weapons systems may also be on the agenda, states parties have a history of dealing with more than one issue at a review conference.

In the meantime, states parties should recognize the importance of the meeting of states parties to be held in November 2015. By adopting a mandate that dedicates time to discuss the implementation and adequacy of Protocol III over coming year, states parties can lay the groundwork for a successful review conference in December 2016.

¹²⁸ Human Rights Watch, *Meeting the Challenge: Protecting Civilians through the Convention on Cluster Munitions*, November 2010, <https://www.hrw.org/sites/default/files/reports/armsclusters1110webwcover.pdf>, pp. 112-113.

¹²⁹ Bonnie Docherty, "Ending Civilian Suffering: The Purpose, Provisions, and Promise of Humanitarian Disarmament Law," *Austrian Review of International and European Law*, vol. 14, 2010, pp. 42-44.