

Iraq, IHL and Environmental Protection

In 2016, an attack from the so-called Islamic State of Iraq and the Levant (ISIL) to an oil refinery in Iraq created a big black cloud that spread for over 10 kilometers. The cloud was so dense to be able to cover sunlight, to which the event was called “Daesh winter”. A mission of United Nations Environmental Programme (UNEP) was sent to evaluate the environmental damages caused by conflict in the region and found that the attack caused a spill of oil that contaminated land and rivers, resulting in large environmental damage to the region. This situation comes in a context of growing concerns about the impact of armed conflicts to the environment, both by the targeting of environmental sites during conduct of hostilities, and the environmental damage left post conflict and its effects on the local population.

Acknowledgments

Case prepared by Ana Carla da Silva Gonçalves, Master’s candidate at the University of Lausanne, under the supervision of Professors Marco Sassòli (University of Geneva) and Professor Julia Grignon (Laval University).

N.B. As per the [disclaimer](#), neither the ICRC nor the authors can be identified with the opinions expressed in the Cases and Documents. Some cases even come to solutions that clearly violate IHL. They are nevertheless worthy of discussion, if only to raise a challenge to display more humanity in armed conflicts. **Similarly, in some of the texts used in the case studies, the facts may not always be proven;** nevertheless, they have been selected because they highlight interesting IHL issues and are thus published for didactic purposes.

A. ENVIRONMENTAL ISSUES IN AREAS RETAKEN FROM ISIL MOSUL, IRAQ - TECHNICAL NOTE

[Source: United Nations Environmental Programme, Environmental issues in areas retaken from ISIL Mosul, Iraq - Technical Note, August 2017, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/22434/environmental_issues_isil_iraq.pdf?sequence=1&isAllowed=y]

1. Background

[1] During his visit to Iraq in May 2017 [...] The Head of UN Environment witnessed first-hand the devastating environmental impacts affecting the inhabitants of Qayarrah town, 60 kilometres south of Mosul, from oil wells deliberately set on fire. ISIL’s scorched earth tactics provide a dramatic illustration of how pollution from conflicts and deliberate sabotage and looting of industrial facilities and civil infrastructure can affect people’s health and livelihoods for decades, and impede reconstruction and peacebuilding efforts.

[2] Two weeks after the Iraqi Government declared the liberation of Mosul on 9 July 2017, UN Environment deployed staff to Iraq to design and plan with the Environment Ministry an environmental assessment of the city and surrounding areas. Iraq’s second or third largest city (estimates vary) with a pre-conflict population of around 1.4 million people, Mosul is today at the centre of one of the world’s largest and most complex humanitarian operations with over one million displaced persons. An important commercial and industrial hub, Mosul is also where environmental impacts are considered to be of greatest concern given the high level of infrastructure destruction, the large number of hazardous sources, and the potential size of the exposed population.

[...]

2. Assessment Planning

[...]

3. Reconnaissance Field Visits

[...]

3.1. Qayarrah Oil Field

[3] Qayarrah oil field is located around 60 kilometres south of the city of Mosul, and directly adjacent to Qayarrah town with an

estimated population of approximately 23,000. Uncontrolled human settlements have encroached inside the oil field since 2006. The area fell to ISIL in June 2014. [...]

[4] An oil refinery is located on the south-eastern outskirts of the town, with an installed capacity of 34,000 barrels of heavy crude (asphalt), and 20,000 barrels of light crude per day.

[5] Eighteen of the 25 wells rigged with explosives and blown-up by ISIL in June 2016 caught fire, creating a vast black cloud stretching over tens of kilometres. So thick was the toxic black smoke that it obscured the sun. Locals refer to the darkened skies as the 'Daesh winter'.

[...]

[6] The circumstances of controlling the fire were exceptional in that it took place on an active frontline. Underequipped and understaffed, the fire fighters worked under direct sniper and missile fire, and in a high risk zone not properly surveyed for landmines [...]. One firefighter was killed and five others seriously injured while extinguishing the oil fires.

[7] A problematic site is well 46 as it lies in the middle of an informal settlement (Al-Shuhadaa neighbourhood). Although this well was not operational, it was nevertheless detonated by ISIL.

[8] Scores of homes were burnt and residents complained that the settlement was no longer habitable due to the noxious fumes emanating from the oil pools and smouldering fires that break out intermittently. The interior of many houses are covered in soot. The very fine particulate matter containing polycyclic aromatic hydrocarbons (PAHs) and heavy metals (lead) represent an indoor air quality health risk to residents.

[9] The refinery was targeted by coalition forces as it was used by ISIL and is severely damaged. The oil depot made up of 18 storage tanks with a total capacity of 40,000 m³ was also impacted in combat operations. Twelve tanks were destroyed or damaged and several melted under the extreme temperatures. The total amount of burned and spilt oil cannot be ascertained but is estimated by experts from the oil ministry at 20,000 m³. [...]

[...]

[10] In general, the land area impacted around each well is variable depending on the topography but can be estimated to range around 1 to 1.5 square kilometres. Tens of thousands of barrels of oil flowed on land and into the wadis, creating reportedly at least 23 large lakes. In certain areas, the oil spill reportedly reached within 200-300 metres of the Tigris River.

[11] The population of Qayarraah town depends on the Tigris River for its drinking water and there is limited use of groundwater, which is partially used for agriculture and household chores. Nevertheless, oil pollution can contaminate the Tigris River following rains and over the medium to long-term the polycyclic aromatic hydrocarbons (PAHs) can migrate to the ground water.

3.2. Mishraq Sulphur Complex

[12] The General Mishraq Sulphur Company is located around 45 kilometres south of Mosul and 3 kilometres from the juncture of the Tigris and Great Zab rivers. The complex is situated in a rural setting with five villages located within a 3-5 kilometre radius. It covers a 17 square kilometre area and consists of a sulphur mine, a sulphuric acid plant and an alum plant.

[...]

[13] Using explosives and vehicle tyres, ISIL set alight a ~50,000 tonne stockpile of refined sulphur on 21 October 2016. An estimated 30,000-35,000 tonnes of which was reportedly consumed, generating a thick white cloud of toxic sulphur dioxide and sulphur trioxide reaching Baghdad and neighbouring countries.

3.3. Mosul City

[14] The impacts of the conflict on eastern and western Mosul are incomparable. Indeed, in terms of level of destruction it is more appropriate to speak of two cities. Eastern Mosul is well on the road to recovery. The level of devastation in western Mosul, however, is so great that reconstruction will take years, if not decades. [...]

[...]

3.3.1. Eastern Mosul

[15] Eastern Mosul was retaken by Iraqi Security Forces in January 2017, and damage is relatively limited in scope and is site specific. The majority of the destruction and damage is to government buildings; sixty percent of which were reportedly ruined according to the Mayor of Mosul. This includes public directorates, Mosul University, and utility buildings [...]

[...]

[16] The central electricity storehouses in Karama serving eastern Mosul were bombed and sabotaged and oil from scores of transformers are visibly leaking, which may contain PCBs.

[...]

[17] The pharmaceutical manufacturing complex north of Mosul was bombed by coalition forces on suspension [sic] of conversion into a chemical weapons manufacturing facility. The plant is under military control and is not accessible.

3.3.2. Western Mosul

[18] The situation in western Mosul is completely different from the eastern bank. The old city – an area of 2.5-3 square kilometres and a pre-conflict population of over 100,000 people is almost completely destroyed; more than 90%. At the time of UN Environment's field visit on 2 and 3 August, it was a military zone deserted of people and daily skirmishes were taking place. The stench from decomposing corpses in the rubble (up to three thousand according to the Mayor) was evident, and is a health concern to the authorities. The old city is also heavily contaminated with booby traps and mines. The underground situation below the old city itself remains unknown due to extensive tunnelling by ISIL. Other than some historic landmark buildings which may still be partially saved, it is evident that the old city will need to be rebuilt anew.

[...]

4. Mosul Debris Management

[...]

5. Cessation of Environmental Governance and Education

[...]

6. Weaponization of Water Management Infrastructure

[19] Water management infrastructure was used by ISIL as both a strategic and tactical weapon in its conflict with the Government. ISIL sought control over critical water facilities to exert hydrologic hegemony on government controlled central and southern Iraq. Tactically, it used water as a battlefield weapon to flood and thwart government troop movements and in other instances to drown or besiege government controlled towns and rural areas.

[20] Spanning the Tigris River, the Mosul dam – Iraq's largest - was captured by ISIL for less than two weeks in August 2014 raising public concern due to a long-standing risk of failure. As the workers operating the dam fled, so grouting operations to maintain ground stability below the dam were halted, heightening the threat of a catastrophic collapse. When Kurdish forces regained control of the dam, its equipment were looted and destroyed.

[21] Iraq's water battle, however, was mainly played out on the Euphrates River. The battleground extended from the Tabaqa dam - approximately 40 kilometres upstream of Raqqa in Syria – and through the entire expanse of Al-Anbar Governorate from the point that the Euphrates River enters Iraq near Al-Qaim to the Fallujah barrage, nearly 65 kilometres west of Baghdad.

[22] To a lesser extent, ISIL was also able to exercise its influence over the Tigris River during certain periods when it gained control of Samarra barrage from 2014-2016, disrupting the water transfer scheme from the Tigris to the Euphrates rivers via the Tharthar Reservoir and associated control structures and canals.

[23] Haditha, Iraq's second largest reservoir dam which regulates the Euphrates River for the whole country, was never occupied by ISIL. Nonetheless, the group completely besieged the dam for over a year and half from 2015-2016, assaulting it repeatedly. Indeed, the government was only able to maintain its hold of the dam through airlifts.

[24] For a 6-month period from March – October 2015, through its control of the Tabaqa dam in Syria, ISIL practically cut off Euphrates River flow to Iraq. This not only disrupted agricultural livelihoods and accentuated the risk from water-borne diseases such as cholera, but low water levels also threatened to damage the turbines of the Haditha dam which generated up to a third of the country's electricity in normal times.

[...]

[25] In April 2014, ISIL seized control of Fallujah barrage which is a critical diversion structure regulating water supplies to millions of people in central and southern Iraq. Initially, ISIL cut off water supplies leaving communities along the middle Euphrates without water and causing large swathes of the Central and Hammar marshes to dry out. ISIL then proceeded to flood hundreds of square kilometres of agricultural land reaching the town of Abu Ghraib near Baghdad. Over 12,000 families were evacuated and the canal network and agricultural landscape was seriously degraded by the uncontrolled inundation.

[26] ISIL fighters reportedly attacked hydraulic infrastructure such as the Ramadi barrage and the main Tharthar regulator

linking the Euphrates and Tigris rivers in early 2015, with explosive-laden vehicles and boats, or suicide car bombs, before engaging with Iraqi troops in firefights. Five engineers and technicians from the Water Ministry were reportedly killed during these operations. In certain cases, the Iraqi Army was also reportedly obliged to target hydraulic infrastructure to prevent ISIL from withholding water or flooding downstream communities.

[...]

B. LIVING UNDER A BLACK SKY: CONFLICT POLLUTION AND ENVIRONMENTAL HEALTH CONCERNS IN IRAQ

[Source: Pax International, Living under a black sky: conflict pollution and environmental health concerns in Iraq, November 2017, available at: <https://paxforpeace.nl/media/download/pax-report-living-under-a-black-sky.pdf>]

1. Introduction

[1] Over the last 30 years, armed conflicts have left a trail of death and destruction in Iraq. They have killed hundreds of thousands of people, and wounded many more, laying cities and towns to waste. The years of fighting have destroyed large swaths of agricultural land and woodland. They damaged industrial areas, creating hotspots of pollution. They crippled the healthcare system and critical infrastructure, and they severely degraded governmental capacity for industrial and environmental oversight. Following the US invasion in 2003, major efforts were undertaken to repair and rebuild the country, although these were often hampered by insufficient resources, insecurity and corruption. These factors meant that many environmental problems, such as the pollution caused by the wars, were neglected.

[2] The slow process of recovery came to an abrupt end with the rise of the so-called Islamic State in Iraq and Syria (ISIS). With a ruthless campaign, ISIS overran large parts of northern Iraq, an advance that was only halted by a joint effort by the Iraqi government, in cooperation with the Popular Mobilization Units (PMUs): armed militias that followed the call by Grand-Ayatollah Sistani to defend Iraq. The Iraqi forces received air and logistical support from the US-led coalition's Operation Inherent Resolve. The years of intense fighting that followed caused severe damage to urban areas, while ISIS employed scorched earth tactics in their retreat to destroy natural resources, leaving a toxic legacy that will likely have long-lasting environmental and health consequences in affected areas.

[...]

2. Pre-existing environmental challenges in Iraq

[...]

3. Environmental legacy of the fight against ISIS

[3] [...] In September 2017, UNEP's Post-conflict and Disaster Management Branch (PCDMB) released an initial assessment of pollution issues in areas retaken from ISIS. In addition to the well documented pollution problems from the Qayyarah oil fires and the Mishraq Sulphur Plant, the report also highlighted the risks from damaged ISIS ammunition manufacturing plants; polychlorinated biphenyl (PCB) contamination from attacks on energy infrastructure; the environmental challenges posed by the vast quantity of debris and waste; and concerns over the large quantities of asbestos present at various sites in Mosul.

[4] The report also noted that the collapse of environmental governance and the destruction of environmental research laboratories will likely have a long-term impact on recovery and reconstruction efforts. Finally, the report noted that the weaponisation of water management infrastructure had created severe security risks through flooding, and had contributed to long-term socio-economic pressures by degrading agricultural lands [...].

3.1. The toll of oil fires

[5] Oil industry activities involve the handling of dangerous chemicals and hazardous by-products. In Iraq, refineries were already a local source of pollution due to inadequate governance and control measures. However, the recent conflict has turned oil and gas industry facilities into a major source of health and environmental risks. Refineries, tanks, pipelines and oil fields have been tapped for their income potential by both militant groups and local people. Airstrikes by the US-led coalition targeted the oil industry in order to deprive ISIS of oil-revenue, mainly by targeting hundreds of oil trucks.

[6] Moreover, as Iraqi forces regained territory from ISIS, the group employed scorched earth tactics by setting alight oil wells. [...] As ISIS retreated from areas that it held, they often set oil wells and rigs on fire in order to provide cover from aerial bombardment, delay Iraqi forces or simply to degrade valuable resources, land and infrastructure and terrorise communities. The resulting smoke plumes from the wells obscured the sun for months, leading locals to refer to it as the "Daesh Winter".

[...]

3.2. Environmental pollution from oil spills

[...]

QAYYARAH

[7] The struggle for control of the oil field and refinery at Qayyarah, and the subsequent fires caused major oil spills around the wells at various points in the oil field. ISIS also pumped heavy crude directly into the River Tigris. Local witnesses said that crude oil was clearly visible polluting the irrigation channels of nearby farms. The population of Qayyarah relies on the Tigris for its drinking water. Oil also flowed through the streets of Qayyarah after ISIS opened pipelines, and some neighbourhoods remain highly contaminated with oil sumps. At other wells, large lakes of solidified crude oil formed, which now require clean-up. The total amount of burned and spilled oil cannot be ascertained but it is estimated by experts from the oil ministry at 20,000m³. Several storage tanks were flooded in pools of liquid oil, which is likely to have seeped into the ground.

[...]

OIL SPILLS FROM DAMAGED PIPELINES

[8] Pipelines have been targeted frequently during the conflict, and have caused huge spills when breached. The main pipeline for Iraqi oil exports to Turkey (ITP) was bombed, on average, once a week in 2013 alone. In 2014, a pipeline near the Tigris was bombed, which resulted in a 70km long oil slick. In order to reduce the pollutants in the water, the oil was set on fire, generating black clouds and a persistent haze. Residents downstream on the Tigris were told not to use their tap water for three days, and cities like Baghdad closed off their water supply from the Tigris until the slick had passed [...].

3.3. The rise of artisanal oil refineries in northern Iraq

[...]

4. Damage to urban areas

5.1. Debris

[...]

5.2. Critical Infrastructure

[11] Power stations, transformers, and other parts of the power grid were targeted by all parties to the conflict. Although they are being phased out globally, old electrical transformers often contain oils containing PCBs. PCBs are a group of persistent organic compounds, exposure to which has been linked to birth defects, slower mental development in children, and cancer. In Mosul, the fighting has severely damaged the electrical network. With numerous damaged or destroyed substations and transformers, there is a substantial risk of PCB contamination. Clean-up will be slow as ISIS booby trapped electrical facilities to hinder reconstruction efforts. Other locations with damaged power facilities include Diyala governorate, and the town of Samarra.

5.3. Damage and decline of water infrastructure

[14] Water systems, such as the Fallujah Barrage, the Mosul Dam, and the Haditha Dam, have been at high risk of damage due to the ongoing fighting and a lack of essential maintenance. ISIS intentionally damaged dams, hydroelectric power plants and barrages with the aim of using the environment as a weapon of war. For example, ISIS flooded some areas in order to disrupt the movement of ground forces, and shut the water supply off to others. As the group retreated, they blew up bridges, which blocked canals, and destroyed pumping stations. They also focused on minor parts of the network such as wells and pipelines, disrupting and destroying agricultural livelihoods and placing entire communities at risk by depriving them of water and the electricity generated by dams. [...]

[15] Apart from the damage caused to water infrastructure, ISIS also directly contaminated water sources. The group used the Tigris as a mass grave, on one occasion dumping at least 100 bodies into the water. Furthermore, ISIS deliberately poisoned lakes, rivers and streams with oil products and toxic waste. For example poisoning wells in their retreat by dumping diesel into them, rendering it toxic for humans, plants and livestock.

[...]

5.4. Industrial Sites

MISHRAQ SULPHUR PLANT

[16] The Mishraq Sulphur Plant has been set on fire before: in 2003 a deliberate fire produced “the largest non-volcanic release

of sulphur dioxide ever observed with satellites”, releasing roughly 600 tonnes of sulphur dioxide. In 2016, ISIS also set fire to stockpiles of sulphur at the plant near Mosul. The toxic smoke plume resulted in the hospitalisation of more than 1,000 people, 20 of whom died. [...]

AL-HEKMA PHARMACEUTICAL COMPLEX

[17] According to the US Air Force's Central Command, a large pharmaceutical complex five kilometres north of Mosul was used as a chemical weapons plant, producing mustard gas and chlorine. As it was subsequently targeted by coalition airstrikes, it is conceivable that harmful substances were released into the environment from this location.

[...]

5. Wider Environmental impacts of conflict

[...]

5.1. Refugees and internally displaced persons

[...]

5.2. Changes in agricultural lands

[18] According to the United Nations Food and Agriculture Organisation, roughly one-third of Iraqi livelihoods depend on agriculture, even though it only makes up just 5% of Iraq's GDP. Crop production comprises 75% of the Iraqi agricultural sector, with cattle herding, fishing and beekeeping making up the remainder. Crop production has suffered heavily as a result of the conflict. The contamination of fields with unexploded ordnance and mines, the displacement of farmers, the looting and burning of silos and other facilities, the lack of fertilisers and seeds, and the collapse of government support, have all had a severe impact on farm yields. Animal husbandry, an important source of income and food, particularly for female-headed households, has also suffered. It is estimated that, three quarters of all cattle, sheep, goats and buffalo have been lost.

[...]

C. SECOND REPORT ON PROTECTION OF THE ENVIRONMENT IN RELATION TO ARMED CONFLICTS BY MARJA LEHTO, SPECIAL RAPPORTEUR

[Source: International Law Commission, Second report on protection of the environment in relation to armed conflicts by Marja Lehto, Special Rapporteur, 27 March 2019, available at: <https://digitallibrary.un.org/record/3801185?>]

I. Introduction

[...]

II. Protection of natural resources in relation to armed conflict

[...]

III. Responsibility and liability of non-State actors

A. Armed non-State actors

1. Legal accountability of organized armed groups

51. Multiple actors other than States may be present or involved in an armed conflict. As far as non-international armed conflicts are concerned, this can include non-State armed groups of different affiliations and degrees of organization, international or regional organizations, private companies, criminal groups and non-governmental organizations. There is no established definition of the term “non-State actor” in international law but the International Law Association has used a working definition that excludes intergovernmental organizations comprised solely of State members, illegal and illegitimate organized bodies (such as mafia), and illegal groups that are not organized in any particular manner. This working definition provides a useful frame for the present consideration, in particular as most of the attention paid to questions of international responsibility of non-State actors has been related to either organized armed groups or certain types of private companies, particularly multinational

enterprises and private military companies.

52. It is generally accepted that organized armed groups, as parties to an armed conflict, are bound by the law of armed conflict. The relevant treaties address all parties to a conflict, and the obligation of all parties to a non-international armed conflict to comply with international humanitarian law has been frequently recalled by the Security Council and the General Assembly. Furthermore, the obligation of armed groups to comply with customary international humanitarian law gets support from international jurisprudence. The Commission, too, has recognized the possibility that a non-State armed group “may itself be held responsible for its own conduct under international law, for example for a breach of international humanitarian law committed by its forces”.

[...]

54. Unilateral commitments by non-State armed groups to comply with international humanitarian law are fairly frequent and may also specifically touch on environmental issues. Similarly, respect for international humanitarian law or international human rights law, or mechanisms to implement such law, can be the subject of special agreements between parties to a non-international armed conflict, including peace agreements. It is not, however, always clear to what extent such a commitment can be seen as legally binding on the group that has made it. A further uncertainty applies to whether the courts of armed non-State groups can play a role in the enforcement of international humanitarian law. [...]

[...]

2. Individual criminal responsibility

[...]

B. Corporate responsibility and liability

[...]

C. Proposed draft principles

[...]

IV. State responsibility and liability

A. State responsibility and liability for damage related armed conflict

105. The rules of the law of armed conflict concerning the responsibility and liability of States are clear and well established. According to the Hague Convention IV of 1907, “[a] belligerent party which violates the provisions of the said Regulations shall, if the case demands, be liable to pay compensation. It shall be responsible for all acts committed by persons forming part of its armed forces.” The same rule is contained in Additional Protocol I to the Geneva Conventions, which also repeats the phrase “if the case demands”. These words could be taken to add relativity to the rule but they have been explained in the ICRC commentary to Additional Protocol I to simply refer to two elementary conditions: the existence of loss or damage that is compensable, and the unavailability of restitution in kind. State responsibility under the law of armed conflict is furthermore somewhat broader than under general rules, as the above-mentioned provisions apply even to private acts of members of armed forces.

106. For State responsibility to arise, the act causing the harm must be attributable to the State and amount to a violation of its international obligation. In the case of environmental harm caused in conflict, this requires a violation of one or more of the substantive rules of the law of armed conflict or other international law applicable to the situation. Such rules include articles 35, paragraph 3, and 55 of Additional Protocol I and their customary counterparts, the principles of distinction, proportionality, military necessity and precautions in attack, as well as other rules concerning the conduct of hostilities, and the law of occupation, also reflected in the draft principles on the present topic. Furthermore, to the extent that international criminal law provides protection to the environment in armed conflict, the relevant international crimes may trigger State responsibility.

[...]

109. While the legal framework for State responsibility is clear both in times of peace and in armed conflict, the rules have been implemented unevenly. The establishment of State responsibility for environmental harm has not been the rule even in peacetime. Major environmental catastrophes, whether resulting from industrial accident or military activities have been compensated for without acknowledgement of responsibility. [...]

[...]

B. Reparation for environmental harm

[...]

C. *Ex gratia* payments and victims assistance

[...]

D. Proposed draft principles

[...]

V. Additional issues

A. Environmental modification techniques

163. A proposal was made during the Commission's seventieth session that the present report should consider the prohibition of the use of environmental modification techniques for military or any other hostile aims having widespread, long-lasting or severe effects as the means of destruction, damage or injury to another State, and propose a draft principle along those lines. The lack of such a provision based on the 1976 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques was seen as an obvious gap in the set of draft principles.

164. The Convention prohibits military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects. An environmental modification technique is defined as a "technique for changing – through the deliberate manipulation of natural processes – the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space".

165. [...] [T]he Convention did not spell out clearly whether the prohibition of the use of environmental modification techniques could apply to a non-international armed conflict, in particular as the obligation in article 1, paragraph 1, was phrased as an inter-State one. According to paragraph 1 of article 1 of the Convention, "[e]ach State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party".

166. The formulation of paragraph 1 is clear that the Convention only prohibits environmental modification that causes damage to another party to the Convention. This condition could nevertheless also be fulfilled in a non-international armed conflict provided that a hostile use of an environmental modification technique by a State in the context of such a conflict causes environmental damage in the territory of another State party. The environmental modification techniques addressed in the Convention – capable of causing "earthquakes; tsunamis; an upset in the ecological balance of a region; changes in weather patterns (clouds, precipitation, cyclones of various types and tornadic storms); changes in climate patterns; changes in ocean currents; changes in the state of the ozone layer; and changes in the state of the ionosphere" – could well be expected to produce transboundary effects.

[...]

168. The second pertinent consideration relates to the potential customary law status of the prohibition addressed by the Convention. Reference was made by the first Special Rapporteur, in particular, to the threshold of harm (widespread, long-lasting or severe effects) under the Convention, which differs from that set forth in articles 35, paragraph 3 and 55 of Additional Protocol I to the Geneva Conventions. The difference between the two instruments is not limited to the use of the disjunctive term "or" in the Convention as compared to the conjunctive term "and" in Additional Protocol I, but also stems from the terms "widespread", "long-lasting" and "severe". The latter three terms have, moreover, been explained in the Understanding relating to Article 1 of the Convention in a way that departs from Additional Protocol I. According to the Understanding, the term "widespread" encompasses an area on the scale of several hundred square kilometres, "long-lasting" implies "a period of months, or approximately a season" and "severe" involves "serious or significant disruption or harm to human life, natural and economic resources or other assets". There is no similar gloss available for Additional Protocol I but the ICRC commentary points out that, at the diplomatic conference that eventually adopted the Additional Protocol, several delegations indicated that, in their opinion, the words "widespread, long-term and severe" in the Protocol did not have the same meaning as the corresponding words in the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques.

169. The difference does not only concern particular words. It should be recalled that the two prohibitions have a different scope and purpose. The Convention only applies to deliberate manipulation of the environment, while the prohibition in Additional Protocol I covers intended or expected impacts of any military operations. Furthermore, the Understanding attached to article 1

of the Convention states that the interpretation of the three terms is intended “exclusively” for the Convention and is not intended to “prejudice the interpretation of the same or similar terms” in other instruments.

170. According to the ICRC study on customary international humanitarian law, “there is sufficiently widespread, representative and uniform practice to conclude that the destruction of the natural environment may not be used as a weapon”, and this irrespective of whether the provisions of the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques are themselves customary. The ICRC Guidelines on the Protection of the Environment in time of Armed Conflict also contain a guideline based on articles I and II of the Convention.

[...]

B. Martens clause

173. The Martens Clause originally appeared in the preamble to the 1899 Hague Convention (II) with Respect to the Laws and Customs of War on Land, and was restated in all the four Geneva Conventions, the Additional Protocols thereto, and the preamble to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons. The Martens Clause provides, in essence, “that even in cases not covered by specific international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience”. The function of the clause is generally seen as providing residual protection in cases not covered by a specific rule.

174. The Nuremberg Tribunal confirmed the legal significance of the Martens Clause and emphasized that it was “much more than a pious declaration. It is a general clause, making the usages established among civilised nations, the laws of humanity and the dictates of public conscience into the legal yardstick to be applied if and when the specific provisions of the Convention and the Regulations annexed to it do not cover specific cases occurring in warfare, or concomitant to warfare”. The International Court of Justice has stated that the clause itself forms part of customary international law. While originally conceived in the context of belligerent occupation, the clause has today a broader application, covering all areas of the law of armed conflict.

175. The Martens Clause was referred to by the International Court of Justice in its advisory opinion on the Legality of Nuclear Weapons to strengthen the argument about the applicability of international humanitarian law to nuclear weapons. Similarly, the ICRC commentary to Geneva Convention I mentioned, as a dynamic aspect of the clause, that it confirms “the application of the principles and rules of humanitarian law to new situations or to developments in technology, also when those are not, or not specifically, addressed in treaty law”. The clause thus prevents the argument that any means or methods of warfare that are not explicitly prohibited by the relevant treaties⁶ are permitted, or, in a more general manner, that acts of war not expressly addressed by treaty law or customary international law are ipso facto legal.

[...]

179. [...] The ICRC Guidelines on the Protection of the Environment in Armed Conflict also include a provision stating the following: “In cases not covered by international agreements, the environment remains under the protection and authority of the principles of international law derived from established custom, the principles of humanity and the dictates of public conscience.” In 1994, the General Assembly invited all States to disseminate the revised guidelines widely and to “give due consideration to the possibility of incorporating them into their military manuals and other instructions addressed to their military personnel”. The World Conservation Congress of 2000, furthermore, urged Member States to endorse a policy reading as follows:

Until a more complete international code of environmental protection has been adopted, in cases not covered by international agreements and regulations, the biosphere and all its constituent elements and processes remain under the protection and authority of the principles of international law derived from established custom, from dictates of the public conscience, and from the principles and fundamental values of humanity acting as steward for present and future generations

The recommendation was adopted by consensus⁶ and was meant to apply during peacetime as well as during armed conflicts.

180. The Commission, too, has referred to the Martens Clause in the context of environmental protection in its commentaries to the law of non-navigational uses of international watercourses, as well as in the commentaries to the draft articles on transboundary aquifers. In the context of the present topic, it has been pointed out that the Martens Clause is of an overarching character and therefore relevant to all three phases of the conflict cycle.

181. It has sometimes been argued that the objective of the Martens Clause relates to the protection of human beings and that it could only have a role with regard to norms with a humanitarian character. It is not clear, however, that the Clause gives rise to such a conclusion. The references to “principles of international law” and “dictates of public conscience” are general and not intrinsically limited to one specific meaning. Even more importantly, humanitarian and environmental concerns are not mutually exclusive. Modern definitions of the environment as an object of protection do not draw a strict dividing line between the environment and human activities but encourage definitions that include components of both. As the International Court of Justice memorably stated: “the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn”.

182. The contemporary relevance of the Martens Clause is related to circumstances in which treaty law is insufficient or non-existent. The reference to “dictates of public conscience”, in particular, underscores the importance of an evolutionary reading of the rules of international humanitarian law. It can also be said that, by virtue of the Martens Clause, “international humanitarian law itself recognises that its treaties are not comprehensive and that, as a discipline, it cannot be insulated from developments occurring in other fields of international law”. This aspect bears particular relevance in the area of environmental protection, given that the understanding of the environmental impacts of conflict has developed considerably since the adoption of the treaties codifying the law of armed conflict. In particular, the ethos of international environmental law goes beyond bilateralism, as is evident from the concept of “common concern of humankind”, and the commitment to equity with future generations.

183. The Martens Clause thus gives additional support to the approach to the present topic, in particular the taking into account of relevant rules and principles of international human rights law and international environmental law to inform the interpretation of the law of armed conflict with a view to enhancing the protection of the environment.

C. Proposed draft principles

[...]

D. Use of terms

[...]

1. Definition of the term ‘environment’

186. There is no agreed legal definition of “the environment” in international law. Notwithstanding the extensive development of international environmental law in recent decades, multilateral environmental agreements do not present a shared understanding of the concept of the environment. Many do not contain a definition and where there are definitions, they differ in approach and are typically broad in nature. Some of the “definitions” do not aim to define “the environment” but rather describe its elements in a non-exhaustive manner.

187. Among the first attempts to define “the environment”, the 1972 Stockholm Declaration enumerates “natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems”. The 1982 World Charter for Nature includes a general principle requiring that “the population levels of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be safeguarded” and in “[a]ll areas of the earth”. The United Nations Environment Programme Expert Group established in the 1990s to assist the United Nations Compensation Commission presented a broad definition of the “environment” as consisting of “abiotic and biotic components, including air, water, soil, flora, fauna and the ecosystem formed by their interaction”. In comparison, the United Nations Environment Programme 2010 Guidelines on liability, response action and compensation for damage caused by activities dangerous to the environment do not give a definition to the “environment” but only to the term “environmental damage”.

[...]

2. Harmonization of the use of the terms

194. Of the treaties directly relevant to the protection of the environment in relation to armed conflicts, Additional Protocol I to the Geneva Conventions of 1949 (as well as the Rome Statute of the International Criminal Court) uses the term “the natural environment”. The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques for its part refers to “environmental modification techniques” as “any technique for changing – through the deliberate manipulation of natural processes – the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space”. None of these instruments defines the concept of the “natural environment” or “the environment”. The ICRC commentary to Additional Protocol I clarifies that the concept of the “natural environment” refers to a “system of inextricable interrelations between living organisms and their inanimate environment”, whereas effects on the “human environment” are understood as effects on “external conditions and influences which affect the life, development and the survival of the civilian population and living organisms”. The “natural environment” is thus distinguished from the “human environment”. However, in the context of article 55 on the protection of the natural environment, the commentary notes that the concept of natural environment “should be understood in the widest sense to cover the biological environment in which a population is living”.

[...]

Discussion

I. Classification of the Situation and Applicable Law

1. (*Document A, paras [1] – [2]; Document B, paras [1] – [2]*)a. How do you classify the situation in Iraq from 2014 to 2017? How do you classify ISIL? Is it a State? A non-State armed group? What does it change with regards to the classification of the situation? (GC I – IV, Common Arts [2](#) and [3](#); P I, [Art. 1](#); P II, [Art. 1](#)) b. Depending on your answer(s) to question 1. a, what is the applicable law? What legal sources can be used? ([GC I – IV](#), [P I](#), [P II](#), [CIHL](#))

II. Conduct of hostilities

2. (*Document C, paras 105 – 170*) Does IHL contain specific provisions on the protection of the environment during armed conflict? In IAC? In NIAC? If so, which one? ([PI, Art. 35](#) and [55](#); [PII, Arts. 14](#) and [15](#); [CIHL, Rules 43-45](#); [2020 Guidelines, Rules 1 - 4](#))
3. (*Document C, paras 186 – 194*) What is considered as natural environment for IHL? What can fall in that category? Does it protect both fauna and flora? How this definition relates to International Environmental law? To the International Law Commission? Do you think the IHL definition is more protective? Less protective? Why? ([Guidelines On The Protection Of The Natural Environment In Armed Conflict \(2020 Guidelines\)](#)).
4. (*Document C, paras 51 – 109*) Are States and non-State armed groups bound by the same provisions regarding environmental protection under IHL?
5. How do the rules relating to distinction, proportionality and precautions apply to environmental protection? ([CIHL, Rules 7, 10-11, 14-15, 22, 42-45](#), and [76](#); [P I, Arts. 48, 51, 52, 55, 57](#) and [58](#); [2020 Guidelines, Rules 5-9](#)). a. Based on your answer, was it lawful: i. (*Document A, paras [3] – [11]; Document B, paras [7] – [8]*)to target the Qayarrah oil field and the pipelines? ii. (*Document A, paras [19] – [26]; Document B, para. [14]*)to target dams? To use the environment as a weapon? ([2020 Guidelines, Rule 3](#)) iii. (*Document A, para. [17]; Document B, para. [17]*)to target the Al-Hekma pharmaceutical complex? iv. (*Document A, paras [12] – [13]; Document B para. [16]*)to target the Mishraq Sulphur Plant? b. Would your answer vary if the targeting was directed at the environment or if the damage was an incidental damage? Is the destruction of the environment allowed as incidental damage? ([2020 Guidelines, Rules 5-9](#), [CIHL, Rules 7-8, 10-12, 14-17, 21-22, 43-44](#); [PI Arts. 48, 51-52 and 57-58](#)).
6. Is the environment a civilian object? Does the environment receive special protection under IHL? How is environmental damage assessed under IHL? Is it considered for purposes of proportionality? For precautionary measures? Is it considered an anticipated civilian loss? Does environmental protection take precedence over imperative military necessity? ([PI, Arts. 51-56](#); [PII, Arts. 14](#) and [15](#); [CIHL, Rules 9-10](#) and [42-43](#))
7. What protection does IHL provide for areas of particular environmental importance? How can other rules, such as the prohibition of targeting objects indispensable to the survival of the civilian population, cultural objects, or works and installations containing dangerous forces, contribute to protect those areas? ([2020 Guidelines, Rules 10-12 and recommendation 17](#))
8. (*Document C, paras 163 – 170*) What is the ENMOD Convention? Are the parties to an armed conflict bound by it? How does it relate to Additional Protocol I? ([ENMOD, Art. 1](#); [PI, Art. 35\(3\)](#) and [Art. 55](#))
9. (*Document C, paras 173 – 183*) How does the Martens Clause apply to environmental protection? Do you agree with the approach mention in the report? ([2020 Guidelines, Rule 16](#))
10. According to you, are there any points in which IHL could develop to increase the protection of the environment? If so, which ones?
11. (*Document B, para. [11], [15]-[16] and [18]*) What about the effects of environmental damage on the civilian population? Is the civilian population protected from the effects of environmental damage caused by armed conflicts by IHL? By other branches of international law?
12. Can perpetrators of attacks be held individually responsible for the destruction of the environment? In a NIAC? ([Rome Statute, Art. 8 \(2\) \(b\)\(iv\)](#)).