

The Protection of Freshwater in Armed Conflict

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I. INTRODUCTION

1.1 Outline of the Problem

Experts fear that in the next century, fresh water¹ will become a highly contested resource. Fresh water is already becoming scarce in some parts of the world.² Some people fear that new wars over fresh water are likely to occur.³ Optimists argue that such fears are born out of myths: they maintain that the free market will resolve problems of water scarcity and that, conceivably, states will not wage war over such resources, but rather seek to settle

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¹ 'Water with less than 0.5 parts per thousand dissolved salts.' The Groundwater Foundation: Groundwater Glossary, online: The Groundwater Foundation <<http://www.groundwater.org/gi/gwglossary.html>>.

² Stephen McCaffrey, *The Law of International Watercourses* (OUP, New York 2003) 6;

Frank R. Rijsberman, 'Water Scarcity: Fact or Fiction?' International Water Management Institute, online: <[http://www.cropscience.org.au/icsc2004/plenary/1/1994_rijsbermanf.htm](http://www.cropsscience.org.au/icsc2004/plenary/1/1994_rijsbermanf.htm)> at Figure 1.

³ Peter Gleick, 'Water and Conflict: Water and International Security', (Summer 1993) 18(1) *International Security* 79; Peter H. Gleick, Peter Yolles, Haleh Hatami, 'Water, War & Peace in the Middle East' (April 1994) 36(3) *Environment* 6 at 15; Aaron T. Wolf, 'Criteria for Equitable Allocations: The Heart of International Water Conflict', (1999) 23 (1) *Natural Resources Forum* 3; Nils Petter Gleiditsch, 'Armed Conflict and the Environment: A Critique of the Literature', (1998) 35(3) *Journal of Peace Research* 381.

disputes peacefully.⁴ Historically, however, fighting over fresh water as a strategic resource is not a particularly new phenomenon.⁵

Aside from being the object of the dispute, fresh water can be used as an element of military tactics in armed conflicts. The armed conflicts can also affect fresh water, causing severe harm to civilians and the environment. In an attempt to draw attention to this aspect of armed conflicts, experts gathered at a symposium in Montreux in 1994 asserted that, in armed conflicts, the lack of clean, fresh water killed just as many people as bullets and bombs.⁶ More recently, the conflict in Lebanon between Israel and Hezbollah caused severe damage to the civilian freshwater supply. The bombings targeted the electrical generators, which in turn affected the output of the water network.⁷ Moreover, targeted bombing of the bridges inadvertently broke the water network running under the bridges.⁸ Lebanon is by no means an individual case in modern conflicts: other contemporary conflicts have also caused damage to the civilian freshwater supply.¹⁰

⁴ Tony Allan, 'Avoiding War Over Natural Resources' in Forum: Water and War (Geneva: ICRC publication, 1998) 14; Aaron T. Wolf, Annika Kramer, Alexander Carius, and Geoffrey D. Dabelko, 'Managing Water Conflict and Cooperation', online: <http://www.transboundarywaters.orst.edu/publications/wolf_sow_2005.pdf>; Hans Petter Wollebæk Tøset, Nils Petter Gleditsch, Havard Hegre, 'Shared Rivers and Interstate Conflict' (2000) 19 *Political Geography* 971 at 993; Thomas Homer Dixon, 'The Myth of Global Water War', in Forum: Water and War (Geneva: ICRC publication, 1998) 10; Günther Baechler, 'Violence Through Environmental Discrimination' in Forum: Water and War (Geneva: ICRC publication, 1998) 20; J. W. Dellapenna, 'Treaties as Instruments for Managing Internationally-Shared Water Resources: Restricted Sovereignty vs. Community of Property' (1994) 26 *Case W. Res. J. Int'l L.* 27.

⁵ Peter Gleick, 'Water Conflict Chronology' Pacific Institute for Studies in Development, Environment, and Security (2004), online: <<http://www.worldwater.org/conflictchronology.html>>; Peter H. Gleick, Peter Yolles, Haleh Hatami, 'Water, War & Peace in the Middle East' (April 1994) 36(3) *Environment* 6 at 10.

⁶ Water in Armed Conflicts: 'International Symposium on Water in Armed Conflicts', Montreux, November 21-23, ICRC News, November 24, 1994, in Marco Sassòli, Antoine de Bouvier, *How Does Law Protect in War? Cases, Documents, and Teaching Materials on Contemporary Practice in International Humanitarian Law* (Geneva: ICRC publication, 1999) at 458-460.

⁷ Interview by the ICRC with Yves Etienne, in charge of the ICRC's Assistance Division, 'What struck me was the extraordinary solidarity among the people', online: < <http://www.icrc.org/Web/Eng/siteeng0.nsf/html/interview-lebanon-260906>>.

⁸ *Ibid.*

¹⁰ The bombing of the Pancevo chemical factory in the Kosovo conflict (1999) caused severe pollution to the Danube. The bombing of the electrical facilities in the recent Iraq conflict also caused deterioration of public health. See Frederick M. Lorentz, 'Protecting Fresh Water Facilities Under International Law' (2003) 1 UNESCO Technical documents in hydrology PC→CP series 4.

In armed conflicts, international humanitarian law is the specific branch of law (*lex specialis*) that is applicable. The International Criminal Tribunal for the Former Yugoslavia stated in an authoritative judgment that

...an armed conflict exists whenever there is a resort to armed force between States or protracted armed violence between governmental authorities and organized armed groups or between such groups within a State...¹¹

Numerous challenges face the proponents of international humanitarian law, most of which have already been subject to vehement debate. Fresh water, on the other hand, has perhaps not received its due attention. When the body of rules in international humanitarian law is considered, an explicit and consolidated document on the norms of fresh water is non-existent.¹² Recent interpretations and developments in international human-rights law and international environmental law – fields of general international law (*lex generalis*) – are increasingly referring to fresh water.

1.2 Scope and Aim of the Study

The aim of this study is to build on the previous studies on the protection of fresh water in armed conflicts and update them.¹³ Théo Boutruche clearly identified a lack of a comprehensive and clear approach in relation to fresh water in armed conflicts, a lack of norms in non-international armed conflicts and a lack of protection of fresh water for its value relating to the environment.¹⁴ This study will reiterate and clarify the primary norms applicable to fresh water in armed conflicts in international humanitarian law. Building on

¹¹ Prosecutor v. Tadic, IT-94-1, ICTY Appeals Chamber (1999) 38 I.L.M. 1518 at para. 70; Decision of the Defence Motion for Interlocutory Appeal on Jurisdiction, 2 October 1995 [emphasis added].

¹² Ameer Zemmali 'The Protection of Water in Times of Armed Conflict' (1995) 308 International Review of the Red Cross 550; Théo Boutruche, 'Le Statut de l'Eau en Droit International Humanitaire' (2000) 840 Revue Internationale de la Croix-Rouge 887; Marco Sassòli, Antoine de Bouvier, How Does Law Protect in War? Cases, Documents, and Teaching Materials on Contemporary Practice in International Humanitarian Law (Geneva: ICRC publication, 1999) at 458-460; Mara Tignino, 'Reflections on the Legal Regime of Water During Armed Conflicts', online: <http://www.afes-press.de/pdf/Hague/Tignino_LegalRegime_Water.pdf>; W. Remans 'Water and War' (1995) 1 Humanitäres Völkerrecht: Informationsschriften 4.

¹³ Rupesh Mishra, 'Preserving the Flow: Legal Protection of Water in Times of Armed Conflict' (2007) 37 Environmental Law Reporter 10297; Théo Boutruche, 'Le Statut de l'Eau en Droit International Humanitaire' (2000) 840 Revue Internationale de la Croix-Rouge 887; Ameer Zemmali, 'The Protection of Water in Times of Armed Conflict' (1995) 308 International Review of the Red Cross 550; Mara Tignino, 'Reflections on the Legal Regime of Water During Armed Conflicts' [online]. Available at: http://www.afes-press.de/pdf/Hague/Tignino_LegalRegime_Water.pdf (last accessed 08/05/2007); W. Remans 'Water and War' (1995) 1 Humanitäres Völkerrecht: Informationsschriften 4.

¹⁴ Boutruche, *supra* note 11.

Bouttruche's proposition, this study will identify the lack of environmental norms in international humanitarian law and provide up-to-date insight on this debate. Adding to this identified lacunae in the law, this study will consider whether two other bodies of international law – international environmental law and international human rights law – may be applicable in armed conflicts and can add primary norms with respect to fresh water. Such a perspective can be found to a limited extent in Maria Tignino's article, but this study carries it further.

The study also considers briefly how the International Committee of the Red Cross (ICRC) positively contributes to the provision of fresh water in times of armed conflict. This builds on Ameer Zemmali's article that considers the importance of the ICRC with respect to fresh water.¹⁵ What this study adds is more up-to-date insight on the matter.

By focusing on the primary norms of international law concerning fresh water in armed conflicts, this study will not consider the secondary norms and the debate on enforcement of the primary norms.¹⁶ This subject has been debated at length by many able scholars. This study will confine itself to international and non-international armed conflicts on land, thus excluding naval warfare¹⁷ and the law governing occupied territories.¹⁸

1.3 Plan and Method

To support the more comprehensive approach taken in this study, part II considers relevant elements of international relations and the possibility of bridging different fields of international law.

In part III, the study will describe and interpret the primary norms of international humanitarian law relating to fresh water. Most critics of international humanitarian law argue in favour of more legal interpretation to improve the compliance of states with international humanitarian law.¹⁹ Treaty interpretation is authoritatively

¹⁵ Ameer Zemmali, 'The Protection of Water in Times of Armed Conflict' (1995) 308 *International Review of the Red Cross* 550.

¹⁶ This distinction was made by Hart: primary norms are rules that govern conduct and secondary norms are a framework for the creation, alteration, or extinction of primary rules, as well as their enforcement and implementation. See H. L. A. Hart, *The Concept of Law*, 2nd ed. (Oxford: OUP, 1994). See particularly pages 79-100.

¹⁷ Naval warfare triggers a greater body of law, and further, does not deal with fresh water to the same extent as land-based warfare. See 'San Remo Manual on International Law Applicable to Armed Conflicts at Sea' in Adam Roberts, Richard Guelff, *Documents on the Laws of War*, 3rd ed. (Oxford: OUP, 2005) 573; United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS).

¹⁸ The law of occupied territories is a complex body of law and should be the object of a separate study.

¹⁹ David Wippman, 'Introduction: Do New Wars Call for New Laws?' in Matthew Evangelista ed., *New Wars, New Laws?* (New York: Transnational Publishers, 2005) 1 at 13.

embodied in The Vienna Convention on the Law of Treaties of 1969 (VCLT).²¹ The most relevant conventions for the purpose of this study are the four Geneva Conventions and their two additional protocols.²² In cases of textual ambiguity, the study will consult the Commentaries for reference to the preparatory work of the conventions.²³ The study will

²¹ Vienna Convention on the Law of Treaties (adopted 22 May 1969, entered into force 27 January 1980) 1155 United Nations Treaty Series 331 [VCLT]. The method of interpretation of treaties in the VCLT provides that "a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose" VCLT, art. 31(1). If the meaning is still unclear, an interpreter must consult the preparatory work to the treaty, which is a record of State practice that must be consulted as a secondary means of interpretation (VCLT, art. 32). These rules of interpretation constitute rules customary international law. Anthony Aust, *Modern Treaty Law and Practice* (Cambridge: CUP, 2000) 186; *Libya v. Chad* [1994] ICJ Rep 6 at 21-22 (para. 41). See for a clear step by step approach to the application of the rules of interpretation in articles 31 and 32 of the VCLT in the *Kasikili/Sedudu Island case*, [1999] ICJ Rep 1045 at 1060 onwards (paras. 20 onwards).

²² Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (adopted 12 August 1949, entered into force 21 October 1950) 75 U.N.T.S. 31 (GC I), Geneva Convention for the Amelioration of the Condition of the Wounded and Sick and Shipwrecked Members of Armed Forces at Sea (adopted 12 August 1949, entered into force 21 October 1950) 75 U.N.T.S. 85 (GC II), Geneva Convention Relative to the Treatment of Prisoners of War (adopted 12 August 1949, entered into force 21 October 1950) 75 U.N.T.S. 135 (GC III), Geneva Convention Relative to the Protection of Civilian Persons in Time of War (adopted 12 August 1949, entered into force 21 October 1950) 75 U.N.T.S. 287 (GC IV); Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (adopted 8 June 1977, entry into force December 1978) 1125 U.N.T.S. 3 (PROTOCOL I); Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (adopted 8 June 1977, entered into force 7 December 1978) 1125 U.N.T.S. 609 (PROTOCOL II).

²³ Jean Pictet ed., *Commentary I Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (Geneva: International Committee of the Red Cross, 1952); Jean Pictet ed., *Commentary II Geneva Convention for the Amelioration of the Condition of the Wounded and Sick and Shipwrecked Members of Armed Forces at Sea* (Geneva: International Committee of the Red Cross, 1960); Jean Pictet ed., *Commentary III Geneva Convention Relative to the Treatment of Prisoners of War* (Geneva: International Committee of the Red Cross, 1960); Jean Pictet ed., *Commentary IV Geneva Convention Relative to the Protection of Civilian Persons in Time of War* (Geneva: International Committee of the Red Cross, 1958); Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987).

distinguish between the law applicable in international armed conflicts and non-international conflicts wherever necessary.²⁴ The analysis will also differentiate between treaty and customary law.²⁵ This is in part because not all states are party to Additional Protocol I.²⁶ Furthermore, non-international armed conflicts have fewer treaty rules in Additional Protocol II and in Common article 3 to the Geneva Conventions than in international armed conflicts, but certain customary rules, may apply and extend them. The study will use the Customary Study of the ICRC, with the caveat that not all the rules stated within are in fact settled custom: the drafters may have been ambitious on purpose to develop the law.²⁷

In part IV, the study will first consider the possible application of international environmental law in armed conflicts. Further, if possible, the study will consider the primary norms in international environmental law, notably international water law, that could complement the existing norms of international humanitarian law. Second, part IV will consider the possible application of international human rights law. If possible, the study will further consider the possible existence of a human right to water and the utility of such a right. The analysis will examine treaty and customary law in both cases.

To conclude, the study's findings will be evaluated and a course for the future will be suggested.

²⁴ Definition of an international armed conflict: '[...] all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, even if the state of war is not recognised by one of them.'

→ GC I/II/III/IV: 2.

Non-international armed conflicts are not defined; simply they are all the conflicts that are 'not of an international character'.

→GC I/II/III/IV: 3.

Note the threshold requirement between an internal disturbance and non-international conflict: 'This Protocol shall not apply to situations of internal disturbances and tensions, such as riots, isolated and sporadic acts of violence and other acts of a similar nature, as not being armed conflicts.'

-PROTOCOL II: 1 (2).

In practice, the distinction between these situations is far from clear cut, but it is important for the purpose of this study to distinguish between international and non-international armed conflicts, as different bodies of law apply to each situation.

²⁵ How customary international law arises and crystallizes is an intricate subject that is outside the scope of this study. Nonetheless, what is important to this study is that rules of customary international law are unwritten rules comprised of two elements: State practice and the belief by the States that such practice is legally binding. For a starting point on the subject of customary international law see: Peter MACALISTER-SMITH, *Encyclopedia of International Law – Volume I* (Elsevier Science Publishers, Amsterdam, 1992) 898-905.

²⁶ Two of the more important states are not parties to the treaty: the USA and Iraq.

²⁷ Jean-Marie Henckaerts, 'Study on Customary International Law: A Contribution to the Understanding and Respect for the Rule of Law in Armed Conflict' (2005) 857 *International Review of the Red Cross* 175 at 197.

II. SOURCES OF INTERNATIONAL LAW

The comprehensive perspective taken in this study necessitates an emphasis on the impact of international relations in the development of the law in this field. This study considers three important fields of international law for their primary norms on fresh water namely: (a) international humanitarian law, (b) international human rights law and (c) international environmental law. The reason for taking a more comprehensive approach to the issue of the protection of fresh water in armed conflicts is simple: the state-centric paradigm in international law is still a strong reality. States do not take lightly to undertaking new obligations and creating consensus is not a simple matter either.

This is particularly true for the two most important sources of international law, namely: treaty law and customary international law.²⁸ Treaties are binding agreements between states and they bind only the state parties to the agreement, unless the agreement has become declaratory of customary international law. Customary international law is a combination of state practice and *opinio juris* – the belief that such practice is binding. It is in practice difficult to identify custom.²⁹ In practice, this means that only the obligations that are declaratory of customary international law bind them.

States are not the only creators in the international legal order. International organizations like the UN, NGOs and scholars have an important role in developing and clarifying existing law. In many cases, this takes the form of what has been referred to as 'soft law' – policy documents with no legal force until states start to either create treaties based on those documents, or acquiesce to them by practice. They can also act to counteract the power of states in the international legal order.³⁰ In times of armed conflict, this is particularly important because political pressure is sometimes the only means preventing the primary norms of international humanitarian law from being mere paper tigers. A more comprehensive approach to studying norms applicable in times of armed conflicts is necessary in the context of this study. Thus, the weaknesses in the primary norms applicable to fresh water in armed conflicts that this study may identify could be amended more rapidly by developments in the fields of international environmental law and international human rights law. Developments promoted by international organizations and NGOs can significantly contribute to this trend. This may accelerate a legal response to the problems concerning fresh water in armed conflict.

²⁸ See Statute of the International Court of Justice, art. 38 (1) [ICJ Statute]: treaties and customary law are primary sources of international law. General principles are too, but too date, they have not been identified by international courts.

²⁹ Michael Byers, *Custom, Power and the Power of Rules* (Cambridge: CUP, 1999) at 129-146. Michael Akehurst, 'Custom as a Source of International Law' (1974-1975) 47 BYIL 1.

³⁰ Sanctions by the UN Security Council under Chapter VII are a good example of this, provided that the more powerful States do not veto the possible sanctions.

However, the contemporary proliferation of sources of international law has led to a debate on its possible implications. The ILC is currently debating this issue under the general heading of 'fragmentation of international law'.³¹ Fragmentation discusses the effect of the diversification of international law into different specialized fields of law and special legal regimes, and it questions what impact this has on the general system of international law. Bruno Simma portrays the topic of fragmentation of international law in a positive light.³² This study cannot provide a definite answer to whether or not this trend is positive. Instead, this study will examine the fields of international law and attempt to examine how they can influence each other, not only through treaties and custom, but also through policy documents, in times of armed conflict.

In sum, international relations and international law in the context of this study necessitates a holistic approach to create consensus and build on existing developments within the different fields of international law, which may or may not be applicable in times of armed conflict.

III. RELEVANT PRIMARY NORMS OF INTERNATIONAL HUMANITARIAN LAW PERTAINING TO FRESH WATER

The lack of a consolidated section or indeed, an explicit provision on fresh water in the primary norms of humanitarian law begs the question of what the legal status of fresh water is in international humanitarian law. The following analysis will interpret the provisions relating to fresh water in international humanitarian law.

As clearly expounded by the previous studies,³³ international humanitarian law fetters the discretion of the military in armed conflicts with respect to fresh water. Before examining the norms embodied in the treaties, it is useful to know that there are certain principles that apply in all circumstances in international humanitarian law, as matter of customary international law. The main principles of law applicable are the principles of military necessity and humanity. The principle of military necessity allows the military discretion to achieve legitimate military aims and the principle of humanity³⁴ protects the

³¹ Micheal J. Matheson, 'The Fifty-Seventh Session of the International Law Commission' (2006) 100 (2) A.J.I.L. 416 at 422.

³² Bruno Simma, 'Fragmentation in a Positive Light' (2004) 25 Mich. J. Int'l L. 845.

³³ Théo Boutruche, 'Le Statut de l'Eau en Droit International Humanitaire' (2000) 840 *Revue Internationale de la Croix-Rouge* 887; Ameer Zemmali, 'The Protection of Water in Times of Armed Conflict' (1995) 308 *International Review of the Red Cross* 550; Mara Tignino, 'Reflections on the Legal Regime of Water During Armed Conflicts', online: <http://www.afes-press.de/pdf/Hague/Tignino_LegalRegime_Water.pdf>; W. Remans 'Water and War' (1995) 1 *Humanitäres Völkerrecht: Informationsschriften* 4.

³⁴ '(...) 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 above, known as the Martens clause, was already considered a standard part of customary law when it was incorporated in art. 1 (para. 2), of Additional Protocol I of

weak parties in an armed conflict. From these main principles, corollary principles ensue: (a) proportionality: according to the principle of proportionality, the time and place of the attack and the military advantage anticipated, on the one hand, must balance against the potential loss of human life amongst the civilian population and to civilian objects; (b) discrimination: the principle of discrimination obliges the military and combatants to make the distinction between civilians and combatants and between military and civilian targets; (c) precaution: the precautionary principle is part of the proportionality principle and obliges the military to minimize human losses by taking advance precautions when militarily possible; and (d) prohibition of unnecessary suffering: the principle of unnecessary suffering prohibits means and methods of warfare designed to inflict unnecessary suffering on the victims. All of the above-mentioned principles underlie humanitarian law.

3.1 Fresh Water: a Civilian Object?

Civilian objects benefit from a general immunity from attack in armed conflict. This is because of their dissociation from the legitimate aim of war, which is to achieve victory over the enemy. The first question that arises in relation to fresh water is whether it qualifies as a civilian object, thus benefiting from the *prima facie* immunity of attack in armed conflicts.³⁵ This question does not relate to the discussion of fresh water as enemy property as that is more pertinent to occupied territories in which property law is more relevant.³⁶ Furthermore, the distinction between public and private property only becomes important once the armed conflict has ended.³⁷

In international humanitarian law, the definition of civilian objectives is negative: they are, as a matter of treaty law, applicable to international conflicts³⁸ and custom to non-international conflicts,³⁹ 'all objects that are not military'. As the definition of civilian objectives is dependant upon the definition of military objects, the latter definition is of cardinal importance. Protocol I of the Geneva Conventions was the first international treaty to provide a definition of the term 'military objective', although some attempts at

1977. Martens and Rousseau together established the principles of humanity. See 'Principles', International Institute of Humanitarian Law, online: <<http://web.ihl.org/site/6191/default.aspx>>.

³⁵ As aptly put by Marco Sassòli, Antoine de Bouvier, *How Does Law Protect in War? Cases, Documents, and Teaching Materials on Contemporary Practice in International Humanitarian Law* (Geneva ICRC publication, 1999) 458 at 459.

³⁶ Gamal Abouali, 'Natural Resources Under Occupation: The Status of the Palestinian Water Under International Law' (1998) 10 *Pace Int'l L. Rev.* 411.

³⁷ 1907 Hague Regulations, art. 23 (g) in Dietrich Schindler and Jiri Toman, *The Laws of Armed Conflicts*, 3rd ed. (Leiden: Martinus Nijhoff Publisher, 1988) at 78.

³⁸ PROTOCOL I: 52 (I).

³⁹ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolfe, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 32-34 (rule 9).

creating a definition had previously been undertaken.⁴⁰ Protocol I states that military objectives are objects which by their 'nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage'.⁴¹ This definition is not only treaty-based in international armed conflicts but also forms part of customary law.⁴² The definition of 'military object' is applicable as a matter of customary international law in non-international armed conflicts.⁴³ In principle then, fresh water appears to be a civilian object benefiting from a general immunity from attack in armed conflict.

However, humanitarian law does allow for derogation from this general rule if the civilian object is used for military purposes.⁴⁴ This is where the law is more unclear, particularly in modern day warfare. These 'dual-use' objects have been the subject of academic debate. The consideration of whether or not the civilian object becomes targetable rests upon whether it is effectively contributing to the conflict and whether it offers a 'definite military advantage'. An assessment of what constitutes a definite military advantage is problematic. State practice is unsettled and remains unclear on whether one has to consider the attack as whole in order to assess whether it constitutes a military advantage or whether the military commander has the necessary discretion under the circumstances.⁴⁵ As Michael Schmitt points out, the ICRC construes the term 'definite' narrowly, whereas for instance, the United States takes a more liberal stance.⁴⁶ Yoram Dinstein argues that Protocol I should provide a non-exhaustive list of military objects in the definition because examples would serve as a better guideline.⁴⁷ Such guidance would serve the military commander who faces many challenging situations on the battlefield in which the assessment of what constitutes a definite military advantage is less than clear.⁴⁸ Once a dual-use object does offer an effective contribution to the armed conflict as well as a

⁴⁰ Dieter Fleck, 'Strategic Bombing and the Definition of Military Objectives' (1997) 27 *Israel Yearbook on Human Rights* 41 at 43-47.

⁴¹ PROTOCOL I: 52 (2) [emphasis added].

⁴² Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 29-32 (rule 8).

⁴³ *Ibid.*

⁴⁴ PROTOCOL I: 52 (2).

⁴⁵ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 191-233.

⁴⁶ Michael Schmitt, 'War and the Environment: Fault lines in the Prescriptive Landscape' (1999) 37 *Archiv des Völkerrechts* 25 at 40.

⁴⁷ Yoram Dinstein, 'Legitimate Military Objectives Under the Current Jus in Bello' (2001) 31 *Israel Yearbook on Human Rights* 1 at 3.

⁴⁸ *Ibid.* at 4.

definite military advantage, proportionality applies to determine whether possible incidental collateral civilian losses are excessive compared to the military advantage. If civilian losses are excessive, the military commander must refrain from action.

In relation to fresh water, the question is whether there are circumstances under which it can be a dual-use object. The situations in which fresh water in itself can become a military object are rare. However, an example of this might be a small well serving only the military purposes of a rebel group near a town that could benefit from the use of the well. The poisoning of wells is prohibited,⁴⁹ but the opposing military group might be able to seal the well to bring about rapid surrender with less blood shed. Another example might be the damming of a river used only for military transport and not subject to a specific treaty regime. More likely, however, is the collateral damage of the fresh water network in armed conflict as a result of the dual-use exception. Bridges often have water pipelines beneath them and are often bombed applying the dual-use equation. Power stations are also subject to attack, vitally affecting the civilian population in the cases where fresh water provision is dependant on power for ground water extraction.

In sum, practice remains unclear and academic debate ongoing is highlighting the failures of the principle of discrimination in relation to modern day warfare.⁵⁰ Some scholars have suggested solutions with the hope that the law will adapt soon.⁵¹ Fresh water itself is in most cases likely to be considered a civilian object as provided under the general legal norms of international humanitarian law, thus leaving it immune from attack. However, military discretion allows for incidental damage to the fresh water network, as long as it is limited in dimension. For fresh water, the prohibition on starvation does limit this type of damage to the fresh water network, but still leaves an unacceptable amount of discretion to the military with respect to this resource.⁵² This is a significant problem because many conflicts take place in regions where fresh water is a limited resource. This weakness in the primary norms only becomes apparent with practice.

3.2 Objects Indispensable to Survival: Fresh Water Installations and Supplies

Beyond the general distinction between civilian and military objectives that protects civilian objects, certain objects benefit from additional protection: namely objects

⁴⁹ 1907 Hague Convention IV, Annex: Regulations Respecting the Laws and Customs of War on Land, article 23(a) in Adam Roberts and Richard Guelff, *Documents on the Laws of War*, 3rd ed. (Oxford: OUP, 2003) 73 at 77.

⁵⁰ Gabriel Swiney, 'Saving Lives: The Principle of Distinction and the Realities of Modern War' (2005) 39(3) *Int'l Law* 733; Eric Jaworski, ' "Military Necessity" and "Civilian Immunity": Where Is the Balance? ' (2003) 2 *Chinese Journal of International Law* 175; Henry Shue and David Wippman, 'Limiting the Attacks on Dual-Use Facilities Performing Indispensable Civilian Functions' (2002) 35 *Cornell Int'l L. J.* 559.

⁵¹ Swiney, *ibid.* at 756-758.

⁵² See section 3.3.1 'Prohibition on Starvation' below.

indispensable to survival. In both international and non-international armed conflicts, the attack, destruction, removal and rendering useless of objects 'indispensable for the survival of the population', is prohibited as a matter of treaty law⁵³ and customary law.⁵⁴

'Drinking-water installations' are included in this prohibition.⁵⁵ The term 'installation' is ambiguous, which makes it difficult to ascertain what drinking-installations benefit from the legal protection of the prohibition on the destruction of objects indispensable to human survival. 'Installation' means 'a mechanical apparatus that is set up or put in position for use.'⁵⁶ *Prima facie*, it is unclear what the term 'drinking water installations' means. Consulting the preparatory work of Protocol I does not shed any light upon this apparent ambiguity either. Practice seems to indicate that the term does not include smallest elements of the fresh water network, but only the largest entities in so far as they are vital to prevent starvation of the civilian population, both by lack of fresh water itself and lack of fresh water for agriculture.⁵⁷

A further semantic difficulty arises with the terms 'attack, destroy, remove and render useless'. They are comprehensive but are ambiguous because an interpretation of them can be either broad or limited. The preparatory work makes clear that a broad interpretation of the terms is the correct one because the use of the terms 'attack, destroy, remove and render useless' are intended to cover all possibilities.⁵⁸

Paragraph 3 of article 54 of Protocol I allows an exception to this general immunity of 'objects indispensable to survival', where those objects are used by the adverse party solely for sustenance of the military support or in direct military support. This exception is construed strictly to provide maximal protection to the civilians dependant on fresh water. Thus, it is likely that in practice, only short-term temporary drinking installations conceived only for military purposes do not fall under this definition. A further protection of these installations is the prohibition of military reprisals on fresh water installations and irrigation works.⁵⁹

⁵³ PROTOCOL I: 54, PROTOCOL II: 14.

⁵⁴ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (CUP, Cambridge 2005) at 189-193 (rule 54).

⁵⁵ PROTOCOL I: 54 (2).

⁵⁶ William Little, H.W. Fowler and Jessie Coulson, *The Shorter Oxford English Dictionary: Volume I* (Oxford: Clarendon Press, 1973) at 1084.

⁵⁷ Interview by the ICRC with Yves Etienne, in charge of the ICRC's Assistance Division, 'What struck me was the extraordinary solidarity among the people', online: <<http://www.icrc.org/Web/Eng/siteeng0.nsf/html/interview-lebanon-260906>>.

⁵⁸ Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 655 (para. 2101).

⁵⁹ PROTOCOL I: 54 (4).

In sum, Boutrouche rightly identifies the prohibition on 'the attack of objects indispensable to human survival' as essential to the protection of fresh water in armed conflicts because the exception for military necessity is very limited.⁶⁰

The prohibition on the use of poison as a means and method of warfare reinforces the protection of drinking-water installations. In humanitarian law, the means and methods of warfare are techniques used to overcome the opposing party. This prohibition is applicable to both international and non-international armed conflicts as a matter of treaty law and custom.⁶¹ The initial treaty prohibition in the 1925 Geneva Protocol for the Prohibition of Poisonous Gases and Bacteriological Methods of Warfare has been supplemented by many other treaties.⁶² The Protocol's prohibition on poison covers the use of bacteria and other pathogens, as well as conventional poison to destroy wells.⁶³

3.3 Means and Methods of Warfare

Fresh water can be used as a defensive or offensive weapon in armed conflicts.⁶⁴ Practice demonstrates that the use of fresh water as a means and method of warfare is highly effective and can cause great human losses.⁶⁵ Certain rules of humanitarian law limit the use of such methods. The focus of the next subsections will be on fresh water as an element of means and methods of warfare.

⁶⁰ Théo Boutruche, 'Le Statut de l'Eau en Droit International Humanitaire' (2000) 840 *Revue internationale de la Croix-Rouge* 887.

⁶¹ Protocol for the Prohibition of Poisonous Gases and Bacteriological Methods of Warfare (adopted 17 June 1925, entered into force 8 February 1928), in Dietrich Schindler and Jiri Toman, *The Laws of Armed Conflicts*, 3rd ed. (Leiden: Martinus Nijhoff Publisher, 1988) at 105-123. See also the official statement by Jacques Forster, vice-president of the International Committee of the Red Cross 'Preventing the Use of Biological and Chemical Weapons: 80 Years on', Speech delivered by Jacques Forster, vice-president of the ICRC during the International seminar on the Biological and Chemical Weapons Threat, on the occasion of the 80th anniversary of the 1925 Geneva Protocol prohibiting asphyxiating, poisonous or other gases and bacteriological methods of warfare, online: <<http://www.icrc.org/Web/Eng/siteeng0.nsf/iwpList515/8A0FFCE21E3DC9EAC125701A0036527B>>; Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 251 (rule 72).

⁶² Adam Roberts and Richard Guelff, *Documents on the Laws of War*, 3rd ed. (Oxford: OUP 2000) at 155-158 (preparatory note on the 1925 Geneva Protocol).

⁶³ Dietrich Schindler and Jiri Toman, *The Laws of Armed Conflicts*, 3rd ed. (Leiden: Martinus Nijhoff Publisher, 1988) at 107.

⁶⁴ W. Remans 'Water and War' (1995) 1 *Humanitäres Völkerrecht: Informationsschriften* 4 at 7-8.

⁶⁵ Peter Gleick, 'Water Conflict Chronology' Pacific Institute for Studies in Development, Environment, and Security (2004), online: <http://www.worldwater.org/conflictchronology.pdf>

3.3.1 Prohibition on Starvation

Within the prohibition on 'the destruction of objects indispensable to human survival', a corollary prohibition ensues: the prohibition on 'starvation as a means and method of warfare.'⁶⁷ It is applicable in international and non-international armed conflicts and is a rule of both treaty law⁶⁸ and customary law.⁶⁹ The prohibition on starvation also covers starvation by attack, destruction, removal and rendering useless covers fresh-water installations and supplies and irrigation works.⁷⁰ In international armed conflicts, a duty to evacuate civilians, who could be vitally affected, results directly from the prohibition on starvation.⁷¹ Consequently, this prohibition extends the protection of fresh water resources in armed conflicts.

3.3.2 Attack of Dams and Dykes

Breaking dams and dykes can be a defensive or offensive method of warfare.⁷² International humanitarian treaty law and customary rules prohibit the attack on 'works and installations containing dangerous forces.'⁷³ The definition in Protocol I explicitly states that 'installations containing dangerous forces' are dams, dykes and nuclear power plants. This applies as a matter of treaty and customary law.⁷⁴ Moreover, the prohibition against reprisals also applies to dams and dykes.⁷⁵ For the latter, the presumption is that they are civilian unless they become military objectives.⁷⁶ Consequently, they benefit from the general immunity of attacks provided to civilian objects.⁷⁷

⁶⁷ See above section 2.2 'Objects Indispensable to Survival: Freshwater Installations and Supplies'.

⁶⁸ PROTOCOL I: 54 (1), PROTOCOL II: 14.

⁶⁹ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, Customary International Humanitarian Law Volume I: Rules (Cambridge: CUP, 2005) at 186-189 (rule 53).

⁷⁰ PROTOCOL I: 54, PROTOCOL II: 14.

⁷¹ GC IV: 17; Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949 (Geneva ICRC publication, 1987) at 654 (para. 2096).

⁷² W. Remans 'Water and War' (1995) 1 Humanitäres Völkerrecht: Informationsschriften 4, 7-8.

⁷³ PROTOCOL I: 56, PROTOCOL II: 15; Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, Customary International Humanitarian Law Volume I: Rules (Cambridge: CUP, 2005) at 139-142 (rule 42).

⁷⁴ PROTOCOL I: 56, PROTOCOL II: 15; Henckaerts, *ibid*.

⁷⁵ PROTOCOL I: 56 (4).

⁷⁶ PROTOCOL I: 56 (1). Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, Customary International Humanitarian Law Volume I: Rules (Cambridge: CUP, 2005) at 139-142 (rule 42).

⁷⁷ See above section 3.1 'Fresh Water: a civilian object?'

If dams and dykes become military objectives, they can only be destroyed if their destruction does not provoke the release of dangerous forces causing 'consequent severe losses among the civilian population.'⁷⁸ The ordinary meaning of the term 'severe' is ambiguous because it is difficult to quantify. The preparatory work provides that 'severe' is to be interpreted as equivalent to 'important' or 'heavy' and the concept thereof must be applied in good faith and as a matter of common sense, on the basis of objective elements, such as the proximity of inhabited areas, the density of the population and the lie of the land.⁷⁹ It is likely that in most circumstances, the destruction of a dam or a dyke would have a devastating effect on the civilian population. This prohibition can also protect the civilian population from the armed forces on its territory using dams and dykes as a defensive weapon.⁸⁰

In international armed conflicts, the prohibition on attack of 'works and installations containing dangerous forces' obliges parties to the conflict to avoid locating military objectives close to dams, dykes and nuclear power plants.⁸¹ In relation to dams and dykes, the full extent of the obligation cannot be clearly understood by ordinary interpretation of the words in the treaty. The preparatory work explains that preventive measures in relation to dams and dykes include the emptying of reservoirs in the case of freshwater-related installations.⁸² In non-international armed conflicts, the military precautionary principle might oblige the parties in the same way with respect to dams and dykes.⁸³ This may however be stretching the general obligations within customary international humanitarian law. Further, treaty law applicable to international armed conflicts protects objects near works and installations containing dangerous forces because an attack on such objects might have unexpected side effects.⁸⁴ The Customary Study by the ICRC claims that this rule applies as a matter of customary law to non-international

⁷⁸ PROTOCOL I: 56 (1), PROTOCOL II: 15, and Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolfe, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 139 (rule 42) [emphasis added].

⁷⁹ Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 669-670 (para. 2154), 1463 (para. 4821).

⁸⁰ For instance, in 1938, the Chinese authorities breached the dykes of the Yellow River near Chang-Chow to stop the Japanese troops, resulting in extensive losses and widespread damage.

⁸¹ PROTOCOL I: 56 (5).

⁸² Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 674 (para. 2176).

⁸³ PROTOCOL I: 57.

⁸⁴ PROTOCOL I: 56 (1).

and international armed conflicts.⁸⁵ However, this appears to be a somewhat stretched assertion. Nonetheless, it may become settled practice in the future.

Protocol I and customary international law are silent as to what level of command is required to make the decision to set aside the immunity of the dams and dykes when dams and dykes satisfy the condition of being military objectives. The preparatory work states that where the human interests are high, the persons at the highest military level must take the decision to destroy or otherwise disable such a dam or dyke.⁸⁶ Protocol I also states that there is a possibility of creating special agreements⁸⁷ for the protection and marking of dams.⁸⁸

3.3.3 Access to Fresh Water

The prohibition on use of mines and booby traps should indirectly ensure safe access to water in armed conflicts.⁸⁹ This prohibition is applicable as a matter of treaty law and customary law applicable to both international and non-international conflicts.⁹⁰ Practice in asymmetrical warfare has, however, tended to provide a different answer to this matter⁹¹.

⁸⁵ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (CUP, Cambridge 2005) at 139 (rule 42).

⁸⁶ Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 670 (para. 2159).

⁸⁷ PROTOCOL I: 56 (6).

⁸⁸ PROTOCOL I: 56 (7).

⁸⁹ See Ameer Zemmali, 'Dying for Water' in ed., *Forum: War and Water* (Geneva: ICRC publication, 1998) at 31-35.

⁹⁰ 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: Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps or other Devices (adopted 10 October 1980, entered into force 2 December 1983) 1342 U.N.T.S. 137; Amended Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps or other Devices (adopted 3 May 1996, entered into force 3 December 1998) Review Conference doc. CCW/CONF.I/14 dated 1 May 1996. Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 278-286 (rules 80-83).

⁹¹ A proof of this is that mines are still used despite bans in international humanitarian law'. See Robin Geiß 'Asymmetric conflict structures' (2006) 864 *International Review of the Red Cross* 757, 762, online: <http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/review-864-p757?open_document>

A solution could be to create neutral zones around water-sources to protect access to fresh water.⁹² It could serve a valuable purpose in addition to the previously established general prohibition on the destruction of objects indispensable for the human survival.⁹³ However, such an agreement is unlikely to take place in practice because neutral zones are rarely created. This highlights the discrepancy that sometimes exists in the primary framework and practice.

3.4 Protection of the Environment

The most important legal developments protecting the environment in times of armed conflict only date back to the Vietnam War.⁹⁴ Since then, the issue of the extent of the protection of the environment has been the subject of intense debate.⁹⁵

This part of the study will analyze the protection of fresh water in light of the explicit protection of the environment in international humanitarian law. Most studies conclude that the protection of the environment in times of armed conflict under international humanitarian law is flawed.⁹⁶ This part will examine these provisions and highlight the critique they have been subject to and link it to the discussion on the protection of fresh water resources in armed conflicts.

Peter Richards and Michael Schmitt identify two main conventions relating to the protection of the environment, namely: Additional Protocol I to the Geneva Conventions and the ENMOD convention.⁹⁷

The provisions in Additional Protocol I relating to the environment apply specifically to situations of international armed conflict. Further, they are not considered declaratory of customary law, and therefore concern only the state parties to the

⁹² GC I: 23; GC IV: 14, 15; PROTOCOL I: 59, 60. Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 118-126 (rules 35-37).

⁹³ See above section 2.2 'Objects Indispensable to Survival: Fresh Water Installations and Supplies'.

⁹⁴ For an outline of the history of the development of environmental protection in warfare see: Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden: Martinus Nijhoff Publications, 2004) at 3-16.

⁹⁵ Some of the more recent publications include: Michael Schmitt, 'Humanitarian Law and the Environment' (2003) 28(3) *Denv. J. Int'l L. & Pol'y* 265; Peter Richards and Martin Schmitt, 'Mars Meets Mother Nature: Protecting the Environment During Armed Conflict' (2002) 28 *Stetson L. Rev.* 1047; Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (Cambridge: CUP, 2000); Michael N. Schmitt, 'War and the Environment: Fault Lines in the Prescriptive Landscape', (1999) 37 *Archiv des Völkerrechts* 25.

⁹⁶ Schmitt, *ibid.* at 67; Adam Roberts, 'The Law of War and Environmental Damage', in Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (Cambridge: CUP, 2000) 67.

⁹⁷ Peter Richards and Martin Schmitt, 'Mars Meets Mother Nature: Protecting the Environment During Armed Conflict' (2002) 28 *Stetson L. Rev.* 1047 at 1061.

convention.⁹⁸ This is noteworthy because Michael Schmitt points out that some of the more important military powers are not parties to this convention: the United States, Iraq and Iran.⁹⁹ Two provisions in this convention specifically protect the environment: article 35 (3) of Protocol I and article 55 (1) of Protocol I.

Article 35 (3) prohibits the use of means and methods of warfare which are intended or expected to cause 'widespread, long-term and severe damage to the natural environment.' Article 55 (1) of Protocol I states that in warfare care shall be taken to protect the natural environment against 'widespread, long-term and severe damage.' This prohibition includes the use of means and methods of warfare intended or expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.¹⁰⁰

The first question is whether fresh water falls within the definition of 'natural environment' in both these provisions. The preparatory work gives an indication of the intentions of the drafters of the treaty: it means, in the widest sense possible, 'the biological environment in which a population is living.'¹⁰¹ This interpretation applies to article 55(1), but it is consistent with treaty interpretation to consider that it applies to article 35 (3).¹⁰² Therefore, these provisions also protect fresh water in every form in nature. Further, the protection of human health included in article 55(1) includes congenital defects, degenerations and deformities.¹⁰³

The real issue and problem relating to the protection afforded by these provisions relates to the cumulative requirement of 'widespread, long-term and severe' damage to the environment.¹⁰⁴ Not only is this a high threshold, as most commentators have agreed, but

⁹⁸ Michael N. Schmitt, 'War and the Environment: Fault Lines in the Prescriptive Landscape' in Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (Cambridge: CUP, 2000) 87 at 93.

⁹⁹ *Ibid.*

¹⁰⁰ Neutral zones are an ancient concept dating back to when armed conflict was conducted in confined areas and parties could agree on areas to label 'neutral'. Parties to a conflict in modern warfare are unlikely to agree to creating such zones

¹⁰¹ Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 411-412, paras. 1444, 2126.

¹⁰² Additional Protocol I, art.55(1).

¹⁰³ Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (ICRC publication, Geneva 1987) 663-664, para 2135.

¹⁰⁴ Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 418, para 1457.

there is no clear definition of the terms 'widespread' and 'severe'.¹⁰⁵ 'Long-term' was understood to mean a period measured in decades, but even this definition is far from clear.¹⁰⁶ In addition to these definitional difficulties, the cumulative requirement makes the threshold of this provision high because each and every element must be satisfied in order to ensure the protection of the environment.

The next question that arises is how the two articles differ. Michael Schmitt analyzes the difference and points out that article 35(3) protects the environment for a value in itself, whereas article 55(1) protects the environment for its value to the health and survival of the population.¹⁰⁷ Schmitt also points out that the 'care language in article 55(1) may add an additional standard of applying equally to the attacker and the defender'.¹⁰⁸ He also points out that this question is unresolved.¹⁰⁹ Article 55(2) adds a further prohibition on the attack of the environment by way of reprisals.

In sum, the protection of fresh water under article 55 of Protocol I is broader than under article 35(3): the cumulative requirement of 'widespread, long-term and severe' environmental damage is more limited because it is linked to the protection of the civilian population. The combined protection of fresh water by the protection of the environment under articles 35(3) and 55(1) of Protocol I appears to be weak because its triggering threshold is high. The threshold is high because of a cumulative requirement and the lack of a clear definition of the terms 'widespread', 'severe' and 'long-term'. This leaves it to the practice by states and parties to the armed conflict to provide an interpretation of the terms. States and parties to the conflict are likely to interpret those terms narrowly rather than broadly.

Fresh water can be an element of an environmental modification technique. An example of this type of environmental modification was used in the Vietnam War by the U.S. military to enhance the rain along the Ho Chi Minh Trail.¹¹⁰ The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification

¹⁰⁵ Michael Schmitt, 'Humanitarian Law and the Environment' (2003) 28(3) *Denv. J. Int'l L. & Pol'y* 265 at 277; Michael N. Schmitt, 'War and the Environment: Fault Lines in the Prescriptive Landscape' in Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (Cambridge: CUP, 2000) 87 at 105.

¹⁰⁶ *Ibid.*

¹⁰⁷ Martin Schmitt, 'Humanitarian Law and the Environment' (2003) 28(3) *Denv. J. Int'l L. Pol'y* 265 at 276-277.

¹⁰⁸ *Ibid.*, at 277.

¹⁰⁹ *Ibid.*

¹¹⁰ Daniel Bodansky 'May We Engineer the Climate?' (1996) 33 *Climatic Change* 309 at 311; Lawrence Juda 'Negotiating a Treaty on Environmental Modification Warfare: The Convention on Environmental Warfare and Its Impact Upon Arms Control Negotiations' (1978) 32 (4) *International Organization* 975 at 976.

Techniques¹¹¹ (ENMOD) was intended to legally regulate the use of weapons that modify the environment in an extensive manner. The Convention does not reflect customary law. For that reason, it binds only states party to the Convention.¹¹²

The Convention states that the state parties should not engage in the 'military use or any other hostile use' of environmental modification techniques for achieving 'widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party.'¹¹³ Note the contrast with the same terms used in articles 35(3) and 55(1) of Protocol I: the requirement is disjunctive and not cumulative. This means that it is enough for the damage to be qualified as either 'widespread', 'long-lasting' or 'severe', thus lowering the threshold of application significantly. With respect to fresh water, ENMOD combines the terms 'hydrosphere' and 'lithosphere', which are comprehensive enough to include fresh water in all its natural forms.¹¹⁴ The term 'environmental modification techniques' interpreted in light of the context and object and purpose of the treaty mean, broadly, techniques for the creation of phenomena such as earthquakes, tsunamis, cyclones and tornadoes.¹¹⁵

The ENMOD Convention does not state whether it is applicable to both international and non-international conflicts. Instead, the ENMOD Convention states that it applies to 'military or other hostile use.' ENMOD therefore seems to have a slightly greater remit than the Geneva Conventions and their protocols to situations falling below the threshold of an internal armed conflict.

Significant uncertainties were identified in the negotiation of the treaty text as to the terms 'hostile use' and 'widespread or long-lasting or severe effects'.¹¹⁶ The participants considered that the term 'hostile' was ambiguous¹¹⁷ and the term 'widespread and long-lasting and severe effects' was open to subjective interpretations.¹¹⁸ The term 'hostile' is

¹¹¹ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (adopted 2 September 1976, entered into force 18 May 1977) 1108 U.N.T.S. 151 [ENMOD].

¹¹² There are 72 parties to the treaty. Status of the ENMOD Convention on the UN treaty database, online: <<http://untreaty.un.org/ENGLISH/bible/englishinternetbible/partI/chapterXXVI/treaty1.asp>>.

¹¹³ ENMOD Convention, art. 1(1).

¹¹⁴ ENMOD Convention, art. 2; Hydrosphere: 'The fresh waters of the earth's surface collectively', 'lithosphere - a term (corresponding to atmosphere and hydrosphere) used by some to designate the crust of the earth; in mod. use, usu. Applied to the crust and the upper part of the mantle; formerly also used for the crust together with the whole interior portion of the earth, or the crust together with the entire mantle', The Oxford English Dictionary, online: <http://www.oed.com>.

¹¹⁵ ENMOD Convention, art. 2.

¹¹⁶ Lawrence Juda 'Negotiating a Treaty on Environmental Modification Warfare: The Convention on Environmental Warfare and its impact upon arms control negotiations' (1978) 32 (4) International Organization 975 at 980-984.

¹¹⁷ Ibid, at 980.

¹¹⁸ Ibid, at 983.

ambiguous because it can be interpreted both broadly and narrowly. If the term 'hostile' is interpreted broadly, the threshold is lowered for the treaty application. If on the other hand the term 'hostile' is interpreted narrowly, to define circumstances of a grave nature, the threshold is made higher as some incidents of hostility may not be included. The terms 'widespread, long-term or severe effects' can be interpreted subjectively because they are open-ended in relation to their quantification. The first meeting of the Conference of the Committee of Disarmament provided an indication of what the terms 'widespread', 'long-lasting' and 'severe' in the ENMOD treaty mean:

- (a) 'widespread': encompassing an area on the scale of several hundred square kilometres.
- (b) 'long-lasting': lasting for a period of months, or approximately a season.
- (c) 'severe': involving serious or significant disruption or harm to human life, natural and economic resources or other assets.¹²⁰

One of the problems with this clarification is that the threshold of the disjunctive prohibition in ENMOD becomes higher.¹²¹ Using the above indication, small-scale use of environmental modification could potentially be used without contravening the Convention.

Mitigating this, beyond the written law of the Convention, the principle of discrimination continues to apply. It could conceivably prohibit the use of environmental modification techniques in most circumstances. In the same way as a mine does not distinguish between whether it is killing a civilian or a troop, a tropical storm provoked by the military would not be able to distinguish between a civilian and a troop, thus violating the principle of discrimination. However, the protection provided by the principle of discrimination against environmental modification techniques is significantly weaker because it is less specific and does not contribute to an awareness of such means and methods of warfare.

In sum, ENMOD encounters similar problems with the terms 'widespread or long-lasting or severe effects' as in Protocol I. The possibility of subjectively interpreting the terms and the lack of an authoritative definition of them makes for a weak primary norm.

Although this study does not consider secondary norms, norms of enforcement, the Rome Statute of the International Criminal Court must be considered because its

¹²⁰ Adam Roberts and Richard Guelff, *Documents on the Laws of War*, 3rd ed. (Oxford: OUP, 2000) at 407 (preparatory note on the ENMOD convention).

¹²¹ Lawrence Juda, 'Negotiating a Treaty on Environmental Modification Warfare: The Convention on Environmental Warfare and its Impact upon Arms Control Negotiations' (1978) 32 (4) *International Organization* 975 at 990.

adoption may in fact alter the primary rule identified in articles 35(3) and 55(1) of Protocol I on the prohibition on the attack of the environment that causes 'widespread, long-lasting and severe' damage. The Rome Statute also includes a balancing of this damage against the military advantage gained – the proportionality principle. Schmitt points out the novelty and advantage of this new approach.¹²² Thus far, this approach has not been fully endorsed by the international community.

In non-international armed conflicts, no conventional rule on the protection of the environment exists. Instead, customary international humanitarian law applicable to non-international armed conflicts provides a general prohibition on the attack of the environment.¹²³ The more detailed rules on: (a) the prohibition on means and methods of warfare, (b) precaution in relation to the environment in armed conflicts and, (c) the prevention of such methods expected to cause 'widespread, long-term and severe damage to the natural environment' are only arguably part of customary law.¹²⁴ This distinction from international armed conflicts leaves the environment more susceptible to legal damage caused by the armed conflict.

To conclude, the combined provisions in Protocol I and ENMOD protect the environment and fresh water from direct attack but fail to adequately take into account collateral damage to the environment in situations of international armed conflicts. There are also significant definitional uncertainties that leave the relevant provisions open to diverging interpretations by states and parties to the armed conflict. The Rome Statute is a step in the right direction because instead of just setting an upper limit of damage to the environment, it engages a more subtle balancing act. However, this approach has not yet become a customary norm. Finally, the protection of the environment in non-international armed conflicts is minimal.

3.5 Humanitarian Assistance

Humanitarian assistance in times of peace is crucial,¹²⁵ especially in natural disasters such as the tsunami in Thailand in December 2004. This is distinguishable from equally important humanitarian aid in times of armed conflict, which relates to this study.¹²⁶

¹²² Michael Schmitt, 'Humanitarian Law and the Environment' (2003) 28(3) *Denv. J. Int'l L. Pol'y* 265 at 282-284.

¹²³ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 143-146 (rule 43).

¹²⁴ *Ibid.* at 147-158 (rules 44, 45).

¹²⁵ As recognised by the UNGA in Resolution 131 (1988) GAOR 43rd Session (UN Doc.A/RES/43/131) and Resolution 100 (1990) GAOR 45th Session (UN Doc.A/RES/45/100) on Humanitarian Assistance to Victims of Natural Disasters and Similar Emergency Situations.

¹²⁶ Yoram Dinstein, 'Les Conséquences Juridiques des Atteintes au Droit à l'Assistance Humanitaire' in ed., *Le Droit à l'Assistance Humanitaire: Actes du Colloque International Organisé par l'UNESCO* (Paris: UNESCO, 1996) 39.

Is fresh water an integral part of humanitarian assistance? Providing 'basic needs' to the weaker parties in the conflict is the primary function of humanitarian assistance.¹²⁷ As one of the most basic needs to humans, fresh water is clearly an integral part of humanitarian assistance in both international and non-international armed conflicts. The declaration of the San Remo Guiding Principles on the Right to Humanitarian Assistance, which is 'soft-law', is further support for that position: principle 9 of the declaration recognizes the importance of fresh water in humanitarian aid.¹²⁸

Fresh water, as an element of humanitarian assistance, is valuable to the civilian population, the wounded, the sick, the shipwrecked and prisoners of war. Three primary norms enable the provision of such assistance: (a) the primary norms relating to humanitarian assistance to a needy population, (b) the specific protection of prisoners and (c) the specific protection of humanitarian relief personnel.

With respect to the general civilian population, the wounded and the shipwrecked in times of armed conflict, some claim that there is a right to humanitarian assistance in all circumstances, even above and beyond state consent.¹²⁹ According to Dinstein, such claims are an oversimplified version of the legal and political reality.¹³⁰ His contention relies on a literal interpretation of the law and contemporary practice in armed conflicts. The so-called *droit d'ingérence* has been the subject of great scholarly and interstate debate since Mario Bettati published his treatise on the subject.¹³¹ The *droit d'ingérence* is the right or duty to intervene in a state's affairs where the civilian population is in need. Although it is a laudable position to take, it does not exist in treaty law and current practice by states is *ad hoc* and does not reflect this position. The question is then, do states have any obligations concerning humanitarian assistance in times of armed conflict? The customary law study conducted for the ICRC by leading scholars in the field of international humanitarian law concludes in rule 55 of the study that 'parties must allow and facilitate rapid and

¹²⁷ David P. Forsythe, 'The International Committee of the Red Cross and Humanitarian Assistance – a Policy Analysis' (1996) 314 *International Review of the Red Cross* 512.

¹²⁸ The San Remo Guiding Principles on the Right to Humanitarian Assistance is not a declarative statement of the state of international humanitarian law, but rather a useful tool in promoting the right to humanitarian assistance. See American Society of International Law Comment, online: <<http://www.lawschool.cornell.edu/library/asil/5qatar.htm>>; 'XIXth Round table on current humanitarian problems of International Humanitarian Law: Conflict prevention - the humanitarian perspective, San Remo, 29 August - 2 September 1994' (1995) 306 *International Review of the Red Cross* 347 at paras 22-23.

¹²⁹ 'Guiding Principles on the Right to Humanitarian Assistance', International Institute of Humanitarian Law, San Remo, Italy, Sept. 1994, online: <http://web.iihl.org/iihl/Album/GUIDING_PRINCIPLES.doc>; Ruth Abril Stoffels, 'Legal Regulation of Humanitarian Assistance in Armed Conflict: Achievements and Gaps' (2004) 855 *International Review of the Red Cross* 515 at 518.

¹³⁰ Yoram Dinstein, 'The Right to Humanitarian Assistance' (2000) 53(4) *Naval War College Review* 77.

¹³¹ Mario Bettati, *Le Droit d'Ingérence: Mutation de l'Ordre International* (Paris: Editions Odile Jacob, 1996).

unimpeded passage of humanitarian relief, provided that it is impartial and conducted without any adverse distinction.¹³² Rule 55 is subject to the right of control of the parties to the conflict, but not their consent.¹³³ This advocated customary rule stands in contrast to the position in treaty law. In practice, in case of an acute need for provision of fresh water to a civilian population that cannot be satisfied by the parties to the armed conflict, there is arguably a right for humanitarian aid societies to disregard the state consent. No mention is made in the conventional law for a right to offer services: relief societies, national societies and other international non-governmental organisations have all argued that the state has a direct obligation to accept humanitarian aid that is implicit.¹³⁴ Despite this apparent flaw, it is clear from treaty law that a state cannot arbitrarily refuse humanitarian aid.¹³⁵ Once consent by the state has been obtained, the relief societies have the right to provide humanitarian assistance.¹³⁶

A further obligation upon states in international armed conflicts and non-international armed conflicts, as a matter of treaty law and custom, is a duty upon states not parties to the conflict to facilitate humanitarian assistance.¹³⁷ In this guise, states could, for instance, act through the UN Security Council to generate practice that would lead to

¹³² Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 193-200 (rule 55).

¹³³ *Ibid.*

¹³⁴ See for proof of this, International armed conflicts: Protocol I Article 70, GC I/II/IV: 9/9/9/10. Non-international armed conflicts: GC I/II/III/IV: 3. Both: Principle 5 of the San Remo Guiding Principles on the Right to Humanitarian Assistance.

¹³⁵ Dietrich Schindler, 'Le Droit à l'Assistance Humanitaire: Droit et/ou Obligation?' in ed., *Le Droit à l'Assistance Humanitaire: Actes du Colloque International Organisé par l'UNESCO, Paris 23-27 January 1995*, 37-38; UNGA Resolution 131 (1988) GAOR 43rd Session, (UN Doc.A/RES/43/131); UNGA Resolution 100 (1990) GAOR 45th Session (UN Doc.A/RES/45/100); abandoning victims constitutes a threat to human life, Principles 3,5,6 of the San Remo Guiding Principles on the Right to Humanitarian Assistance; Claude Pilloud, Jean de Preux, Bruno Zimmermann, Philippe Eberlin, Hans-Peter Gasser and Claude Wenger, Sylvie-Stoyanka Junod, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: ICRC publication, 1987) at 1479, para. 4885; PROTOCOL II: 18(2).

¹³⁶ International armed conflicts: GCI: 27; GC III: 72, 73; GC IV: 59-63; PROTOCOL I: 64, 70 and 81 Non-international armed conflicts: PROTOCOL II: 5 (1c), 18(2). Both: UNGA Resolution 182 (1991) GAOR 46th Session, (UN Doc.A/RES/46/182)-annex I 3; Paramilitary Activities In and Against Nicaragua [1986 merits] ICJ Rep 14, para 242.

¹³⁷ GC IV, arts. 23, 108-111 – free passage of goods; PROTOCOL I: 70 (2), 70(3) – free passage of goods; UNGA Resolution 131 (1988) GAOR 43rd Session (UN Doc.A/RES/43/131); UNGA Resolution 100 (1990) GAOR 43rd Session, (UN Doc.A/RES/45/100).; UNGA Resolution 182 (1991) GAOR 46th Session (UN Doc.A/RES/46/182); Principles 7 and 10 of the San Remo Guiding Principles on the Right to Humanitarian Assistance; Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, *Customary International Humanitarian Law Volume I: Rules* (Cambridge: CUP, 2005) at 200 (rule 56).

the creation of a new customary rule making it compulsory in armed conflicts to facilitate humanitarian assistance.

In addition to the general protection of the civilian population, the wounded and the shipwrecked, the prisoners of war are a specific category of persons dependant on humanitarian assistance in armed conflicts. In international conflicts, as a matter of treaty law, the ICRC and other non-governmental organizations may undertake the protection and relief of prisoners of war, subject to state consent.¹³⁸ According to the Customary Study of the ICRC, this has changed: a customary rule now compels the State to grant the ICRC access to all persons deprived of their liberty on a regular basis.¹³⁹ In this case, the ICRC appears to be trying to develop customary law rather than identifying it. However, in international conflicts, the parties to the conflict having detained persons must hold medical inspections at least once a month, as a matter of treaty law.¹⁴⁰ The medical inspections may serve to identify diseases contracted through contaminated drinking fresh water, thus contributing to ensure an adequate quality of drinking fresh water.

The protection of humanitarian relief personnel and objects according to treaty law is an aid to the provision of fresh water in armed conflicts.¹⁴¹ It provides an essential safeguard for the provision of fresh water as a basic part of humanitarian assistance¹⁴² because it also implicitly protects water engineers.¹⁴³

The role of aid societies such as the ICRC in the provision of fresh water is crucial in times of armed conflict. The ICRC movement is the combination of the ICRC and the International Federation made up by the Red Cross' national societies.¹⁴⁴ The principles of neutrality and impartiality with respect to the parties to the conflict have been at the forefront of the ICRC movement's mission¹⁴⁵ and are essential to the provision of any

¹³⁸ GC III: 9.

¹³⁹ Jean Marie Henckaerts and Louise Doswald-Beck with contributions by Caroline Alvermann, Knut Dörmann and Baptiste Rolle, Customary International Humanitarian Law Volume I: Rules (Cambridge: CUP, 2005) at 442-443 (rule 124 (a)).

¹⁴⁰ GC III: 31.

¹⁴¹ For an extensive discussion of the treaty framework protecting humanitarian relief personnel see: 'Respect for and Protection of the Personnel of Humanitarian Organizations' (1998) Preparatory Document Drafted by the International Committee of the Red Cross for the First Periodical Meeting on International Humanitarian Law Geneva, 19 - 23 January, online: <<http://www.icrc.org/Web/eng/siteeng0.nsf/iwpList308/DB15DE6F48E92F31C1256B66005BC2C7>>.

¹⁴² Isabelle Bourgeois, 'Water, Even More Precious than Oil' (Geneva: ICRC News, 23/05/2003), online: <<http://www.icrc.org/web/eng/siteeng0.nsf/iwpList322/590CE368B6F9DD95C1256D2F00570395>>.

¹⁴³ W. Remans 'Water and War' (1995) 1 Humanitäres Völkerrecht: Informationsschriften 4 at 13.

¹⁴⁴ 'The Movement Defined', Red Cross, online: <<http://www.redcross.int/en/history/movement.asp>>.

¹⁴⁵ The Seville Agreement on 'The Agreement on the Organization of the International Activities on the Components of the International Red Cross and Red Crescent Movement', article 3, online:

humanitarian aid.¹⁴⁶ Under the auspices of the Water and Habitat Unit, the ICRC has a core role concerning the provision of fresh water in armed conflicts.¹⁴⁷ The role of the Fresh Water and Habitat Unit is to 'assure that victims of war have access to fresh water for drinking and for domestic use, and to preserve the habitat that protects the population against environmental hazards.'¹⁴⁸ The Water and Habitat Unit has expertise with the provision of fresh water in armed conflicts. It had, in 2006, water and sanitation programmes in 42 countries world-wide.¹⁴⁹ It contributes to reconstructing destroyed infrastructure during the war¹⁵⁰ and building new infrastructure, such as new wells.¹⁵¹ The Water and Habitat Commission is also involved in post-war activities and natural disaster relief. As one of the main actors, the ICRC has an important role to play, but is not the only one.¹⁵²

In sum, humanitarian assistance, to a certain extent, mitigates the shortcomings of the primary norms protecting fresh water in armed conflict. The Water and Habitat Unit of the ICRC has a key role in this respect. It provides for the reconstruction of the water network in armed conflicts and immediate response to civilian water needs. There are challenges to the provision of humanitarian assistance are not unique to the discussion on the provision of fresh water.

3.6 Conclusion

The sum of the links currently protecting the primary norms of fresh water in times of armed conflict covers essential elements, but also has openings for military necessity that are onerous for a precious resource like fresh water. This stems from the lack of a specific approach to water, problems with respect to the protection of the water network because

<<http://www.redcross.int/en/history/sevillepart1.asp>>; Jean Pictet, 'The Fundamental Principles of the Red Cross: Commentary' (Geneva: Henri Dunant Institute, 1979).

¹⁴⁶ The emphasis upon 'an impartial humanitarian body' in common article 3 to the Geneva Conventions for non-international conflicts, articles 10/11/12 GC IV, 9/10/11 GC III, 9/10/11 GC II and 9/10/11 of GC I for international armed conflicts demonstrates this.

¹⁴⁷ See e.g. ICRC, Press Release, 'World Water Day: ICRC Supplies 11 Million People' (21 March 2006).

¹⁴⁸ ICRC Activities, 'Water and Habitat: Presentation' (21-03-2006), online: <<http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/57jq9u?opendocument>>.

¹⁴⁹ ICRC Activities, 'Map of the Current ICRC Water and Sanitation Programmes Around the World' (20 March 2006), online: <http://www.icrc.org/Web/eng/siteeng0.nsf/html/assistance_water_map>.

¹⁵⁰ Interview by the ICRC with Yves Etienne, in charge of the ICRC's Assistance Division, 'What struck me was the extraordinary solidarity among the people'. online: <<http://www.icrc.org/Web/Eng/siteeng0.nsf/html/interview-lebanon-260906>>.

¹⁵¹ ICRC Stories from the field, 'Chad: a Lifeline of Clean Water' (19 March 2007), online: <<http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/chad-stories-200307>>.

¹⁵² David P. Forsythe, 'The International Committee of the Red Cross and Humanitarian Assistance – a Policy Analysis' (1996) 314 *International Review of the Red Cross* 512.

the dual-use exception and clear difficulties with respect to the protection of the environment in armed conflicts.

In practice, the Water and Habitat Commission of the ICRC contributes to mitigate the weaknesses in the primary norm framework with respect to the emergencies in armed conflict. However, for the long-term environmental impact, damage may be irreversible.

IV. OTHER SOURCES OF LAW IN TIMES OF ARMED CONFLICT

Part IV will consider two specific parts of the general body of international law: international environmental law and international human rights law. The purpose of this is to evaluate the extent to which the primary norms of the *lex generalis* on fresh water serve to complement the *lex specialis* of international humanitarian law.

4.1 International Environmental Law

International environmental law's primary purpose is to prevent human damage to the environment in peacetime. This begs the question as to whether it remains applicable in times of armed conflict. The object of this discussion is to examine the extent to which current legal developments of primary norms on fresh water in international environmental law can complement the less specific norms in international humanitarian law.¹⁵³

4.1.1 Application in Armed Conflicts

Silja Vöneky has discussed the subject of whether peacetime environmental law remains applicable in international armed conflicts.¹⁵⁴ She argues that 'the argument that international humanitarian law prevails over peacetime environmental law as *lex specialis* is no longer valid.'¹⁵⁵ She supports this argument with the assertion that it depends on the treaty in question. She identifies five categories of treaties that remain applicable in armed conflicts: (a) treaties that expressly provide for continuance during war; (b) treaties that are compatible with the continuance of war; (c) treaties creating an international regime or status; (d) human rights treaties; (e) *jus cogens* rules and obligations *erga omnes*.¹⁵⁶

¹⁵³ See above section 3.4 'Protection of the Environment'.

¹⁵⁴ Silja Vöneky, 'Peacetime Environmental Law as a Basis of State Responsibility for Environmental Damage Caused by War' in Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (Cambridge: CUP, 2000) 190 [Vöneky Peacetime]; Silja Vöneky, 'A New Shield for the Environment: Peacetime Treaties as Legal Restraints of Wartime Damage', (2000) 9(1) R.E.C.I.E.L. 20 [Vöneky Shield].

¹⁵⁵ Vöneky Shield, *ibid.* at 21; Vöneky Peacetime at 198.

¹⁵⁶ Silja Vöneky, 'A New Shield for the Environment: Peacetime Treaties as Legal Restraints of Wartime Damage', R.E.C.I.E.L. 9(1) (2000) 20 at 22.

¹⁵⁸ See VCLT : Article 26 – *pacta sunt servanda*, arts. 38 and 43 objective treaty regimes, art. 53 *jus cogens* and art. 19 (c) human rights treaties. More generally on treaties and war – art. 73..

This reasoning is solidly anchored in basic rules of modern treaty doctrine: adherence to the principle of *pacta sunt servanda*, the creation of objective treaty regimes, the special case of human rights treaties, and *jus cogens* rules and obligations *erga omnes*.¹⁵⁸ The category of treaties creating an international regime or status is the most intriguing one as regards the protection of the environment in armed conflicts. Certain treaties clearly have a 'common interest' for the international community and apply during armed conflicts such as the UNCLOS, the Antarctic treaties, the Convention on Climate Change.¹⁵⁹ However, treaties protecting shared natural resources must be considered in terms of whether they protect merely national interests or a 'common interest' of the international community.¹⁶⁰

To conclude therefore, the relationship between international humanitarian law and international environmental law is more nuanced than one of *lex specialis* and *lex generalis*. One must acknowledge the freedom of parties to conclude agreements that remain applicable in war. Furthermore, the emergence of treaties that serve the 'common interest' of the international community do not rescind in armed conflict.

4.1.2 International Water Law in Armed Conflicts

International water law at a bilateral or regional interstate level, has existed for centuries. However, in the past century, the international community is starting to realize the importance of the development of a 'common interest' approach to the legal regulation of the water resource. At present, various stakeholders are focusing on fresh water in peacetime.¹⁶¹ International humanitarian law has significant restriction on the protection of the environment to allow for military discretion.¹⁶² In practice, this means that a military commander has to balance up environmental treaty obligations with his duty to fight the enemy. This is the 'sliding-scale' between environmental protection and military necessity.¹⁶³ The consideration of the fresh water primary norms of international

¹⁵⁹ Silja Vöneky, 'Peacetime Environmental Law as a Basis of State Responsibility for Environmental Damage Caused by War' in Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (Cambridge: CUP, 2000) 190 at 225; Silja Vöneky, 'A New Shield for the Environment: Peacetime Treaties as Legal Restraints of Wartime Damage', *R.E.C.I.E.L.* 9(1) (2000) 20 at 32.

¹⁶⁰ *Ibid.*

¹⁶¹ Twenty-three UN bodies are scrutinizing water in all its aspects. UN Secretary-General, 'Report of the Secretary-General on the Status of preparations for the International Year of Freshwater, 2003', UN Doc.A/57/132 (2002) at para. 9, online: <<http://www.un.org/esa/sustdev/sdissues/water/SGreportIYFW2003.pdf>>; the International Law Association; ICRC Water and Habitat Commission; World Water Forum, The International Water Academy (Oslo); Environmental Law Institute, to name a few.

¹⁶² See above section 3.4 'Protection of the Environment'.

¹⁶³ Captain John P. Quinn and Richard T. Evans, and Lieutenant Commander Michael J. Boock, 'United States Navy Development of Operational Environmental Doctrine' in Jay E. Austin, Carl E. Bruch, eds., *The Environmental Consequences of War* (CUP, Cambridge 2000) 156 at 164.

humanitarian law demonstrates that the military commander has more obligations with respect to fresh water than to the rest of the environment: (a) the protection of fresh water as a civilian object, (b) fresh water installations and supplies, (c) the protection of dams and dykes and (d) environmental modification techniques. However, the aforementioned analysis also evidenced an inherently short-term anthropocentric approach in international humanitarian law. Considering the problems with fresh water today, it is clear that a long-term approach is necessary: an 'intergenerational' approach that recognizes the 'common interest' that the international community has in fresh water. This part will consider both and examine which primary treaty norms on fresh water in international water law could effectively complete the primary norms of international humanitarian law. The analysis will include bilateral¹⁶⁴ and regional interstate treaties¹⁶⁵ and multilateral treaties.

Bilateral treaties can remain applicable in armed conflicts if they provide for it or if they create an objective treaty regime. Without having examined all bilateral water treaties, it is unlikely that bilateral treaties will satisfy Silja Vöneky's criteria of 'common interest' to water. Bilateral treaties focus on national interests in the fresh water. In Steven McCaffrey's study on the law of international watercourses, the case of the Colorado River Treaty is illustrative. The treaty concerns mainly the apportionment of the river and not the preservation for future generations.¹⁶⁶

In the case of regional treaties, the matter becomes more complex. It seems that some regional treaties do take into account a 'common interest' of humankind in the water resource. The Rhine treaty regime is a good example of a regional regime that has transcended the 'national interest' paradigm to produce an extensive environmental protection of the water resource.¹⁶⁷ The Rhine regime is rather exceptional – many other regional regimes, such as for instance the Nile,¹⁶⁸ the Parana River,¹⁶⁹ and the Jordan River,¹⁷⁰ still confine themselves to national interests.

¹⁶⁴ See Transborder Freshwater Dispute Database, 'International Freshwater Treaties Database', online: <<http://www.transboundarywaters.orst.edu/projects/internationalDB.html>>.

¹⁶⁵ See e.g. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy (2000) 43 Official Journal of the European Communities 327. The Declaration and Treaty establishing the Southern African Development Community (SADC) (1993) 32 I.L.M. 116.

¹⁶⁶ Stephen McCaffrey, *The Law of International Watercourses* (New York: OUP, 2003) at 286-293.

¹⁶⁷ André Nollkaemper, 'The River Rhine: from Equal Apportionment to Ecosystem Protection' 5 (1996) R.E.C.I.E.L. 152.

¹⁶⁸ Stephen McCaffrey, *The Law of International Watercourses* (New York: OUP, 2003) at 233-247.

¹⁶⁹ *Ibid.* at 267.

¹⁷⁰ *Ibid.* at 267-275.

One of the most significant attempts to regulate water is the UN framework Convention on Non-Navigational Uses of International Watercourses of 1997.¹⁷¹ Its aim was to be global in scope. The convention has been the object of an unresolved academic debate.¹⁷² So far, the treaty has been a diplomatic failure – it has not yet entered into force.¹⁷³ However, in the event that it does, it may prove to be influential in humanitarian law, in so far as it could create an objective treaty regime.

The scope of the Convention encompasses the non-navigational uses of the watercourse related to the uses of the water: (a) its protection, (b) preservation and, (c) management.¹⁷⁴ The term 'watercourse' is defined broadly to include more than just rivers.¹⁷⁵ Further, an 'international watercourse' is a watercourse situated in several states.¹⁷⁶ A 'watercourse state' is also defined broadly to include not just territorial attachment to the watercourse, but also regional interest in the watercourse.¹⁷⁷

Relevant to the present discussion, the UN Convention on Non-Navigational Uses of International Watercourses provides in article 7 that states 'shall take all appropriate measures to prevent the causing of significant harm to other watercourse States', when using watercourses on their own territory.¹⁷⁸ If significant harm ensues, there is a duty to use 'all appropriate measures' to restore the situation prior to the damage or mitigate the damage and provide compensation where it is necessary.¹⁷⁹ Comparing this to the equivalent protection of the environment in humanitarian law, the peacetime protection in the UN Convention is broader, because the threshold is higher in humanitarian law.¹⁸⁰ The

¹⁷¹ Convention on the Law of the Non-navigational Uses of International Watercourses, UN Doc. A/51/869 Adopted by GA Resolution A/RES/51/229 of 21 May 1997.

¹⁷² See e.g. Patricia Wouters, 'The Legal Response to International Water Conflicts: The UN Watercourses Convention and Beyond' (2000) 42 GYIL 293; André Nollkaemper, 'The Contribution of the International Law Commission to International Water Law: Does it Reverse the Flight from Substance' (1996) 27 NYIL 39; Panel on the Non-navigational Uses of International Watercourses in Contemporary International Law Issues: Opportunities at a Time of Momentous Change (Dordrecht: Martinus Nijhoff Publishers, 1994) 378-397.

¹⁷³ It has only attracted 16 signatories and 14 parties, which is not enough for it to enter into force: 35 parties are a minimum requirement (article 36(1)). See Status of the UN Convention on Non-navigational uses of Watercourses on the UN Treaty Database, online: <<http://untreaty.un.org/ENGLISH/bible/englishinternetbible/partI/chapterXXVII/treaty43.asp?>>

¹⁷⁴ Convention on the Law of the Non-navigational Uses of International Watercourses, UN Doc. A/51/869 Adopted by GA Resolution A/RES/51/229 of 21 May 1997, art 1.

¹⁷⁵ Ibid. at art 2 (a).

¹⁷⁶ Ibid. at art 2 (b).

¹⁷⁷ Ibid. at art 2 (c).

¹⁷⁸ Ibid. at art 7 (1).

¹⁷⁹ Ibid. at art 7 (2).

¹⁸⁰ See above section 2.4 'Protection of the Environment'.

'harm' principle also forms part of customary international law and it may even include prior notification concerning harm to other States.¹⁸² Article 9 on the exchange of data and information may be valuable. As demonstrated earlier with respect to the human right to fresh water in armed conflicts, information is crucial for the provision of humanitarian aid in armed conflicts.¹⁸³ Paragraph 2 states that if information is not readily available, the provision of information is not necessary¹⁸⁴. Article 31 further adds to this exception: the provision of information need not be made where there are vital interests of national defence or security interests at stake¹⁸⁵. These exceptions conform to the principle of military necessity that gives discretion to the military if necessary. Hence, exchange of data and information on fresh water would become a reality if the convention comes into force, provided that there is no conflict with the principle of military necessity. Article 26 on water installations does not add any substance to the existing norms in international humanitarian law identified in the previous discussion.¹⁸⁶ The Convention also covers water management by 'planning the sustainable development of the water course and providing for the implementation of any plans adopted' and 'otherwise promoting the rational and optimal utilization, protection and control of the watercourse.'¹⁸⁷ The management also entails co-operation on the flow of the river.¹⁸⁸ The only problem with this management system is that it is dependant upon some of the most controversial provisions of the convention, namely: the principle of equitable and reasonable utilization¹⁸⁹ and the obligation not to create significant harm.¹⁹⁰ Notwithstanding this controversy, the idea of having water management in armed conflicts is indeed crucial. This has been pointed out by Francois Grunewald in one of the earlier studies conducted by

¹⁸² Trail Smelter Arbitration (1938/1941) 3 RIAA 1905; Legality of the Threat or Use of Nuclear Weapons [1996] I.C.J. Rep. 226 at para. 29; Lac Lanoux Arbitration (France v. Spain) [English Translation] (1961) 24 I.L.R. 101; Stephen McCaffrey, *The Law of International Watercourses* (New York: OUP, 2003) at 231.

¹⁸³ See below section 4.2.2 'A Human Right to Fresh Water in Armed Conflicts?.'

¹⁸⁴ UN Convention on Non-Navigational Uses of International Watercourses Adopted by UNGA Resolution 229 (1996) GAOR 51st Session (UN Doc. A /51/L.52 and Add.1) art.9(2).

¹⁸⁵ Ibid. at art.31.

¹⁸⁶ See above section 3.2 'Objects Indispensable to Survival: Fresh Water Installations and Supplies'.

¹⁸⁷ Convention on the Law of the Non-navigational Uses of International Watercourses, UN Doc. A/51/869 Adopted by GA Resolution A/RES/51/229 of 21 May 1997, art. 24.

¹⁸⁸ Ibid. at art. 25.

¹⁸⁹ Ibid. at arts. 5 and 6.

¹⁹⁰ Ibid. at. art. 7.

the ICRC on the subject of war and water.¹⁹¹ He argues that armed conflicts often accentuate pre-existing freshwater problems and that therefore management of the resources becomes particularly important in armed conflicts¹⁹². However, a solution must be found that satisfies all states using the water resource in question. Article 29 of the UN Convention on Non-Navigational Uses of International Watercourses further provides that it is 'without prejudice to the applicable rules relating to the protection of freshwater installations in international humanitarian law.'¹⁹⁴ Conversely, article 8 on the general obligation to co-operate is not relevant to the present discussion because it is more important for peacetime prevention of armed conflicts. Many provisions and mechanisms appear to depend on co-operation.¹⁹⁴ Since an armed conflict is in essence the breakdown of co-operation, it is difficult to see how these provisions will remain effective in armed conflicts. They may also be limited by the discretion accorded to the military in armed conflicts in relation to the environment.¹⁹⁵

Among the most recent academic discussions on water-law is the publication in 2004 of the 'Berlin Rules on Water Resources'¹⁹⁶ by the International Law Association.¹⁹⁷ The Berlin Rules review international water law for both peacetime and armed conflicts.¹⁹⁸ One of the weaknesses of these rules, as elaborated in a dissenting opinion by eminent scholars,¹⁹⁹ is that the study fails to distinguish between existing and non-existing law.²⁰⁰ Most of the rules are however declaratory of the existing rules of customary international

¹⁹¹ François Grunewald, 'Water, Food, and Man' in *Forum: War and Water* (Geneva: ICRC publication, 1998) 38-43.

¹⁹² *Ibid.*

¹⁹⁴ See *Ibid.* at arts. 21, 22, 23, 28, 30.

¹⁹⁵ See above section 3.4 'Protection of the Environment'.

¹⁹⁶ 'Berlin Rules on Water Resources' International Law Association Report of the Seventy-First Conference (Berlin: International Law Association, 2004).

¹⁹⁷ The International Law Association is a non-governmental organisation with consultative status with a number of UN specialized agencies and has as a goal to 'the study, clarification and development of international law, both public and private, and the furtherance of international understanding and respect for international law'. International Law Association: 'History of the ILA', online: <http://www.ila-hq.org/html/layout_about.htm>.

¹⁹⁸ Joseph Dellapenna, 'The Berlin Rules on Water Resources: The New Paradigm for International Water Law', statement at the Proceedings of the 2006 World Environmental and Water Resources Congress, May 21-25, 2006, Omaha, Nebraska, online: <<http://www.ualg.pt/5cigpa/es/comunicacoes.php?letra=I-%20J>>.

¹⁹⁹ Those scholars aided in the creation of the 'Berlin Rules'.

²⁰⁰ Dissenting opinion by Slavko Bogdanovic, Charles Bourne, Stefano Burchi and Patricia Wouters. 'Berlin Rules on Water Resources' International Law Association Report of the Seventy-First Conference (Berlin, International Law Association, 2004).

law.²⁰¹ Although the Berlin Rules do not extend the primary norms applicable to fresh water in armed conflicts, they contribute to raising awareness. The protection of fresh water facilities was also discussed at the Third World Water Forum.²⁰² This Conference was convened by the World Water Council – another NGO with similar objectives albeit in a more limited perspective: water only.²⁰³ Aside from raising awareness, these declarations indicate the possibility of the different fields of international law both influencing and complementing each other.

To conclude, it is clear that some international environmental treaties still apply in armed conflicts. International water law is developing treaties that could apply in conflicts if the parties have already agreed to do so – which is not a novelty – but also treaties that serve the common interest could remain applicable in times of armed conflict. This could have a significant impact in providing additional standards in relation to fresh water in times of armed conflict, such as water management or water quality. However, as demonstrated in the example of the UN Convention on the Non-Navigational Uses of International Watercourses, the international community has not yet been able to develop multilateral international water treaties that serve the common interest of the international community. Many treaties still concern the apportionment of the water resource.

4.2 International Human Rights Law

The first question that comes to mind when considering international human rights in the context of armed conflicts is whether such laws are applicable and if so, how? Central to this question is the relation between international humanitarian law and international human rights law.

Independent of whether international human rights apply, the next question relating to the present study is: is there a 'human right' to fresh water? The answer to that question will be based on interpretation of international human rights treaties.

Finally, the relation between international human-rights law and international humanitarian law will determine how a human right to fresh water, whether it exists or not, can influence the primary norms on freshwater in international humanitarian law.

²⁰¹ Joseph Dellapenna, 'The Berlin Rules on Water Resources: The New Paradigm for International Water Law', statement at the Proceedings of the 2006 World Environmental and Water Resources Congress, May 21-25, 2006, Omaha, Nebraska, online: <<http://www.ualg.pt/5cigpa/es/comunicacoes.php?letra=I-%20J>>.

²⁰² Frederick M. Lorentz, 'Protecting Fresh Water Facilities Under International Law' (2003) 1 UNESCO Technical documents in hydrology PC→CP series.

²⁰³ World Water Council, 'About Us' online: <<http://www.worldwatercouncil.org/index.php?id=92&L=0>>.

4.2.1 Application in Armed Conflicts

Numerous scholars have debated the relation between human rights and international humanitarian law²⁰⁴ and an increasingly greater body of case law has dealt with this issue.²⁰⁵ Underlying this debate are the similarities between the two bodies of law. Ultimately, it is a question of which body will prevail in the event of an overlap of the two. Some academics advocate a convergence between the two bodies of law, others claim the clash between them and, finally, some view the two bodies as complementary in their overlap.

The position adopted by most scholars and increasingly NGOs as well, and indeed the better position to adopt, is that the relation between international human rights law and international humanitarian law is a relation between *lex generalis* and *lex specialis*.²⁰⁶

²⁰⁴ Theodor Meron, 'Chapter 1: The Humanization of the Law of War' in Theodor Meron, *The Humanization of International Law* (Leiden: Martinus Nijhoff Publishers, 2006) 1; Heike Krieger, 'A Conflict of Norms: the Relationship Between Humanitarian Law and Human Rights Law in the ICRC Customary Law Study' (2006) 11(2) *J. Confl. & Sec. L.* 265; William Abresch, 'A Human Rights Law of Internal Armed Conflict: The European Court of Human Rights in Chechnya' (2005) 16 *E.J.I.L.* 741; Micheal J. Dennis, 'Application of Human Rights Extraterritorially in Times of Armed Conflict and Occupation' (2005) 99 *A.J.I.L.* 119; Theodor Meron 'How do Human Rights Humanize the Law of War?' in Morten Bergsmo, ed., *Human Rights and Criminal Justice for the Downtrodden: Essays in honour of Asbjörn Eide* (Leiden: Martinus Nijhoff Publishers, 2003); Asbjörn Eide 'The Laws of War and Human Rights: Differences and Convergences' in Christophe Swinarski, ed., *Studies and Essays on International Humanitarian Law and Red Cross Principles in Honour of Jean Pictet* (Geneva: International Committee of the Red Cross, 1984) 675; Georges Perrin, 'La Nécessité et les Dangers du Jus Cogens' in Christophe Swinarski, ed., *Studies and Essays on International Humanitarian Law and Red Cross Principles in Honour of Jean Pictet* (Geneva: International Committee of the Red Cross, 1984) at 751; A.H. Robertson, 'Humanitarian Law and Human rights' in Christophe Swinarski, ed., *Studies and Essays on International Humanitarian Law and Red Cross Principles in Honour of Jean Pictet* (Geneva: International Committee of the Red Cross, 1984) 793; Hans-Joachim Heintze, 'The European Court of Human Rights and the Implementation of Human Rights Standards During Armed Conflicts' (2002) 45 *GYIL* 60; L. Doswald-Beck, S. Vité, 'International Humanitarian Law and Human Rights Law' (1993) 293 *International Review of the Red Cross* 94; M.J. Peterson, 'On the Inadequate Reach of Humanitarian and Human Rights Law and the Need for a New Instrument' (1983) 77 *AJIL* 589; Dietrich Schindler, 'Human Rights and Humanitarian Law: the Interrelationship of the Laws' (1982) 31 *Am. U. L. Rev.* 935; G.I.A.D. Draper, 'The Relationship Between the Human Rights Regime and the Law of Armed Conflicts' (1971) 1 *Israel Yearbook on Human Rights* 191 (an interesting historical opinion).

²⁰⁵ *Isayeva v Russia*, App. No. 57950/00, ECtHR, judgment of 24 February 2005 at para. 191; *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory* [2004] *I.C.J. Rep.* 131; *Bankovic and Others v. Belgium and 16 Other Contracting Parties Also Parties to the North Atlantic Treaty* (App no 52207/99) (2002) 41 *I.L.M.* 517; *Prosecutor v Furundzija*, judgment, IT-95-17/1-T, 10 December 1998, paras 134 ff; *Ergi v. Turkey* (App no 23818/94) *ECHR* 1998-IV 1751 at paras. 79, 81, 86; *Legality of the Threat or Use of Nuclear Weapons* [1996] *I.C.J. Rep.* 226.

²⁰⁶ See official statement by the President of the International Committee of the Red Cross, Jakob Kellenberger 'Protection Through Complementarity of the Law', online: <<http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/5rfgaz?opendocument>>. See also Karima Bennouna on the approach by

This position is referred to as the 'complementarist view'.²⁰⁷ It maintains that the principle of *lex specialis derogat lex generali* applies, that is, the specific law prevails in a conflict between general law and specific law. Where the *lex specialis* remains silent, this view asserts that the *lex generalis* forms a good complementary source of law. The rationale behind the principle is that the specific law is generally better adapted to deal with the situation than the general law.²⁰⁸

A couple of Advisory Opinions of the ICJ are important in this context. In the cases of the *Legality of the Threat or Use of Nuclear Weapons*²⁰⁹ and the *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*,²¹⁰ the ICJ considered the inter-relation between international humanitarian law and international human rights treaties in armed conflicts. In the *Legality of the Threat or Use of Nuclear Weapons* case,²¹¹ the Court observed that the International Covenant of Civil and Political Rights²¹² did not cease to apply in times of war except by the derogations operable under article 4.²¹³ Further, the court held that the definition of those derogations was, in armed conflicts, dictated by international humanitarian law.²¹⁴ Thus, the decision made clear, and rightly so, that the *lex specialis* of international humanitarian law governs

NGOs to human rights and humanitarian law: 'Toward a Human Rights Approach to Armed Conflict: Iraq 2003', (2004) 11 U.C. Davis J. Int'l L. & Pol'y 171 at 216-219.

²⁰⁷ A.H. Robertson, 'Humanitarian Law and Human rights' in Christophe Swinarski, ed., *Studies and essays on international humanitarian law and Red Cross principles in honour of Jean Pictet* (ICRC Martinus Nijhoff Publishers, 1984 Geneva) 793 at 801; 'International Humanitarian Law and Other Legal Regimes: Interplay in Situations of Violence' (2003) ICRC Report, online: <<http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/5ubcvx?opendocument>>; Hans-Joachim Heintze, 'On the Relationship Between Human Rights Law Protection and International Humanitarian Law' (2004) 856 *International Review of the Red Cross* 789; Robert Kolb, 'The Relationship Between International Humanitarian Law and Human Rights Law: A Brief History of the 1948 Universal Declaration of Human Rights and the 1949 Geneva Conventions' (1998) 324 *International Review of the Red Cross* 409.

²⁰⁸ Martin Koskiniemi, 'Fragmentation of International Law: Topic (a): The Function and Scope of the *Lex Specialis* Rule and the Question of 'Self-Contained Regimes': an Outline', prepared for the Study Group on Fragmentation of International Law of the International Law Commission, online: <http://untreaty.un.org/ilc/sessions/55/fragmentation_outline.pdf> at para 2.2.

²⁰⁹ [1996] I.C.J. Rep. 226.

²¹⁰ [2004] I.C.J. Rep. 131.

²¹¹ [1996] I.C.J. Rep. 226.

²¹² International Covenant of Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 U.N.T.S. 171 and 1057 U.N.T.S. 407.

²¹³ *Legality of the Threat or Use of Nuclear Weapons* [1996] I.C.J. Rep. 226 at para. 25.

²¹⁴ *Ibid.* at para. 25.

armed conflicts, but that it can be complemented by the *lex generalis* of international human rights.²¹⁵

In the *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory* case,²¹⁶ the Court again had to consider the relationship between international humanitarian law and international human rights law. The Court upheld its position in the *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*. But it went even further by holding that 'the protection offered by human rights conventions does not cease in case of armed conflicts', save through the effect of provisions for derogation like the one found in article 4 of the *International Covenant on Civil and Political Rights*.²¹⁷ Hence, there are some matters covered by both international humanitarian law and international human rights law concurrently, other matters will be covered by only one of the two bodies of law.²¹⁸

To conclude, the relationship between international human rights law and international humanitarian law in armed conflicts is one between *lex generalis* and *lex specialis*: human rights remain applicable in armed conflicts, but only bind in so far as they add something to the applicable primary norms of international humanitarian law.

4.2.2 A Human Right to Fresh Water in Armed Conflicts?

While various states may recognize a right to water, only a few do so regularly. Hence, it does not yet constitute a rule of customary law.²¹⁹ However, it is difficult to conceive how some human rights could exist without a human right to water.²²⁰ This raises the question of whether or not the human right to water can be implied from human rights treaties or from international water law treaties. It also raises the question of the legal content of the human right to water. Everybody has an interest in water, but asserting that a legal right exists is an altogether different matter. A human right to water would entail that governments would have an obligation to provide safe drinking water to their population. How far could such a duty extend? In relation to armed conflict, whether a human right to water exists or not, the question is whether such a right could add something to the already

²¹⁵ Christopher Greenwood, 'The Advisory Opinion on Nuclear Weapons and the Contribution of the International Court to International Humanitarian Law' (1997) 316 *International Review of the Red Cross* 65.

²¹⁶ [2004] I.C.J. Rep. 131.

²¹⁷ *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory* [2004] ICJ Rep 131 at para. 106.

²¹⁸ Susan C. Breau, 'Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory: Advisory Opinion, 9 July 2004' (2005) 54 *I.C.L.Q.* 1003, 1010.

²¹⁹ Steven C. McCaffrey, 'The Human Right to Water' in: Brown Weiss, Boisson de Chazournes and Bernasconi-Osterwalder, *Fresh Water and International Economic law* (Oxford: OUP, 2005) at 93-115.

²²⁰ *Ibid.*

extensive framework of international humanitarian law.²²¹ A human right to fresh water may further reinforce or elaborate the provisions in international humanitarian law.

Steven McCaffrey has already discussed the existence of a human right to water with a critical eye.²²² His starting point is the human rights treaties: the Universal Declaration of Human Rights of 1948,²²³ the International Covenant on Civil and Political Rights (ICCPR)²²⁴ and the International Covenant on Economic, Social and Cultural Rights (ICESCR).²²⁵ He examines whether or not the right to water can be implied from the right to health and well-being,²²⁶ the right to an adequate standard of living,²²⁷ and the right to life.²²⁸ He discards the right to life as a base for an implicit right to water because the Human Rights Committee appear to exclude a right to subsistence in the right to life and commentators argue that including a right to water is more appropriate under the ICESCR'. Instead, McCaffrey argues that the right to water could be more aptly implied from the right to health and well-being and the right to an adequate standard of living in articles 11 and 12 of the ICESCR. McCaffrey also finds positive regional developments that demonstrate a trend towards a human right to water in the African Commission on Human and People's Rights, in the Inter-American Commission on Human Rights and in Europe.²²⁹ He also finds evidence of such a trend in: (a) the mention of the 'special regard' to 'the requirements of human needs' in the 1997 UN Convention on Non-Navigational Uses of International Watercourses; and (b) the 1999 Protocol on Water and Health to the 1992 ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, that provides that parties must take 'all appropriate measures for the

²²¹ See above part III 'Relevant Primary Norms of International Humanitarian Law Pertaining to Fresh Water'.

²²² Steven C. McCaffrey, 'The Human Right to Water' in Brown Weiss, Boisson de Chazournes and Bernasconi-Osterwalder, eds., *Fresh Water and International Economic Law* (Oxford: OUP, 2005) 93.

²²³ Universal Declaration of Human Rights Adopted and proclaimed by the United Nations General Assembly Resolution 217 (III) (1948) GAOR 3rd Session.

²²⁴ International Covenant on Civil and Political Rights (Adopted 16 December 1966, entered into force 3 January 1976) 999 U.N.T.S. 171 (ICCPR).

²²⁵ International Covenant on Economic, Social and Cultural Rights (Adopted 16 December 1966, entered into force 3 January 1976) 993 U.N.T.S..

²²⁶ Universal Declaration of Human Rights Adopted and proclaimed by the United Nations General Assembly Resolution 217 (III) (1948) GAOR 3rd Session, art 25; International Covenant on Economic, Social and Cultural Rights (Adopted 16 December 1966, entered into force 3 January 1976) 993 U.N.T.S. 3 (ICESR), art 11.

²²⁷ International Covenant on Economic, Social and Cultural Rights (Adopted 16 December 1966, entered into force 3 January 1976) 993 U.N.T.S. 3, art. 12 [ICESR].

²²⁸ International Covenant on Civil and Political Rights (Adopted 16 December 1966, entered into force 3 January 1976) 999 UNTS 171, art 6 [ICCPR].

²²⁹ See for the European position: Henri Smets, 'The Right to Water as a Human right' (2000) 30(5) *Env'tl. Pol'y & L.* 248 at 249.

purpose of ensuring... adequate supplies of wholesome drinking water' and 'shall pursue the aims of... access to drinking water for everyone....'²³⁰ The final agreement that McCaffrey highlights is the special Water Charter of the Senegal River that claims a 'fundamental human right to healthful water.' He notes that this is a 'vanguard' position because it imposes not only a right to water, but also a right to 'healthful' water.

The General Assembly of the UN (UNGA) has also tried to influence the development of international law towards an explicit right to water by recognizing the right to clean, fresh water as a fundamental human right in its Resolution on the Right to Development.²³¹

In sum, the position in treaty law is clear: there is as of yet, no collective, explicit human right to water. However, the trend towards such a right is positive. An implicit right appears to exist, but because state practice is not consistent yet, this right has no value.

Another problematic aspect of recognizing a human right to water is the extent of the definition of its legal content. Legal development has been attempted under the auspices of ICESCR. The UN Committee on Economic, Social and Cultural Rights (ESC) is established under the framework of the UN Economic and Social Council (ECOSOC) and is in charge of monitoring the implementation of the ICESCR.²³² The ESC recently held, in General Comment 15, that a right to water exists based on articles 11 and 12 of the ICESCR on the right to adequate housing and right to a reasonable standard of health.²³³ A General Comment is an instrument of clarification of the normative content of the ICESCR and is of non-legally binding nature.²³⁴ However, Magdalena Sepúlveda argues that a General Comment may have considerable authority, because the Committee's approach to interpretation, through the General Comments, enjoys a considerable degree of legitimacy.²³⁵

When one examines the normative content of General Comment 15 on the right to water, one can see that it goes further than the humanitarian framework in two respects: (a) it lays down a general obligation concerning freshwater quality²³⁶ and (b) it lays down a

²³⁰ Online: <<http://www.unece.org/env/water/text/text.htm>>.

²³¹ UNGA Resolution 175 (1999) GAOR 54th Session (UN Doc.A/RES/54/175) at para 12(a).

²³² Magdalena Sepúlveda, *The Nature of the Obligations under the International Covenant on Economic, Social and Cultural Rights* (Antwerpen: Intersentia, 2003) at 11. See also for more information about the Committee: Human Rights: THE COMMITTEE ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS, Fact Sheet no.16 (Geneva: UN Centre for Human Rights, 1996).

²³³ General Comment No. 15 on the Right to Water was adopted by the UN Committee on Economic, Social and Cultural Rights at its twenty-ninth Session in November 2002 (UN Doc. E/C.12/2002/11).

²³⁴ Magdalena Sepúlveda, *The Nature of the Obligations under the International Covenant on Economic, Social and Cultural Rights* (Antwerpen: Intersentia, 2003) at 91.

²³⁵ *Ibid.* at 111.

²³⁶ General Comment No. 15 on the Right to Water (2002) ECOSOC 29th session (UN Doc. E/C.12/2002/11) at para. 12(b).

broad obligation as to 'accessibility' of water.²³⁷ If one compares this attempt to create a human right through state practice with the primary norms of international humanitarian law, creating a clear standard concerning freshwater quality is a novel introduction. It goes beyond the prohibition on rendering water unfit for use, as discussed in the above section on humanitarian norms.²³⁸ This approach differs from international humanitarian law, because it deals with fresh water as an element, rather than a corollary for subsistence of civilians. The General Comment also introduces standards of 'accessibility' to water, both physically²³⁹ and economically,²⁴⁰ as well as access to water-related information,²⁴¹ as parts of the right to water. For the ICRC, information concerning the location of the persons in need of water is a crucial link to the provision of fresh water in armed conflicts.²⁴² Thus making the provision of such information a legal standard would greatly improve the rapid response to water scarcity among persons in need in armed conflicts. With respect to the persons covered by the General Comment, the UN Committee on Economic, Social and Cultural Rights makes explicit reference to internally displaced persons, refugees, prisoners and detainees, and the provision of protection of their right to fresh water.²⁴⁴ This appears to be a confirmation of the existing provision in humanitarian law for prisoners of war. The General Comment also includes a reference to the obligations binding on State parties, to the ICESCR, under international humanitarian law.²⁴⁵ Finally, the UN Committee on Economic, Social and Cultural Rights also calls upon states,²⁴⁶ and many NGOs and international organizations, including the International Red Cross Movement,²⁴⁷ to apply the right to fresh water.

II TO CONCLUDE, MANY OF THE PRIMARY NORMS IN INTERNATIONAL HUMAN RIGHTS LAW COULD IMPLY AND HENCE DEVELOP A HUMAN RIGHT TO WATER. HOWEVER, THE PRESENT POSITION IN INTERNATIONAL LAW IS THAT THERE IS NO HUMAN RIGHT TO WATER. THE ATTEMPT OF ELABORATING THE

²³⁷ Ibid. at para. 12(c).

²³⁸ Specifically see above section 3.2 'Objects Indispensable to Survival: Fresh Water Installations and Supplies'.

²³⁹ See above section 3.3.3 'Access to Fresh Water'.

²⁴⁰ General Comment No. 15 on the Right to Water (2002) ECOSOC 29th session (UN Doc. E/C.12/2002/11) at para. 12(c)(ii).

²⁴¹ Ibid. at para. 12 (c) (iv).

²⁴² Interview with Jean Vergain, Head of Sector, Water and Habitat, Hydrogeologist M.Sc, Assistance Division, ICRC Geneva (Geneva 16 May 2006).

²⁴⁴ General Comment No. 15 on the Right to Water (2002) ECOSOC 29th session (UN Doc. E/C.12/2002/11) at para. 60.

²⁴⁵ Ibid. at para. 22.

²⁴⁶ Ibid. at paras. 17-38.

²⁴⁷ Ibid. at para. 60.

CONTENT OF A HUMAN RIGHT TO WATER AS INTERPRETED IN GENERAL COMMENT 15 IS NOT YET A LEGAL OBLIGATION AND APPEARS TO BE OVERLY AMBITIOUS.²⁴⁸ NONETHELESS, AS DEMONSTRATED, ITS CONTENT IS INNOVATIVE AND SHOULD BE DEVELOPED BECAUSE THE NORMS WOULD IMPROVE THE PRIMARY NORMS APPLICABLE TO FRESH WATER IN ARMED CONFLICTS. THUS FAR, AN IMPLICIT RIGHT TO FRESH WATER BASED ON HUMAN RIGHTS OBLIGATIONS OR ENVIRONMENTAL LAW OBLIGATIONS CANNOT COMPLEMENT THE PRIMARY NORMS IN INTERNATIONAL HUMANITARIAN LAW.

V. Conclusion

The interpretation of the primary norms of humanitarian law applicable to fresh water has identified an extensive framework of primary norms. The difficulty is that they are not always clear or in a consolidated form. This study has therefore attempted to clarify the existing norms in humanitarian law applicable to fresh water and to consolidate them logically. The interpretation of the primary norms has also identified significant weaknesses in the protection of the environment.

This study has also demonstrated how international human rights law and international environmental law remain applicable even in armed conflicts. The study has also demonstrated how these two bodies of law can contribute to significant development, by creating primary norms that deal with fresh water more specifically than the general framework of international humanitarian law.

To conclude, this study is a tool for dissemination of the law applicable to fresh water in armed conflicts and a starting point for understanding how the law on fresh water in armed conflicts can be improved. The Water and Habitat Commission of the ICRC should promote more dissemination in this field. More legal developments must be made, either from within international humanitarian law or alternatively in the fields of international human rights and international environmental law. Whether a 'fresh water conflict' will break out or not, fresh water remains vital in armed conflicts and its protection should be clearly identified and acknowledged.

²⁴⁸ Stephen Tully, 'A Human Right to Access Water? A Critique of General Comment No. 15' (2005) 23(2) NQHR 63.

