

# The protection of water in times of armed conflict

by Ameer Zemmali

“Water, thou hast no taste, no colour, no odour, canst not be defined, art relished while ever mysterious. Not necessary to life, but rather life itself (...) Of the riches that exist in the world, thou art the rarest and also the most delicate - thou so pure within the bowels of the earth!”<sup>1</sup>

## Introduction

Water, life-giving and bounteous, the symbol of fertility and purity, is also a source of fear, risk and danger, of covetousness and conflict. Serving many purposes, all equally necessary, it constitutes a vital resource of which man has always tried to regulate the use and management. But unlike peacetime legislation, reflected in the customs and practices of the most ancient societies as well as in the domestic and international legal instruments of modern times, the law of armed conflicts has devoted only few of its provisions expressly — and belatedly — to water.<sup>2</sup> This

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<sup>1</sup> Antoine de Saint-Exupéry, *Wind, Sand and Stars*, Penguin Books Ltd., Harmondsworth, England, 1969, p.140 (*Terre des Hommes*, Gallimard, Paris, 1939).

<sup>2</sup> There are few works dealing with the question, all the more credit being due to the *International Law Association*, which, at its 57th Conference in Madrid in 1976, adopted a resolution on the protection of water resources and water installations in times of armed conflict. See the text of the resolution in: *International Law Association*, Report of the Fifty-seventh Conference held at Madrid (August 30th, 1976, to September 4th, 1976), 1978, p. xxxiv. In 1966, the Association had already adopted the Helsinki Rules on the

is not so much a criticism as an observation and may be explained by the fact that water is indispensable in all circumstances. Apart from the consequences of natural disasters, when water may be either threatening or threatened, some human activities can harm the environment and impair the population's means of survival, of which water is the most essential. The effects of pollution or armed conflict are a case in point. The experience of modern warfare has shown, alas, that the civilian population and civilian objects are exposed to military operations and that in some cases thirst can prove to be more deadly than weapons.<sup>3</sup> The only remedy lies in respect for the universally recognized rules, and in the following article attention will be drawn to the provisions of humanitarian law which apply to the protection of water in wartime (I). Leaving aside considerations pertaining to *jus ad bellum* (water as a source of conflict) or water-related conflict situations,<sup>4</sup> we shall then look at some practical aspects with particular reference to the role of the ICRC and the other components of the International Red Cross and Red Crescent Movement (II), before concluding with a few general remarks (III).

## I. The protection of water in international humanitarian law

International humanitarian law is known to protect certain categories of persons and objects. It does not contain any specific rules regarding water, since the latter comes under peacetime law. Nevertheless, hostilities may also affect water and certain rules of humanitarian law, contain-

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uses of waters of international rivers", in which Article 20 was worded as follows: "*In times of war, other armed conflict, or public emergency constituting a threat to the life of the State, a riparian State may take measures derogating from its obligations under this Chapter to the extent strictly required by the exigencies of the situation, provided that such measures are not inconsistent with its other obligations under international law. The riparian State shall in any case facilitate navigation for humanitarian purpose*".

<sup>3</sup> This issue will be on the agenda of the 26th International Conference of the Red Cross and Red Crescent (Geneva, 3-7 December 1995) which will be concerned *inter alia* with the protection of the civilian population and of items indispensable for its survival.

<sup>4</sup> Recent works covering some aspects of the question include: Jacques Sironneau, "L'eau ressource stratégique", in *Géopolitique*, No. 43, autumn 1993, Christian Chesnot, *La bataille de l'eau au Proche-Orient*, Paris, l'Harmattan, 1993; Ali Ihsan Bagis (ed.), *Water as an Element of Cooperation and Development in the Middle East*, Ayna Publications, Istanbul, 1994; Stefan Klötzli, "The Water and Soil Crisis in Central Asia — a Source of Future Conflicts?", *Center for Security Studies and Conflict Research*, ETH, Zurich, May 1994.

ing specific prohibitions, must be applied to it (A). There are further provisions explicitly stating that water is indispensable to the basic needs of protected persons (B). Lastly, due note must be taken of the role of civil defence organizations, as laid down in 1977 Protocol I (C).

### **(A) Prohibitions relating to the conduct of hostilities**

Besides the general protection applicable to all civilian objects, water as an element indissociable from the environment is covered, albeit indirectly, by all the protective rules which apply to the latter.<sup>5</sup> Without dwelling on the environmental aspect, mention must be made of four basic prohibitions with a direct bearing on the present subject. They relate to the use of poison as a means of warfare (1), the destruction of enemy property (2), attacks on objects indispensable to the survival of the civilian population (3) and attacks on installations containing dangerous forces (4).

#### ***(1) Prohibition of the use of poison***

This customary rule is enshrined in the Hague Regulations, where Article 23 (a) stipulates that it is forbidden "to employ poison or poisoned weapons". The earlier Lieber Code (1863), destined for the

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<sup>5</sup> Both customary law and treaty law contain rules which apply to the protection of the environment in wartime. In addition to Articles 35, para. 3, and 55 of 1977 Protocol I and the Convention on the Prohibition of Military or Any Other Hostile Uses of Environmental Modification Techniques, adopted by the UN General Assembly on 10 December 1976, there are some other rules and instruments which are worth mentioning. It is well established that belligerents do not have an unlimited right to adopt means of injuring the enemy (Regulations annexed to the Hague Convention No. IV of 1907, Article 22, and 1977 Protocol I, Article 35, para. 1). The same principle is reasserted in Resolution XXVIII of the 20th International Conference of the Red Cross (Vienna, 1965) and in the Preamble to the 1980 Convention on the use of conventional weapons, referred to below. There is also the rule prohibiting any destruction of enemy property unless demanded by the necessities of war (see below, section 2). Texts relating to the prohibition or limitation of the use of certain types of weapons include: the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (Geneva, 17 June 1925), the Convention on the Prohibition of Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (London, Moscow, Washington, 10 April 1972), the 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 and its Protocols I, II and III (Geneva, 10 October 1980) and the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction (signed in Paris on 13 January 1993).

United States armed forces, had already stipulated that military necessity “does not admit of the use of poison in any way, nor of the wanton devastation of a district”.<sup>6</sup> The Brussels Declaration (1874) and the Oxford Manual, adopted by the Institute of International Law in 1980, both contain the same rule.<sup>7</sup> Even though the text does not refer directly to water, the prohibition extends to that vital substance, especially as it is general in scope and does not relate only to weapons.<sup>8</sup>

## (2) *Prohibition of the destruction of enemy property*

Water may be part of either public or private property. Codifying a well established rule, the Hague Regulations, in Article 23 (g), state that it is forbidden “to destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war”. The same principle reappears in the Charter of the International Military Tribunal of Nuremberg and in the Fourth Geneva Convention of 1949.<sup>9</sup> In the latter, the “extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly” is qualified as a “grave breach”, and thus as a war crime.<sup>10</sup> This rule is endorsed by other provisions, such as the prohibition of the confiscation of private property<sup>11</sup> and the prohibition of pillage,<sup>12</sup> which applies to the territories of enemy powers and to occupied territories.

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<sup>6</sup> Lieber Code, Article 16.

<sup>7</sup> Articles 13 (a) and 8 (a), respectively.

<sup>8</sup> It is interesting to note that Islamic law explicitly forbids the poisoning of water (cf. M.A. Marin, “The evolution and present status of the Laws of War”, *Course texts of the Academy of International Law of The Hague*, Volume 92, 1957 (II), p. 657), even though classical doctrine admits the act of submerging enemy fortifications (Tabari, *Ikhtilaf*, ed. J. Schacht, Leiden, 1933, pp. 6-7). The Declaration adopted by the International Institute of Humanitarian Law of San Remo (1990) on the rules of international humanitarian law governing the conduct of hostilities in non-international armed conflicts extends to such conflicts the prohibition of “*the use of poison as a means or method of warfare*” (section B, paragraph 3). (For the text of the Declaration, see *IRRC* No. 278, September-October 1990, p. 404).

<sup>9</sup> Articles 6 (b) and 53, respectively.

<sup>10</sup> Fourth Geneva Convention, Article 147.

<sup>11</sup> The Hague Regulations, Article 46.

<sup>12</sup> *Ibid.*, Articles 28 and 47, and Fourth Geneva Convention, Article 33, para. 2. The law of non-international armed conflict also prohibits pillage (1977 Protocol II, Article 4, para. 2(g)).

**(3) *Prohibition of the destruction of objects indispensable to the survival of the civilian population***

The innovation introduced by the provisions adopted in 1977 is very significant. It is designed to protect objects indispensable to the survival of the civilian population, quoting as examples “foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, *drinking water installations and supplies and irrigation works*”.<sup>13</sup> Only imperative military necessity entitles a warring party to destroy indispensable objects, with the proviso that they must be situated within territory under its own control.<sup>14</sup> The words used to designate acts likely to harm such objects are intended to cover all possibilities (“it is prohibited to attack, destroy, remove or render useless” such objects), including pollution, by chemical or other agents.<sup>15</sup> The same formula is used in Article 14 of Protocol II, which quotes as examples of indispensable objects “drinking water installations and supplies and irrigation works”.

A derogation from the immunity of indispensable objects is allowed only if they serve as sustenance solely for the members of the armed forces or in direct support of military action. Even in those cases, belligerents have to abstain from any action which may be expected to reduce the civilian population to starvation or deprive it of vital water supplies.<sup>16</sup> Reprisals against indispensable objects are forbidden.<sup>17</sup> It is unfortunate that this prohibition does not appear in Protocol II.

**(4) *Prohibition of attacks on works and installations containing dangerous forces***

In view of the extremely dangerous effects which attacks against “works and installations containing dangerous forces” might have on the lives of the civilian population and their property, the 1977 Protocols prohibit such attacks, even in cases where the said objects are military objectives.<sup>18</sup> Three types of works or installations are specified: dams,

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<sup>13</sup> Protocol I of 1977, Article 54, paragraph 2 (our italics).

<sup>14</sup> *Ibid.*, paragraph 5.

<sup>15</sup> *Commentary on the Additional Protocols of 1977 to the Geneva Conventions of 1949*, Y. Sandoz, Ch. Swinarski and B. Zimmermann (ed.), ICRC and Martinus Nijhoff Publishers, Geneva, 1987, para. 2101, p. 655.

<sup>16</sup> Protocol I, Article 54, para. 3.

<sup>17</sup> *Ibid.*, para. 4.

<sup>18</sup> Protocol I, Article 56 and Protocol II, Article 15. The latter article corresponds, however, only to the first sentence of Article 56 in Protocol I.

dykes and nuclear electrical generating stations. Past experience of armed conflicts has shown that these are considered priority targets, the destruction of which can decide the outcome of a battle or even a war. Aware of the dangers inherent in such destruction, which go far beyond the legitimate military objectives of attacks, the authors of Protocol I added further clauses to supplement this special protection as follows.

Even military objectives located at or in the vicinity of such installations may not be made the object of attack "if such attack may cause the release of dangerous forces ... and consequent severe losses among the civilian population".<sup>19</sup> The special protection against attack provided for the two types of installations (dams, dykes and nuclear electrical generating stations on the one hand, and military objectives located at or in the vicinity of such installations on the other) is waived only when any of these works is used "in regular, significant and direct support of military operations" and if such attack is "the only feasible way to terminate such support".<sup>20</sup> Paragraph 3 of the same article calls upon belligerents to take precautionary measures to ensure that *the civilian population and individual civilians* receive the protection accorded them by international law. Nothing is said of the precautions that must be taken for *civilian property*, but it may legitimately be concluded that this is covered by the second sentence of the paragraph. Reprisals against such installations and military objectives are prohibited,<sup>21</sup> while the general prohibition on locating any military objectives in the vicinity of such works is tempered by permission to erect purely defensive installations to protect the said works.<sup>22</sup> The conclusion of special agreements to provide extra protection or for identification, using the sign indicated in Protocol I (Annex I, Article 17), is left to the initiative of the parties.<sup>23</sup> From the point of view of repression, "launching an attack against works or installations containing dangerous forces in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, as defined in Article 57, paragraph 2 (a) (iii)"<sup>24</sup> is regarded as a grave breach of the Conventions

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<sup>19</sup> Protocol I, Article 56, para. 1, second sentence.

<sup>20</sup> *Ibid.*, para. 2, sub-paras (a), (b) and (c).

<sup>21</sup> *Ibid.*, para. 4.

<sup>22</sup> *Ibid.*, para. 5.

<sup>23</sup> *Ibid.*, paras 6 and 7. Since the adoption in 1993 of amendments to Annex I of Protocol I, Article 16 of the Annex, referred to in Article 56, para. 7 of the Protocol, has become Article 17.

<sup>24</sup> Protocol I, Article 85, 3 (c).

and Protocol. It should be noted that this provision covers civilians and civilian objects, which confirms our earlier remark regarding the omission in paragraph 3 of Article 56.

Observance of these rules governing the conduct of hostilities is sufficient to ensure effective protection of water resources and installations, which are indispensable to the survival of the civilian population. Parties to conflict are also under further obligations with regard to the protection of victims. One of these is the provision of water.

### **(B) Water as an indispensable resource for the survival of protected persons**

Humanitarian law seeks to ensure at least minimum normal living conditions for the persons it is intended to protect. Humane treatment constitutes the basis of such "normality"; it finds practical expression in the satisfaction of basic human needs, and basic needs mean water. Generally speaking, assistance and care for the wounded and sick is inconceivable without water. To be able to do their work, medical staff need water. The same applies to medical equipment and installations as well as to the hygiene and maintenance of any place where there are protected persons. This is so obvious that it has not been considered necessary to formulate specific rules. In some contexts, however, an explicit reference has to be made, as in some provisions of the Third and Fourth Conventions.<sup>25</sup> Article 20, paragraph 2, of the Third Convention stipulates that prisoners of war who are being evacuated must be supplied by the Detaining Power with sufficient food and potable water, and with the necessary clothing and medical attention. The same obligation is laid down in Article 46, paragraph 3, of the said Convention, for the transfer of prisoners of war, and in Article 127, paragraph 2, of the Fourth Convention, for the transfer of internees. Drinking water is also referred to in a separate paragraph of the article common to the two Conventions and

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<sup>25</sup> The aforementioned provisions of the Protocols will not be further examined here. Suffice it to say that transport by water is also a major and in some cases indispensable means of conveyance and even rest facility for protected persons, as indicated in the rules governing hospital ships and other medical craft. Besides the important provisions in Articles 54 and 56 considered above, Protocol I mentions water in other articles which reflect a broad approach and which grant medical facilities and persons extensive protection "*whether at sea or in other waters*" (Protocol I, Articles 8 (b); 23, para. 1; and 44, para. 8). In a different context, water is referred to as a means prisoners of war can use for their escape (Third Convention, Article 91, para. 1 (3)).

concerning the daily food rations of prisoners of war and civilian internees.<sup>26</sup>

### **(C) Role of civil defence organizations**

It should be noted in particular that one of the humanitarian tasks of civil defence organizations, whose rights and duties are laid down in the new provisions of 1977 Protocol I, is the emergency repair of indispensable public utilities. Other explicitly mentioned tasks in aid of the civilian population include fire-fighting, provision of emergency supplies and the preservation of objects essential for survival. Even though civil defence personnel are active only within the national territory, whether it is occupied or not, these provisions strengthen the protection accorded to civilian objects and, if faithfully observed, can make a valuable contribution to the assistance provided to the civilian population. The role of civil defence organizations in protecting water storage and other supply systems must be stressed and respected.<sup>27</sup>

This brief reminder of the relevant rules is enough to show that the protection of water in times of armed conflict is an integral part of humanitarian law.<sup>28</sup> It also shows that this law, in its most recent codification, has taken account of the impact of modern warfare on water installations and reserves of drinking water, for indeed the damage caused to water as a result of hostilities could jeopardize the fauna and flora of a region, force entire populations to leave their homes and eliminate any sign of life. Humanitarian aid agencies have witnessed such effects in various situations and have important tasks to accomplish in this domain.

## **II. Role of the ICRC and the other components of the International Red Cross and Red Crescent Movement**

In its humanitarian work to assist the victims of armed conflict the ICRC, in accordance with its mandate under the Geneva Conventions,

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<sup>26</sup> Third and Fourth Conventions, Article 26, para. 3 and Article 89, para. 3, respectively.

<sup>27</sup> Protocol I of 1977, Article 61 (a) (vii), (x), (xii) and (xiv) in particular.

<sup>28</sup> Among its draft articles on the *law of non-navigational uses of international watercourses*, the United Nations International Law Commission adopted Article 29, entitled "International watercourses and installations in time of armed conflict", which stipulates that "international watercourses and related installations, facilities and other



gives priority to the immediate interests and benefit of protected persons. Any steps it takes to protect water or other civilian objects are essentially only a means of helping the victims. If water installations and civilian supply systems are spared by the belligerents, as required by humanitarian law, the ICRC must concentrate on other tasks, of which there are many in wartime. Conversely, if such installations and systems have been destroyed, then immediate action must be taken to repair them, since any delay or setback in doing so can have serious consequences for the population and its means of survival. Several recent or present conflicts have shown how acute problems caused by damage to water storage or supply systems can be. The magnitude of these problems is such that the ICRC may take both remedial (A) and preventive (B) action.

### **(A) Remedial action**

Two aspects merit particular attention here: water distribution (1) and the repair of supply systems (2).

#### **(1) *Water distribution***

To give only one example of this type of action, from the start of the 1990/91 Gulf War the ICRC supplied water, food and medicines to tens of thousands of foreign nationals who had fled Iraq and Kuwait. With the help of the Jordan National Red Crescent Society, the transit camps set up in Jordan were able to provide satisfactory conditions of hygiene.<sup>29</sup>

In Iraq itself, help was needed to restore drinking water supplies both for the population and for local public services. A special programme was set up to distribute purified water in one-litre plastic bags to meet the needs of hospitals and health centres. In some urban centres in the south and north of the country, tanker trucks were used to supply people in neighbourhoods deprived of drinking water.<sup>30</sup> This method of water distribution has the advantage in such circumstances of being quick and effective, but cannot replace the classic system of distribution through a network, which is more effective but often requires more lengthy repairs.

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works shall enjoy the protection accorded by the principles and rules of international law applicable to international and internal armed conflict and shall not be used in violation of those principles and rules." See ILC report on its 46th session (1994), A/49/10, p. 315.

<sup>29</sup> See ICRC *Reference Report 1990*, p. 82.

<sup>30</sup> ICRC, *1991 Annual Report*, p. 107.

## (2) *Repair of supply systems and purification of drinking water reserves*

In situations of armed conflict, power plants are often put out of action. This can totally disrupt water supply and sewerage systems. Apart from the ensuing privations, the risk of epidemics increases and repair work takes longer, costs more and may even be impossible. In such circumstances the ICRC must take urgent action to ensure a minimum degree of protection for objects indispensable to the survival of the civilian population and to preserve or guarantee minimum conditions of health and hygiene. For this, it calls in engineers and public health specialists whose main task is to repair damaged installations and draw up plans and programmes to deal with the emergency.<sup>31</sup>

The relief operation in Iraq in March 1991 can again serve as an example. The ICRC organized a programme to restore drinking water supplies throughout the country, based not only on water distribution, as mentioned earlier, but also on the restoration of water-treatment and distribution systems. For this purpose the Iraqi water services were provided with maintenance equipment, spare parts and chemicals to treat water. Thanks to this programme, cholera, typhus and other epidemics threatening the population were successfully averted.<sup>32</sup> In 1994, the ICRC completed a programme to provide spare parts enabling the Iraqi water services to maintain or rehabilitate about 100 medium-sized water-treatment units (up to 50,000 m<sup>3</sup>/hour) and several medium-sized waterworks (around 100,000 m<sup>3</sup>/hour).<sup>33</sup>

In Yemen, the big Bir Nassir pumping station, supplying Aden, was damaged after civil war broke out in Yemen in 1994. This would have had disastrous consequences for the population of Aden but for the water of the city's wells. With the help of the local authorities, teams of ICRC engineers improved the production of wells in public places and mosques to working order, installed generators and pumps, and repaired and replaced water pipes and storage tanks. After the conflict had ended, the ICRC set up a system to distribute water by tanker truck to the entire population, displaced people, detainees, people in hospital, but in particular Yemeni engineers, with logistical support from the ICRC, also repaired the pumping stations at Bir Nasser and Lahaj, and the Yemeni water

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<sup>31</sup> In 1991, some 40 sanitary engineers took part in the ICRC's sanitation programme in Iraq. *Ibid.*, p.107.

<sup>32</sup> *Ibid.*, pp. 103 and 107.

<sup>33</sup> See *1994 Annual Report*, p. 234.

services were provided with logistic support, equipment and technical assistance by the ICRC.<sup>34</sup>

The effects of an armed conflict can extend beyond the cessation of active hostilities, as shown above, and the ICRC may have to continue its activities to facilitate access to drinking water. The needs and problems encountered are often so great that the ICRC supplements its own teams by calling in other qualified personnel, who may be seconded from National Red Cross and Red Crescent Societies. Furthermore, the role of the components of the International Red Cross and Red Crescent Movement in protecting water supply systems<sup>35</sup> must not be confined to remedial action alone.

## **(B) Preventive action**

Although preventive aspects were taken into account in the two examples mentioned above, as they are in other similar situations, particular emphasis should be placed on two points.

### **(1) Approaches to parties to conflict**

In working for the “faithful application”<sup>36</sup> of international humanitarian law, the ICRC must engage wherever necessary in active diplomacy to urge respect for that law. Its approaches, though confidential in principle, may be made public under certain conditions;<sup>37</sup> this applies to violations affecting either protected persons or protected objects. Any deliberate attack on water installations or reserves of drinking water for civilian use must accordingly be followed by appropriate representations to ensure that such violations are stopped, that any recurrence is prevented

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<sup>34</sup> *Ibid.*, p. 242.

<sup>35</sup> In 1994, for instance, one of the ICRC’s priorities in Bosnia-Herzegovina was to overcome water shortages and problems of access to drinking water. The National Societies helped the ICRC and continued to work alongside it, *inter alia* on water and sanitation programmes. See *1994 Annual Report*, pp. 153-154.

<sup>36</sup> Statutes of the Movement, Article 5, para. 2 (c) and ICRC Statutes, Article 4, para. 1 (c). For the texts of the Statutes, see *Handbook of the International Red Cross and Red Crescent Movement*, ICRC and International Federation of Red Cross and Red Crescent Societies, Geneva, 13th edition, to be published shortly.

<sup>37</sup> See “Action by the International Committee of the Red Cross in the event of breaches of international humanitarian law”, *IRRC*, No. 221, March-April 1981, pp. 76-83.

and that all necessary action is taken against the offenders. Public appeals issued by the ICRC must where necessary draw attention to the applicable legal principles.

**(2) Action to mobilize and create awareness**

The action taken in times of armed conflict, as described above, does not exclude peacetime initiatives to explain the existing law and to alert public opinion and decision-makers to the effects of armed conflict on water resources and hence on the living conditions of the population. The experience gained in a variety of conflicts should, without giving rise to unnecessary alarm, help to guide humanitarian action and to resolve problems more effectively. This was in fact one of the conclusions reached by a symposium organized by the ICRC in Montreux in 1994<sup>38</sup> and attended by about fifty experts (including specialists from certain UN bodies and non-governmental organizations, lawyers, sanitary engineers, scientists belonging to National Societies and the Federation and specialized journalists). At the close of the symposium, the participants agreed to work towards a number of objectives, namely:

- to provide better protection (material and legal) for water supply systems and for sanitary engineers;
- to strengthen cooperation in this area between the ICRC, the National Red Cross and Red Crescent Societies and their Federation, United Nations agencies, NGOs and the private sector;
- to improve coordination and cooperation in the exchange of appropriate information, knowledge and expertise;
- to involve the private sector in helping to repair water supply systems affected by hostilities;
- to take the necessary preventive measures in peacetime to avoid or limit the devastating effects of water shortages in wartime, and to broaden the scope of medical operations in wartime to include public health activities in emergency relief;

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<sup>38</sup> International Symposium on Water in Armed Conflicts, Montreux, 21-23 November 1994. A report on this symposium is being prepared. See also Christian Chesnot, "L'arme de la soif" in *Hydroplus — International Water Review*, January-February 1995, No. 50, pp. 16-20; Wilfried Remans, "Water and War", in *Humanitäres Völkerrecht*, No. 1, 1995, pp. 4-14.

- to make known as widely as possible the international rules protecting water supplies and installations by informing and educating all levels of society.

These objectives cannot be attained by a single organization and require concerted action, especially by all the Movement's components. While emergency action in times of armed conflict and natural disasters must be given priority, the Movement should also address other potentially dangerous situations. Whether in man-made or natural disasters, local populations and humanitarian organizations may well face the same type of problems. In both cases, attention must be given first and foremost to needs for water and to the requirements of public health facilities. Hence the need to go beyond emergency action alone by organizing suitable programmes and recruiting and training qualified personnel, since without drinking water those facilities will be paralysed, and without them even the most sophisticated arrangements to provide medical care will be doomed to failure. It may be added that, in dealing with the sort of difficulties referred to above, activities which are planned or implemented by components of the Movement, either separately or jointly, are in no way exclusive, and cooperation should extend equally to outside specialized agencies with a view to preparing joint action where appropriate. In such cooperation there should be at least a minimum of coherence and coordination.<sup>39</sup>

### III. Final remarks

1. In armed conflict, water sometimes becomes a target or is even used as a means of warfare. In either case, so long as water is a civilian object and indispensable to the survival of the population, warfare

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<sup>39</sup> In its Final Declaration, the International Conference for the Protection of War Victims, held in Geneva from 30 August to 1 September 1993, urged States *inter alia* to "improve the coordination of emergency humanitarian actions in order to give them the necessary coherence and efficiency, provide the necessary support to the humanitarian organizations entrusted with granting protection and assistance to the victims of armed conflicts and supplying, in all impartiality, victims of armed conflicts with goods or services essential to their survival..." (Final Declaration, section II, para. 8). See the text of the 1993 Declaration in the *Handbook of the International Red Cross and Red Crescent Movement*, International Committee of the Red Cross and International Federation of Red Cross and Red Crescent Societies, Geneva, 13th edition, to be published shortly.

*against or by means of water* is utterly incompatible with the principles and rules of humanitarian law specified above. The importance of the provisions concerned and the obligation to implement them effectively cannot be overemphasized.

2. Threats to water are the same as threats to the environment. The ICRC's mandate with regard to protection of the environment in times of armed conflict is recognized by the entire international community. This recognition should also benefit water, a vital resource in all circumstances, and emphasis should be placed on the need to protect water as such against the polluting and destructive effects of armed conflict.
3. Most of the relevant provisions of humanitarian law relate to situations of international armed conflict. Those applying to internal conflict are even less developed, while other situations of internal armed violence lie outside the field of application of international humanitarian law. Yet water-related tensions and attacks on water resources and installations are sometimes more frequent in situations of internal conflict and disturbances.
4. In the various situations of armed violence (conflict, tensions and disturbances), the ICRC has a mandate to fulfil (under the Geneva Conventions or its own Statutes, depending on circumstances), which enables it to be present, to act without delay and to take preventive action. It is on this basis that it conducts or takes part in sanitation programmes. The nature of present-day conflicts is inducing the ICRC to show greater initiative and, within the limits of its resources, to find appropriate solutions. To this effect it must help populations affected by armed violence and the services concerned to repair damaged water installations and, where necessary, must supply technical know-how, since the survival of such populations and the operation of their production systems depend on water.
5. Whatever the objectives and priorities of action to protect water may be, any initiatives taken by the main parties concerned should be based on consultation, coordination and the exchange of information. These elements are in our opinion essential, whether for action plans in response to emergencies or for preventive measures. If emphasis has been placed here on the role of the ICRC and the Movement's other components, it is to highlight their respective tasks and the principles underlying their action. Other complemen-

tary efforts are, however, unquestionably needed to address the effects of armed conflict on water resources and their varied and complex implications.

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