

and of Bacteriological Methods of Warfare of 1925<sup>35</sup>;

- Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction of 1972<sup>36</sup>;
- Convention on the Prohibition of Military and Any Other Hostile Use of Environmental Modification Techniques (ENMOD) of 1977<sup>37</sup>;
- 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 (Conventional Weapons Convention), opened for signature in 1981<sup>38</sup>;
- Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction of 1993<sup>39</sup>;
- The Ottawa Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on Their Destruction of 1997.<sup>40</sup>

The three instruments dealing with biological and chemical weapons of 1925, 1972, and 1993 are “plagued with definitional vagaries and conditionality”. The Geneva Protocol (1925) “fails to define the class of weapons it bans, and the many reservations to it illustrate a consensus that its prohibitions apply on a reciprocal rather than absolute basis” (Tarasofsky 1994: 245). The B-Weapons Convention (1972) “apply only to non-peaceful purposes”, and they deliberately exclude “prophylactic, protective or other peaceful purposes” (Art. I, 1), “thereby creating significant loopholes to an otherwise strong regulatory framework”. By contrast the C-Weapons Convention (1993) contains a detailed annex with destructive chemicals to avoid misuse, strict national control and international verification provisions including system-

atic and challenge inspections, and an effective international verification organisation.

In the early 1970's, against the background of U.S. warfare in Vietnam, much attention was devoted both in the U.S. Congress and in the United Nations to environmental modification techniques (rainmaking, large-scale destruction of forests) for military ends. In response to increasing domestic criticism, in July 1972 the Nixon Administration renounced the use of climate modification techniques for hostile purposes. After extensive hearings in both houses of the U.S. Congress, on 11 July 1973 the U.S. Senate adopted a resolution that called for an international agreement “prohibiting the use of any environmental or geophysical modification activity as a weapon of war”. After an in-depth internal review on 3 July 1974, during the Moscow summit, the U.S. and USSR agreed on bilateral discussions on the most effective measures dealing with this issue that resulted in 1975 in a common approach and language that were tabled in August 1975 by the U.S. and Soviet delegations in the CCD as identical draft texts of a “Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques”. After extensive negotiations in the CCD, on 2 September 1976 a revised text was transmitted to the UN GA that passed a resolution on 10 December 1976 referring the convention to all states for signature. The ENMOD Convention was signed on 18 May 1977 in Geneva and entered into force on 5 October 1978 (ACDA 1982: 190; Goldblat 1994: 111-115; Roberts/Guelff 2000: 407).

According to Westing (1984: 3) “environmental warfare refers to the manipulation of the environment for hostile military purposes” that could “involve damage-causing manipulations of (a) celestial bodies of space; (b) the atmosphere; (c) the land (lithosphere); (d) the oceans (hydrosphere); or (e) the biota, either terrestrial or marine (biosphere)”. According to Art. 1,1 of the ENMOD Convention (1977) the state parties are obliged “not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party” (ACDA 1982: 193; Goldblat 1994: 419; Roberts/Guelff 2000: 410).<sup>41</sup> In

35 See ACDA 1982: 9-18; Goldblat 1994: 277-279; Roberts/Guelff 2000: 155-168; see on: “Status of Multilateral Arms Regulation and Disarmament Agreements”, at: <<http://disarmament.un.org/TreatyStatus.nsf>>.

36 See ACDA 1982: 120-131; Goldblat 1994: 370-374.

37 See Goldblat 1994: 419-423; Roberts/Guelff 2000: 407-418.

38 See Goldblat 1994: 482-492; Roberts/Guelff 2000: 515-560;

39 Brauch 1982, 1989: 109-115, 1993: 88-94, 1997: 94-101, 1999: 17-18, 2000: 119-141, 2002: 82-99; Brauch/Müller 1985.

40 Maresca/Maslen 2000; Austin/Bruch 2000: 5-6, 21, 49, 65, 75-77, 82, 84, 151-153, 179-181, 317, 330, 396-397, 638.