

THE MILITARY'S IMPACT ON THE ENVIRONMENT:

A NEGLECTED ASPECT OF THE SUSTAINABLE DEVELOPMENT DEBATE

A Briefing Paper for States and Non-Governmental Organisations

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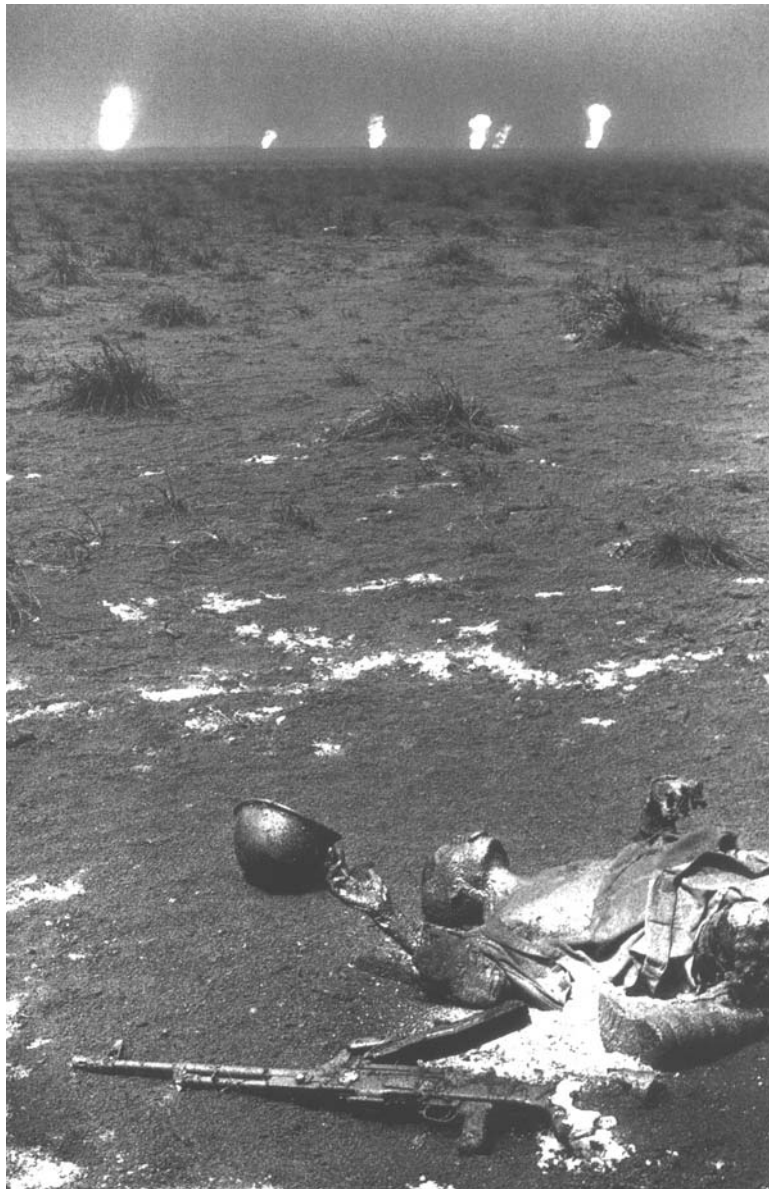


Photo: Sebastian Salgado, Kuwait, 1991

"We must set up a cooperative relationship with the earth, not one of dominance, for it is ultimately the gift of life that we pass on to our children and the generations to follow".

Rosalie Bertell, *Planet Earth -- The Latest Weapon of War*
(Dr Bertell was awarded the IPB's Sean MacBride Peace Prize in 2001)

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Introduction

A better scientific understanding of the environment, and public pressure for higher standards of governance and stewardship, have led to some important successes in reducing the man-made impacts on our air, water and land that are endangering human security. But the stresses that the military places on the environment have not been receiving the same level of attention. The upcoming World Summit on Sustainable Development ("Rio+10", Johannesburg, August 2002) opens up an important opportunity to bring the military dimension into the ongoing dialogues on development, the environment and human security. This briefing paper is intended as a resource to help integrate the military dimension into our collective efforts to confront the serious challenges of sustainable development.

Note: while attempting a fairly broad analysis of the problem and efforts to tackle it, this text does not attempt to deal with all aspects of the military-environment relationship. In particular, questions of conflicts over natural resources and the impact of militarism on human health are largely outside the scope of the paper.

1. The Links Between the Military, the Environment, and Human Security: An Overview

Step by step, awareness is growing that each nation's quest for security must move beyond the traditional dependency on military security; real security requires a holistic, cooperative approach that addresses all the inter-linked threats to humanity. This includes the threats that attempts at military security have themselves created.

"Human security" is an evolving concept, and a dynamic process. It starts with the recognition that all human beings are linked in inter-dependence with each other and with the natural environment. Human security draws upon our increasing understandings of the physical environment -- the webs of life in nature, and upon principles of good governance, such as transparency, accountability, human rights, civil society participation, and international standard-setting and cooperation -- principles that sustain the webs of life in the human environment. One of the milestones in the development of our understanding has been the Brundtland Report of 1987, which established the concept of sustainable development, and which underlined the notion that national and international security must transcend the traditional reliance on military power. Another milestone is the UN Development Programme's *Human Development Report* of 1998, which popularized

the idea of “human security”.

Some of the major threats to human security come from the deterioration of the physical environment. Air and water pollution, the depletion of underground water tables, deforestation, desertification, loss of biodiversity, and above all climate change, are having profound effects on many societies today, and, as each injury to the environment accumulates and interacts with all the other injuries, the welfare of future generations is endangered.

Military activities place a number of stresses on the physical environment, but their contribution to over-all environmental deterioration has not received its share of attention. There are several reasons for this. One is that the military is not seen as an ‘industry’, yet in many ways it behaves like one. Another is that states operate a double standard: they are not willing to subject their armed forces to the levels of transparency and accountability that are required of other governmental or civil society actors.

Important changes are taking place. As the campaign to ban landmines and the decision of the International Court of Justice on nuclear weapons have shown, society not only can, but must, take responsibility for decisions that have traditionally been left to the military. No single actor, whether it be a state or an institution of government or civil society, can be permitted to jeopardize the interests of humanity. No institution can be above the law. States are entitled to take legitimate measures to ensure the security of their citizens, but what is “legitimate” cannot be a unilateral decision. All who are affected should have a role to play in these judgments, through appropriate channels in the political process and in the community of States.

2. Military Stresses on the Environment

Military activity affects the physical environment in the following direct ways:

- pollution of the air, land, and water in peacetime
- the immediate and long-term effects of armed conflict
- militarisation of outer space
- nuclear weapons development and production
- land use

In addition we must consider the issue of indirect effects via diversion of resources.

a. Pollution of the air, land, and water in peacetime

Consider the following facts:

The world's military forces are responsible for the release of more than two thirds of CFC-113 into the ozone layer. During the Cold War, the US and Soviet armed forces produced enormous amounts of hazardous wastes. As a result of naval accidents there are at least 50 nuclear warheads and 11 nuclear reactors littering the ocean floor. There are more nuclear reactors at sea than on land. The Pentagon generates five times more toxins than the five major US chemical companies combined. The US military is the largest single source of US environmental pollution. The cost of clean-up of military related sites is estimated to be upwards of \$500 billion. This is in addition to the bill for clean-up of former Soviet military activities – a bill still largely unpaid.

Because of the close links between the nuclear arms industry and civil nuclear power generation, the nuclear weapons industry is partly responsible for the environmental contamination caused by the whole nuclear chain: from uranium mining and milling; through transport of 'yellowcake', MOX and other nuclear materials (including the risks inherent in transportation by road, rail and on the high seas, and those associated with nuclear-powered vessels); fabrication of fuel rods; reprocessing and fast-breeder reactors; and the problems of storage of nuclear waste over millennia. Such sites as Chelyabinsk, La Hague, Yucca Mountain, Hanford, Sellafield and Murmansk are likely to be condemned in perpetuity on account of the huge amounts of nuclear materials they contain. The total cost of dismantling nuclear weapons and their production facilities is not easy to calculate, precisely because of the close inter-connection with nuclear energy production. However it must surely approach the overall costs of making them in the first place. Some estimates of this reach \$3.5 trillion for the US alone. (Center for Defense Information).

The military must also recognise its share of responsibility for climate change - via greenhouse gases emissions, especially from aircraft. And yet it is precisely the military whose activities have been excluded from the scope of the Kyoto Treaty.

b. Immediate and long-term impacts of armed conflict

Some of the most well-known post-war stresses on the environment (combined with serious dangers to human safety and health) are:

- * Radiation from nuclear explosions (Hiroshima, Nagasaki)
- * Agricultural degradation due to landmines (many African and Asian countries)
- * Unexploded "remnants of war" (UXO) impeding agriculture, eg cluster bombs (Kosovo, Afghanistan)
- * Chemical agents and burning of oil wells (Gulf War)

A list of the more severe environmental impact of actual conflicts would need to also include the following:

- Scorched-earth tactics. It has been military practice down the ages for retreating armies to lay waste to enemy territory. Historical examples include Napoleon's retreat from Moscow, and the Nazis in the Soviet Union and in Northern Norway.
- Use of "Agent Orange" and other US defoliants during the Vietnam War which rendered about a third of Vietnam a wasteland. The Vietnamese farming landscape is defaced by 2.5 million craters. In all the wars between 1945 and 1982, Vietnam lost over 80% of its original forest cover. The ecological devastation of the country will take generations to repair.
- The Gulf War had major ecological consequences. Four to eight million barrels of oil were spilled into the sea. 460 miles of coastline have suffered massive damage due to oil spills and burning wells. Crude oil may have long-term chronic effects that will eventually lead to coral death. The fuel-air bombs used to clear minefields pulverised topsoil and destroyed all nearby vegetation. The use of ammunition with depleted uranium led to radiation effects. The coalition forces left huge quantities of refuse, toxic materials and 45 - 54 million gallons of sewage in sand pits. The Gulf War "syndrome" experienced by allied troops is believed to be partly a by-product of toxic materials.
- During the NATO military action in Kosovo and the Federal Republic of

Yugoslavia (FRY), severe environmental damage resulted from air attacks. Burning oil refineries leaked oil products and chemicals into the River Danube. Chemical plants were bombed, spreading extremely dangerous substances into the environment. Biodiversity sites were hit in the FRY. Increased levels of radioactivity resulted from the use of depleted uranium ammunition. There was fear that a nuclear power plant might be bombed, which would have spread radioactive substances. The Kosovo conflict was the first where the United Nations Environment Programme (UNEP) made a post-conflict environmental assessment. A UNEP Task Force concluded that pollution at four localities in Serbia was serious and posed a threat to human health.

- In Afghanistan, hundreds of thousands of anti-personnel landmines litter the fields and mountain passes. There is evidence that the use of ammunition containing depleted uranium in the current conflict with Al-Qaeda may also have led to environmental contamination and long-term health hazards.

The special dangers of Weapons of Mass Destruction (WMD)

The radiation effects of the Hiroshima and Nagasaki bombs, the subsequent atmospheric nuclear tests and the Chernobyl accident give an indication of the scale of environmental damage that would ensue from even a limited use of nuclear weapons. The damage to the earth's ecosystem would be severe, and the economic and human impact huge. If a limited nuclear attack, or exchange, were to lead to a general nuclear war, life on earth would be endangered. While few studies appear to have been done to update the 'nuclear winter' thesis of the 1980s (which predicted severe loss of agricultural production due to the blocking out of sunlight over a significant period), there is little reason to assume it has become invalid simply with the demise of the Cold War and some reductions in arsenals.

Yet, as Senator Douglas Roche said in his address on 8 April 2002 to the Middle Powers Initiative Strategy Consultation at the UN in New York:

"..Unfortunately, nuclear weapons and the subject of the Non-Proliferation Treaty seem to have fallen off the humanitarian priority list. Even here at the UN - where core work is done on the integrated agenda for human security - the focus is on, as one official put it to me, "actual and immediately potential crises". It is as if Hiroshima and Nagasaki are but blips in history and the fact that 5,000 nuclear weapons are still kept today on high-alert status, meaning they could be fired on 15 minutes' notice, is of little concern".

This apathy in the face of the nuclear threat was given a jolt recently when the confrontation between India and Pakistan, nuclear armed states, over Kashmir threatened to lead to a nuclear war between them. This danger poses a terrible threat, not just to those countries and their immediate neighbours, but also to the world's ecosystem if a nuclear war were to occur. India and Pakistan crossed the threshold into nuclear power status in May 1998, when India carried out a series of underground tests that were closely followed by similar Pakistani ones. Both were in desert areas, but it seems clear that there was environmental and human damage. The World Nuclear Test Victims' Federation has reported thousands of cases of cancer from local residents, many related to radiation and particularly the consumption of the milk products of affected cows. The wider damage from the nuclear weapons programmes of India and Pakistan is the huge opportunity cost of wasted sums which could have been used to protect the environment and address the poverty of millions in the Sub-continent.

The use of **chemical or biological WMD**, while not so catastrophic, would nevertheless cause severe environmental damage in addition to their devastating effects on humans. Chemical and biological weapons (CBW) are capable of causing casualties among living beings - people, other animals and plants - on a giant scale. US field trials carried out in the Pacific Ocean 35 years ago showed that a single-seater aircraft could establish disease-causing dosages of microbial aerosol at sea level over thousands, maybe even tens of thousands, of square kilometres. There is no reason why urban areas of like size would not be just as vulnerable to chemical weapons - which work through toxicity rather than infectivity.

CBW have been used in some conflicts (with serious environmental impact), such as mustard gas in the First World War, BW tests by Japanese troops in China in the 1930s, and CW used during the Iran/Iraq war and by Saddam Hussein against the Iraqi Kurds. There have also been a number of unproven allegations and controversies such as the apparent use of 'Yellow Rain' by Soviet-backed Vietnamese in Laos and Cambodia.

So far however, CBW has not been used on a large enough scale to cause severe environmental damage, and International Conventions (1972 and 1993) ban their use. The risk is not only that some states could resort to chemical and biological WMD, but also that terrorists could use CBW agents in attacks similar to those of 11 September. Any such attacks would have incalculable environmental impacts beyond the immediate vicinity of the attacks, and in addition to fearsome public health consequences.

There are reports that the US is now developing fungi and viruses that will kill opium poppy, marijuana, and coca plants. These are designed to have a high plant kill rate and to be deliberately sprayed in crop eradication programmes. The US is pressuring some countries with such illicit crops to use these pathogenic fungi to forcibly eradicate them. Countries reportedly approached in this context include Colombia and Burma, which have large areas of coca and/or poppy cultivation and are combat zones where rebel movements are fighting against the national government. This strategy carries great dangers of undermining international prohibitions on biological weapons, presenting risks to human health and posing dangers to the environment. Like any other biological agent, the fungi would be very difficult to control after release: they are infectious agents that spread uncontrollably beyond the target area.

Unfortunately even the destruction of CBW can have serious effects on the environment, as evidenced by the bitter controversy over destruction of thousands of nerve gas and other deadly chemical agents on the US-owned Pacific island of Johnston Atoll in the 1990s (the JACADS programme, completed November 2000). But this work has to be done and investment in new destruction technologies to protect both health and the environment must surely be a priority in an era in which CBW nightmare scenarios are becoming more frequent both in the media and in scientific discourse.

c. Militarisation of outer space

Outer Space is already militarised, with missile systems dependent on guidance from satellites. The US Missile Defense (MD) Programme now under way (with the 1972 Anti Ballistic Missile (ABM) Treaty restraining ABMs scuppered in June 1992 at US insistence) will step up this process. This is in pursuit of "full spectrum" US military domination. The

danger of contamination of space through conventional or nuclear explosions in warfare there, if militarization of space continues, will be real. There is an urgent need to negotiate a treaty on the Prevention of an Arms Race in Outer Space (PAROS). The US refuses however any pre-commitment to a Treaty in discussions at the Conference on Disarmament (CD) in Geneva.

d. Nuclear weapons development and production

Nuclear weapons development, manufacturing, storage, transport, disposal etc all place strains on the environment and impact human health. Radioactive fallout from the now-banned atmospheric nuclear tests is estimated by some researchers to have already caused as many as 86,000 birth defects and 150,000 premature deaths, and may eventually result in more than two million cancer deaths in the long run. Uranium mining, conducted in many countries, is known to lead to severe cases of contamination, and the same is true of operations along the whole production chain. One has only to survey the scale of the problem at the vast nuclear production site at Hanford, USA to see the urgency and importance of the task.

It is no secret that the disposal and clean up of Russia's surplus stocks of chemical, biological and nuclear weapons also present a tremendous environmental (and security) challenge. The G8 governments at their Calgary Summit (June 2002) finally agreed to devote substantial resources to addressing the issue.

While nuclear facility managers often choose to minimise the problem, local citizens groups such as the members of the Military Toxics Network in the US, have done important work over long periods to reveal the dangers and to campaign for closure, compensation etc. In the process of nuclear weapons development and production, government departments, local authorities, the private sector and labour organisations are important actors. What is needed is a systematic effort to bring them together with those who have the finance and scientific expertise, in order to ensure that the industry is gradually wound up, provisions made for the long term future, and the remaining resources invested in renewable energies and technologies.

e. Land-use

People around the world are displaced where the military take over land (and bodies of water) that the local residents need to live on or feed from, for use as bases, target ranges, weapons stores, training grounds etc. A few of the many examples are Thule in Greenland where indigenous Inuit were displaced for the US base, and the US bases in Okinawa (Japan), Guantanamo (Cuba), and Diego Garcia. Military activities often involve the use of fuels, explosives, solvents and other toxic substances. When improperly handled or stored, they can seep into the environment and affect nearby communities. Military exercises often damage farmland and other property, as heavy military vehicles travel over small roads and bridges. In the lands of the Innu (Canada) and elsewhere, noise pollution from low-flying military aircraft has proved a serious menace, including to the rearing of animals. This has prompted the development of a vigorous citizens' campaign. Environmental and health concerns almost always take a back seat to military prerogatives. The recent protests of the inhabitants of the Caribbean island of Vieques off Puerto Rico are another good example of the environmental and social stresses caused by

military bases, and the disregard shown by army planners for local people.

f. Resource diversion

In addition to the direct impacts on the environment, the military has indirect effects that come about through the “opportunity costs” of spending on military security.

World military expenditures totalled \$US 781 billion in 1999. World military research and development alone totals \$US 58 billion per year. The trade in weapons and other military equipment is the second largest international trade sector. About one quarter of the world's jet fuel is consumed by the armed forces. Over half the helicopters in the world are for military use. These mammoth expenditures could be used productively to promote human welfare, including the environment-friendly goals of developing renewable sources of energy and promoting sustainable development.

Member states of the UN have recognised that the military budget has been a waste of resources. Since 1976, meetings such as the UN General Assembly, Social Development Summit, Habitat, etc have reiterated the need to reduce the global military budget. It is time for member states to act on their commitments.

Among the most challenging obstacles to doing this is the influence of the military-industrial complex and in particular the power of the major corporations engaged in military business. This includes not only weapons manufacturers and traders but also large sectors of the aviation, transport, metalworking, electronics, and computing industries. These days few areas are immune from military influence. In countries like China and Burma, the military directly runs large sectors of the civilian economy. When representatives of such interests point to the large numbers of jobs created or sustained by the industry, they fail to take into account the number of posts that could be created if the resources were invested differently. Furthermore, corporations like Siemens have developed an attractive public environment-profile which fails to refer to their role in production of nuclear energy or weapons. Such ‘greenwash’ is a major impediment to proper public understanding of the menace that militarism poses to the health of the biosphere.

3. The Military Dimension in discussions on the Environment and Development

While international fora on the environment and development have touched upon the military dimension, it has not been fully addressed.

a. 1972 UN Stockholm Conference

The 1972 Stockholm Conference was the first major global event to focus international attention on environmental issues, especially those relating to environmental degradation and "transboundary pollution". Principle 26 of its Declaration called for the elimination of all weapons of mass destruction.

b. The Brundtland Report: "Our Common Future," 1987

The Brundtland Report of 1987-- "Our Common Future: The World Commission on Environment and Development" -- was the first international report on environmental issues to stress the new, combined concept of sustainable development. The Brundtland Report devoted a whole chapter to "Peace, Security, Development and the Environment". Some of its conclusions directly pertain to the military:

** A comprehensive approach to international and national security must transcend the traditional emphasis on military power and armed competition.*

** The real sources of insecurity encompass unsustainable development. Armed competition and conflict create major obstacles to sustainable development. They stimulate an ethos that is antagonistic towards cooperation amongst nations.*

** Environmental stress is a cause and effect of political tension and military conflict. Nations have often fought to assert or resist control over raw materials, energy supplies, land etc. The danger of such conflicts will increase as these resources become scarcer.*

** Damage to the environment occurs not just from nuclear war but from use of conventional, biological and chemical weapons.*

** Vast resources are diverted into arms production and related research which could be, at least in part, used to promote sustainable development.*

** A broader approach to security assessment would find many cases in which national, regional and global security could be enhanced through expenditures quite small in relation to the levels of military spending. Four of the most urgent global environmental requirements - relating to tropical forests, water, desertification, and population - could be funded with the equivalent of less than one month's global military spending.*

c. The UN Conference on Environment and Development (UNCED), Rio 1992 ("Earth Summit")

The Rio Declaration contained two principles that pertain to the military, both of which reflect the insights of the Brundtland Report:

Principle 24: Warfare is inherently destructive of sustainable development. Nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment.

Principle 25: Peace, development and environmental protection are interdependent and indivisible.

It also enshrined the important **Precautionary Principle**, whereby if there is a body of scientific evidence strongly indicating (without conclusive proof) that measures need to be taken to protect the environment, then measures should be taken immediately without waiting for conclusive proof.

However, none of the 40 chapters of "Agenda 21" - not even those on radioactive wastes and toxic chemicals - included references to military issues. The exclusion of such references was largely due to the blocking tactics of many militarily powerful countries led by the US, which opposed any attempts to raise these issues, claiming that they were not relevant to the questions of environment and development. This no doubt was in order to avoid another key principle being invoked: the 'the polluter pays' concept.

d. The Commission on Sustainable Development (CSD) and "Earth Summit + 5"

UNCED established the Commission on Sustainable Development (CSD), a Commission of the UN Economic and Social Council (ECOSOC), to ensure follow-up of UNCED. A five-year review of the Earth Summit was made in 1997 in a UN General Assembly special session, called "Earth Summit +5". Neither of these processes however have done anything significant to address the military impact on the environment.

e. World Summit on Sustainable Development ("RIO + 10")

The next major opportunity to address the military dimension of environmental issues will be the World Summit on Sustainable Development (WSSD), to be held in Johannesburg, South Africa, from 26 August to 4 September, 2002.

The Preparatory Committee process paid limited attention to the military dimension. The draft outcome document from the last (4th) PrepCom in Bali (27 May to 7 June 2002) contains just one reference to armed conflict. This occurs in Paragraph 5, which reflects Principle 24 of the Rio Declaration, which said that "warfare is inherently destructive of sustainable development". The relevant reference reads as follows, with a contested phrase underlined and in brackets:

Peace, security and stability [and respect for human rights and cultural diversity] are essential for achieving development and ensuring that sustainable development benefits all.

This draft outcome document has a number of square-brackets indicating text that did not receive a consensus agreement. The disputed text pertains to such matters as the transportation of radioactive waste, the incorporation of the Precautionary Principle (set out in the Rio Declaration), the phasing out of subsidies on fossil fuels (to encourage renewables), sustainability impact-assessments, protection of human rights etc. The exclusion of military factors from most of the discussion is reflected in the fact that the only issue cited that is clearly connected to military activity is radioactive waste.

4. Other Initiatives Important to Addressing the Military Dimension

A number of initiatives, described below, have been taken over the last 10 years which either address the military dimension of environmental issues, or aim to create the opportunity to do so.

Inter-Governmental Initiatives

a. *The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)*

ENMOD prohibits using the environment as a weapon in conflicts. Adopted by the UN General Assembly on 10 December 1976 and opened for signature on 18 May 1977, ENMOD entered into force when Laos, the twentieth State Party, deposited its instrument of ratification on 5 October 1978. ENMOD was inspired by global opposition to the use of Agent Orange and other environmental modification technologies in the 1960s during the Vietnam War and also by fears - in the 1970s - that technology was rapidly reaching the point that deliberate catastrophic environmental changes could be triggered as a weapon for hostile use. To date, ENMOD has been ratified by nearly seventy countries, including major powers such as Russia and the United States. Relatively few Southern states have ratified the treaty. Two Review Conferences have been held, in 1984 and 1992.

b. *Call for a "Green Beret Corps"*

The idea of using military resources for environmental purposes was probably first raised in international fora by the then Executive Director of UNEP, Mostafa Tolba of Egypt. In 1991, an international Commission headed by former IPB President Maj-Britt Theorin proposed the creation of a "Green Beret" corps of military forces assigned to the UN for rapid response to ecological disasters, including war. The resulting UN-sponsored Study "*Charting Potential Uses of Resources Allocated to Military Activities for Civilian Endeavours to Protect the Environment*", detailed a whole series of proposals which, if implemented, would have significantly changed the role of the military in many countries.. The initiative has not yet borne fruit, mainly because of opposition from the US and like-minded states.

c. *The Ottawa Mine Ban Treaty*

This landmark agreement, first signed in 1996, has now been ratified by 125 governments in the effort to rid the planet of anti-personnel landmines. The most recent state to sign (no.143) is Afghanistan. The achievement of the treaty, which does much to reduce damage to the environment as well as to humans, was largely the work of the non-governmental International Coalition to Ban Landmines.

d. *The New Agenda Coalition*

The New Agenda Coalition, which is made up of Brazil, Egypt, Ireland, Mexico, New Zealand, Sweden, and South Africa, works to promote nuclear disarmament in multilateral fora. As with the Human Security Network, the governments of these countries are likely to be willing to work for inclusion of military issues in environmental discussions. Ireland and S.Africa are moreover members of both groupings.

e. *The Human Security Network*

The Human Security Network originated in May 1998 in the "Lysoen" partnership (named after the Norwegian town where the first meeting took place) between Canada and Norway. The Network now consists of 13 states: Austria, Canada, Chile, Greece, Ireland,

Jordan, Mali, Netherlands, Norway, Slovenia, South Africa (Observer), Switzerland, and Thailand. The Network seeks to promote human security in areas such as human rights, conflict resolution and international humanitarian law. It welcomes cooperation with civil society to pursue the common goal of human security. The governments of countries in the Human Security Network should be more open to approaches from civil society urging that military and environmental issues be included in promoting human security.

Non-Governmental Initiatives

a. The "Earth Charter"

The "Earth Charter" provides another important basis for NGOs to promote the incorporation of military issues in environmental discussion. NGOs began drafting an "Earth Charter" at UNCED, building upon the 1972 Stockholm Declaration. (The Charter, now completed, can be consulted at www.earthcharter.org/earthcharter/charter.htm).

Section 16 of the Charter, entitled "Promote a culture of tolerance, nonviolence, and peace", addresses military, environment, and development issues:

- a. Encourage and support mutual understanding, solidarity, and cooperation among all peoples and within and among nations.*
- b. Implement comprehensive strategies to prevent violent conflict and use collaborative problem solving to manage and resolve environmental conflicts and other disputes.*
- c. Demilitarise national security systems to the level of a non-provocative defense posture, and convert military resources to peaceful purposes, including ecological restoration.*
- d. Eliminate nuclear, biological, and toxin weapons and other weapons of mass destruction".*

b. The Peace Caucus

NGOs grouped in the international Peace Caucus called for the Rio conference, and now the World Summit for Sustainable Development, to address military issues. They have referred to :

- * Principles 24 and 25 of the Rio Declaration;
- * The military as "the most destructive and costly of all social sectors, and the worst polluter world-wide";
- * The need for governments to study and report on the environmental, economic and social costs of the military sector;
- * The failure of review sessions since UNCED to address the need to reduce the \$800 billion spent annually world-wide on the military. A reduction of spending in this sector would free resources for sustainable development;
- * Military conflict leads to a cycle of poverty and a surge of refugees world-wide;
- * Governments and other actors have an urgent responsibility to allocate resources and undertake the cleanup of landmines, unexploded ordnance, depleted uranium, and radioactive materials from nuclear production and use.

The Peace Caucus will be the main focus of NGO efforts at the WSSD to get the military issue recognised, and reflected in the Conference outcome.

c. NGO Treaty on Militarism, Environment and Development

During the 1992 Rio Conference, NGOs drafted a "NGO Treaty on Militarism, Environment and Development", which calls for, among other things, a new definition of security, boycotts of companies producing environmentally damaging produce for military purposes, and the sharing of information on the environmental impact of military activity. Amongst the NGOs that lobbied government delegates were Greenpeace International, International Youth and Student Movement (ISMUN), Women's International League for Peace and Freedom (WILPF), and the International Peace Bureau (IPB). WILPF issued a statement on "Military activity and the environment," also signed by IPB.

d. The Middle Powers Initiative

The Middle Powers Initiative is a grouping of NGOs (prominent amongst which are the IPB, International Physicians for the Prevention of Nuclear Warfare -IPPNW-, International Association of Lawyers Against Nuclear Arms - IALANA) working for the same objective. This group's efforts to advance disarmament at the UN, (eg at the Conference on Disarmament, Non Proliferation Treaty meetings etc) have met with much frustration. However, they could be useful allies for NGOs seeking to get attention to military issues in environmental meetings, supplementing the existing discussions in the disarmament fora.

e. The World Women's Congress

The World Women's Congress, held in 1992, focused on military pollution of the environment. Dr Rosalie Bertell described the effects of defoliants used in the Vietnam War, and Dr Holdstock described the effects of nuclear tests and the Gulf War. Dr Bertell has since followed this up with articles and books on the theme of military activities and environmental destruction. The issue was echoed by Science for Peace, Canada ("Taking Stock: The impact of Militarism on the Environment") which concluded that the world's armed forces were the single largest polluters on the planet. It was also described in "*The Military Threat to the Environment*" (Cooperation for Peace, Stockholm, 1992).

5. What Can Be Done to Ensure that the Military-Environment Dimension Gets Addressed?

- NGOs need to **work first and foremost through their own constituencies**: they can help to popularise both the general concept, and the need to incorporate military activities in discussions on the environment. **Educational work** needs to lead on to **lobbying** and **protest** activities. A large body of experience has been built up by groups active on both the 'peace' and 'environment' sides of the issue. (eg landmines, nuclear testing, military bases).
- Much can be done by **networking together, at local, national, regional and international levels**, that cannot be done by small groups on their own. Coalition

building is hard work but rewarding when results begin to show.

- It is important to **cooperate with international organisations** (eg UNEP, UNESCO, UNDP, UNCTAD, WHO, UNICEF etc), some of which now have units working on Human Security and related questions.
- Before, during and after **major events such as the Johannesburg conference** a host of possibilities open up that offer ways to raise the issues. A quick survey of the websites below will suggest many action points and ways to bring the issues to public attention.

Appendix A: Nuclear Disarmament: background information

The Hiroshima and Nagasaki atomic bomb explosions in 1945 made mankind aware of the deeply harmful effects on the earth's atmosphere of the radioactivity released by such explosions. The atmospheric effects of subsequent nuclear tests in the Pacific and elsewhere reinforced these concerns. Despite the 1963 Partial Test Ban Treaty, contamination of areas around the test sites has continued, and the damage to health of human beings living nearby is well documented. The threat to the earth of nuclear warfare, which in its worst case scenario could destroy human civilisation and imperil the biosphere, constitutes one of the main environmental "costs" of military security doctrines. It is at the core of the case for comprehensive nuclear disarmament.

This nuclear threat to the earth has been a factor in the negotiations leading to the nuclear arms control treaties (ABM Treaty, Non Proliferation Treaty, Comprehensive Test Ban Treaty etc). It lies behind the establishment of Nuclear Weapons Free Zones which now cover most of the Southern half of the planet. It was part of the rationale that led to the Antarctic Treaty which makes Antarctica nuclear-free and demilitarised. The danger of nuclear weapons explosions in outer space was a prime motive in the negotiation of the 1967 Outer Space Treaty, which banned weapons of mass destruction in space (but which has loop-holes which can be exploited to militarise Outer Space if a PAROS Treaty is not negotiated). Environmental threats also gave rise to the First Additional Protocol to the 1949 and 1977 Geneva Conventions and the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Treaty).

Although the Bush-Putin Agreement earlier this year achieved a welcome, though very insecure, bilateral reduction in nuclear weapons, progress in multilateral nuclear disarmament has ground to a virtual halt. The Conference on Disarmament in Geneva has been trying unsuccessfully to start negotiations on the PAROS Treaty. The environmental incentive, even when combined with political arguments, is proving insufficient to secure any breakthrough in the four-year stalemate at the CD.

Appendix B: Resources

Websites: WSSD-related

www.un.org/rio+10

www.johannesburgsummit.org

www.earthsummit2002.org

www.earthcharter.org/earthcharter/charter.htm - Earth Charter

<http://www.sdissues.net/sdin/issues.aspx> - Sustainable Development Issues, go to Peace Section - WSSD Draft Implementation Plan

<http://www.earthsummit2002.org/wcaucus/csdngo.htm> (Womens' caucus)

and

<http://www.earthsummit2002.org/wcaucus/meetingreports/csd8/csd8%20jointcaucus.htm> (Peace Caucus statement)

<http://archive.greenpeace.org/earthsummit/>

www.worldwatch.org - Worldwatch Institute

www.uneptie.org/outreach/wssd/sectors/reports.htm ("10 years after Rio: the UNEP assessment")

Websites: general

www.peace-action.org (Peace Action)

www.environmenthouse.ch (Environment House, Geneva)

www.gci.ch (Green Cross, Switzerland)

www.gracelinks.org - (GRACE, NYC)

www.foei.org/index.php (Friends of the Earth International)

www.planetecologie.org - has huge list of weblinks

www.antenna.nl/wise (World Information Service on Energy - esp.campaigns against nuclear power)

www.chernobyl.info - sponsored by Swiss government

www.sunshine-project.org - biological weapons

Books and Articles

* *"The impact of military operations on the environment"*. International Working Conference on the Arms Trade, Nov. 1, 1991

* *NGO Treaty on "Militarism, the Environment, and Development"*, 1992

* *Statement by WILPF/IPB on "Military activity and the environment"*. 1992

* *"The Military Threat to the Environment"*: Olsen and Elder, Cooperation for Peace, Stockholm, 1992

* *"Taking Stock: The Impact of Militarism on the Environment"*: Science for Peace, Canada, 1992

* *Report to World Women's Congress, January 1992*

* *"No Immediate Danger: Prognosis for a Radioactive Earth"* - Rosalie Bertell, Womens' Press,

1985

- * *"Arms Control: A Guide to Negotiations and Agreements"* - Jozef Goldblat, PRIO/Sage 1994.
- * *"Radioactive Heaven and Earth"*, International Physicians for the Prevention of Nuclear War (IPPNW), 1991, Zed Books., London.
- * *"Planet Earth - the Last Weapon of War"*: Dr Rosalie Bertell, Womens Press Ltd, 2000
- * *"Nuclear weapons and human security: Ending the conflict"*: address by Senator Douglas Roche to the Middle Powers Initiative Strategy Consultation, New York, April 8th, 2002
- * *"Le Nucléaire dans tous ses états; les enjeux nucléaires et la mondialisation"* by Ben Cramer. Alias etc, Paris, 2002.
- * Report of the Secretary-General, United Nations General Assembly: General and Complete Disarmament: *Charting potential uses of resources allocated to military activities for civilian endeavours to protect the environment.* A/46/364 17 September 1991.
- * *"Greenpeace Book of the Nuclear Age"*, John May, Victor Gollancz, London 1989
- * *"The Environmental Hazards of War: releasing dangerous forces in an industrialising world"*, Arthur Westing, Sage, London 1990.

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