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Environmental Security as 'Must' vis-a-vis Military Security, not a 'Substitution': Ympäristöturvallisuus pakko, ei sijaistoiminto, suhteessa sotilaalliseen turvallisuuteen

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Environmental Security is ‘Must’ vis-a-vis Military Security, Not a ‘Substitution’

Lassi Heininen

I

Introduction

To start with, the notion of the Army Techniques Publication (2015) believes that ‘The primary mission of the military is to fight and win wars. Warfare is destructive to humans and to natural environment’.¹ Indeed, the ‘scorched-Earth’ tactics has been known and used for millennia, and is still used for example in Gaza, as a war means to defeat your enemy if needed by destroying the enemy’s environment, eliminating his crops and forcing him to starve.

World politics of the 2020s, with multiple or poly-crisis, seems to comprise two parallel realities: most people, civil societies, NGOs and researchers are concerned about the ecological catastrophe, as pollution kills millions (human beings), the climate crisis threatens nations and societies, and loss of biodiversity is accelerating. In contrast, many governments and Heads of State, supported by security establishments, concentrate on great power rivalries, geopolitical tensions, arms race, bloc-building and some are even involved in (proxy) wars. In addition to destruction in a war, the military machine uses up a lot of natural resources, minerals and energy, and consequently, causes environmental degradation and carbon emissions—all in peace time. This leads us into another notion that the military is a polluter, and hence ‘With global ecology, the military, like any other polluting industry, is a threat to the global environment’.²

Following from this, there is a paradox that having national security (of a single State) as the main aim of military security, does not aim to bring security for all, though States use the State apparatus to defend peoples’ security, too. Environmental security, as an alternative security concept, is meant to preserve and maintain the planet to be habitable, and has a more comprehensive approach, concentrating on peoples’ everyday security.

Interestingly, even though much is not discussed publicly or among policy-makers, there are, and have been for decades, studies and publications on environmental impacts of a war and the military, also in peace time, and discourses on

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alternative security, as discussed in this Essay. Nonetheless, the ‘impact of warfare on the environment, in contrast, has received too little attention, as findings argue that it ‘significantly harms some aspects of the environment’.³

This Essay asks, if military security causes environmental degradation, destroys built infrastructure and kills innocent people in peacetime, how can it be good for people and societies? Further, if sustainability is defined as one of the main goals, if not the key goal (see UNSDGs) by States, how come the same States do continue maintaining the military as the legitimate way to protect their citizens? The Essay’s main aim is to challenge, or provoke if you wish, to (re) think, wouldn’t environmental security be a ‘must’? Military security should be interpreted as a substitution of facing the climate crisis and a consequent need to mitigate.

The Essay first, briefly discusses different aspects and concepts of security—from traditional military security to a comprehensive, global one (including environmental and human security)—as well as their premises and actors in the context of world politics; second, it includes a retrospective overview of the literature on the environment vis-a-vis military-security; third, it provides an inventory on environmental impacts of the military, and analyzes armies’ new mission; fourth, it describes a paradox of our times, as military security has become a substitute for ecological catastrophe; and finally, the Essay concludes by arguing, according to planetary thinking, that environmental security is an existential must for human kind.

II

Different concepts of security—from military to comprehensive, global security

As a mainstream concept, military security, with its premises and paradigm, dominates world geopolitics of the turbulent 2020s. It has not only overtaken security paradigms among political and economic elites and most technocrats and media with ‘talks by hawks’, it also accelerates geopolitical tensions. There are, nonetheless, other discourses and concepts of security with different premises, from comprehensive security to the human/civic one, as well as more recognized actors of security.⁴

‘Military security’ has the ultimate mission to defend State sovereignty by using—and threatening to use—violence against whatever (external) threat by whoever is an enemy of national security. Consequently, this most traditional concept is been defined as ‘competitive, unilateral, militarized national security’.⁵ With a State as its (only) recognized actor, military security is controlled by the national security establishment, which has ‘adopted an idea of superior, exclusive expertise and the consequent authority on national defense and security policy’.⁶ Ironically, this kind of unilateral, competitive and militarized security/security-policy also has international dimensions, as it could be/is interpreted to create concerns among other unified States, as an external threat to their national security and State sovereignty, as the core of the unified State system.

Following from this, in the modern interdependent globalized world, military security has weaknesses: It yields international insecurity, as ‘the security of one nation cannot be brought at the expense of others’.⁷ Having to protect national security as the main mission, there is no room for the environment, meaning Nature, and hence, ‘governments preoccupied with security threats of military origin have ignored the perils of environmental degradation’.⁸

On the contrary, the military causes, as well as accelerates, just as wars do, environmental degradation directly, and indirectly as money is allocated for the military instead of climate change mitigation. Whether environmental degradation is a threat to national security is another question. Interestingly, while in the 1990s there were conclusions that ‘Environmental degradation is not a threat to national security—rather, environmentalism is a threat to “national security” mindsets and institutions’,⁹ in the 2020s, the climate crisis is interpreted as becoming a threat to national security.

Initiatives and attempts of discourses, and concepts of ‘alternative security’ – among others ‘collective security’, ‘common security’, ‘non-offensive defence’ – have neither these weaknesses nor structural paradoxes, as they include aspects of internationalism, cooperation or non-violence.¹⁰ ‘common security’ for example is based on certain principles, such as ‘All nations have a legitimate right to security’; ‘Military force is not a legitimate instrument for resolving disputes between nations’; ‘Security cannot be attained through military superiority’.¹¹ Correspondingly, comprehensive/global security,¹² with a holistic and planetary approach, widens and deepens our understanding of security by including different aspects of security—from national to human security—and recognizes people as actors of their own (everyday) security.

Originally based on innovative Reports by independent commissions and of United Nations’ programmes, such as Palme Commission 1982 and the UN Report of 1994,¹³ alternative concepts of security are put into a margin and overtaken by ‘military security’. Nonetheless, these exercises have demonstrated their value by answering to the most relevant question in security studies: ‘whose security/security for whom?’ Thus, ‘human security’ indicates human rights and peoples’ rights of freedom from violence, famine and fear, as defined and stated by the 1994 United Nations Programme.¹⁴ Correspondingly, ‘environmental/ecological security’ is more comprehensive including non-humans and the entire planet, as environmental threats are more diffused than external military threats, and ‘The ecological disruption of the planet threatens numerous facets of existence’.¹⁵

Behind this is a philosophy that what is not good for a human cannot be good for Nature, as there is no conflict between man and Nature. Environmental security indicates—even emphasizes—severe consequences of human impacts on Nature: (trans-boundary) pollution was the first trigger of growing concern on the quality of the environment among people and societies, and globally warming climate was the second, with its security dimension. Furthermore, these Reports of the 1980s revealed that there are keen interrelations between the environment, development, security (including the military) and peace, as well as human rights, indicating a State’s and society’s responsibility to protect.

When trying to widen the security concept from the national to a comprehensive one, and promote other discourses, it matters what is the premise (reasoning for) and the paradigm (as pattern), and who are the actors of security, i.e. whose security. Military security has a direct connection with a State, its main premise comes from securing State sovereignty, and its paradigm from national interests. As a State is an abstract entity, security premises and paradigms are defined by national security establishments.

While, comprehensive security—either meaning human, environmental, or global/planetary—has several actors or owners, from individuals and civil societies to the global community and the entire planet, its premises come from the environment, not only the environment as the material basis for human existence, but including Nature and non-humans. As there are no clear procedure how to define its

paradigm(s), a part of the challenge is how to change the definition of the problem on security paradigm, as for example the book *Climate Change and Arctic Security: Searching for a Paradigm Shift* (2020) is doing.¹⁶

The next section is a retrospective overview/review of literature on the environment vis-a-vis military security, and their interrelations.

III

Retrospective overview of literature on the environment vis-a-vis military security

Impacts of a war/warfare on human beings and the environment in particular, on cities and built infrastructures, are well known by numerous pictures, films and news, for example from the Second World War and the recent bombardments of Gaza by the Israel Defense Forces. Interestingly, it was rather late in the 1970s that impacts of a war were systematically and scientifically studied by the SIPRI research project ‘Ecological Consequences of the 2nd Indo-China War’ in 1976. In the 2000s, there were more studies on environmental consequences of warfare, such as the UNEP and UNCHS study of 1999 on the Kosovo conflict,¹⁷ Machlis’s and Hanson’s warfare ecology of 2008,¹⁸ and several studies on carbon emissions of wars, such as the Iraq War, from 2003 to 2011.

Soon after the end of wars in Southeast Asia—mostly due to severe environmental destruction by the US Army spraying millions of gallons of Agent Orange and other herbicides, as well as napalm, to defoliate forests and eliminate food crops in Vietnam, revealed by the 1976 SIPRI Report—the Environment Modification Treaty (Enmod Convention) was signed in 1978, to ban warfare against, and other hostile use of, the environment. Environmental warfare, as well as geo-engineering or other ways to manipulate the environment, were known, though secret, tested and developed in the Cold War period by the Soviet Union and the US like for example, the creation of a hurricane by the Pentagon.¹⁹

Yet, in spite of, and in between, wars there are constant influences of armies on the environment, and environmental impacts of the military, in peace time. After having more information and understanding about impacts of radioactive contamination on humans and the environment due to the exploitation of atomic bombs in Hiroshima and Nagasaki,²⁰ there was, in the 1950s and 1960s, a growing concern of risks and medical effects of nuclear radiation to human health. It was the main theme for campaigns against nuclear weapons in order to avoid nuclear war and the related ‘nuclear winter’. As a result, nuclear bomb tests in the atmosphere and outer Space were banned by the Partial-Nuclear-Test-Ban Treaty, in 1963, between Great Britain, Soviet Union and the US, and the Comprehensive Nuclear Test Ban Treaty, in 1996, banning all nuclear tests. The work against nuclear weapons is been continued by the Pugwash movement, the Physicians for Social Responsibility and the International Campaign to Abolish Nuclear Weapons (ICAN), the two latter ones are Nobel Peace laureates.

Already in the 1970s and 1980s, there were a few studies and publications on interrelations between the environment and security/the military in peace time, such as Robinson’s study on the weapons’ effects on Ecosystems of 1979, Galtung’s holistic approach including the environment, development and the military of 1982, and Westing’s conceptual overview on the relationship between the military sector and the human environment of 1988.²¹ More such studies were published just after

the end of the Cold War; in particular in 1991, such as the chapter about assessing 'the military's war on the environment' in the State of the World (1991) Report by the Worldwatch Institute, Mathias Finger's Paper on the global environmental crisis using the military as a case,²² and this author's research on the environmental risks by the military in the Arctic a year later.²³

Already during the last peak of the US-Soviet military competition, there were several campaigns for nuclear disarmament, such as that of Greenpeace for nuclear-free seas. Behind these were, on the one hand, the lethal accident at the Chernobyl nuclear power station in 1986, as well as a few nuclear submarine accidents (e.g. the Soviet Mike-class submarine in 1989), and on the other hand, the disarmament and arms control negotiations between the Soviet Union and the US, in particular the Intermediate-Range Nuclear Forces (INF) arms control treaty, signed on 8 December 1987, encouraging these kinds of campaigns and activities. Furthermore, this made 'nuclear safety' publicly known, even as a favourite media topic, attractive for peace movements and scientists, such as the Pugwash Society. Several studies were done and reports published on nuclear safety, such as IIASA 1996 and AMAP 1997,²⁴ in particular after the Russian 'White Paper' on dumped radioactive wastes was delivered among Western experts.²⁵

The post-Cold War studies continued the work, adding a few new aspects: Firstly, they came with a more detailed inventory of nuclear/radioactive wastes, following the example of the Russian 'White Paper'; Secondly, there were slight differences when interpreting the military vis-à-vis the environment, by highlighting long-lasting consequences of radioactivity in particular, risks of nuclear accidents for the environment and humans, as well as when drawing up a more holistic picture of effects of peacetime military activities for the environment and biodiversity, as are shown for example by the above-mentioned IIASA Report of 1996 and the 1999 UNEP and UNCHS Report about consequences for the environment and settlements, as well as Fritz's research on widespread effects and legacies of the DEW Line in shaping communities and consciousness in North American Arctic (2010),²⁶ and Lawrence et al's evidence that 'warfare's impacts on ecosystem functioning are indeed overwhelmingly deleterious' (2015).

Thirdly, the inter-relationship between the environment and the military—i.e. environmental degradation/destruction due to warfare and armed conflicts, and the use of land and waters for military training in peacetime—was interpreted as a potential conflict of interests between different land users, such as local reindeer herders, fishermen and berry-pickers vis-a-vis armies, as well as between environmentalists vis-a-vis military strategists/national security establishments.²⁷ The relationship was interpreted almost as a form of war against the environment, as shown by the 2008 Report by Machlis and Hanson.

The next section is a brief overview of the environmental impacts of military security, and a new task for the military, in peacetime.

IV

Environmental impacts and risks of military security, and a new mission for armies

Though an emerging (earlier marginal) theme raised by the attitude of environmental awakening and pioneer researchers, the sensitive nature of national security caused

hesitation among researchers, and hence military impacts on ecosystems and the entire Earth, in peacetime, were studied and analysed rather late. Among the first ones, Galtung's 1982 studies included a holistic approach and details of environmental impacts of the military and effects of weapons on ecosystems, in peacetime, from the Cosmosphere and Atmosphere via the Hydrosphere and Lithosphere to the Biosphere and Homosphere.²⁸

Based on these and my own studies, I applied Galtung's list by adding a few new aspects, such as noise, human resources, and concentrated on environmental impacts by the military on the Earth (excluding inner and outer Space) in peacetime.²⁹ An updated list includes the following categories (see also 'ecological impacts relevant to warfare ecology' by Machlis and Hanson 2008)³⁰:

- Use of non-renewable minerals and other natural resources, in particular water;
- Use of energy (in particular oil) as fuel;
- Use of land and water areas, even glaciers, and air space for military bases, infrastructure, exercises and training, bombarding and shooting;
- Use of toxics, chemicals, radioactive materials;
- Use of intellectual resources for new arms, strategy development, and training;
- Thermal impacts, blast effects, radiation by nuclear weapons;
- Nuclear and other accidents;
- Military contamination/pollution and remnants of war/armament—stored, dumped, buried (e.g. nuclear reactors, radioactive and toxic wastes, ballast waters, mines and other explosive remnants, noise);
- Cause CO2 emissions;
- Weakening of biodiversity by pushing endangered species closer to extinction (e.g. by blasts);
- Environmental degradation by disarmament when destroying of old ammunition (e.g. landmines), chemical and nuclear weapons;
- Indirect and potential impacts due to a lack of money for environmental protection and climate change mitigation.

All in all, the most obvious environmental impact of the military is the use of land and water areas, as well as that of minerals and energy for production, and energy for patrolling. Consequently, there are impacts of littering and pollution—including noise—from testing and producing weapons and training troops. Finally, the use of human resources for research and development should also be included.

The list would become more comprehensive by broadening the scope with a planetary approach and including space waste (e.g. from abandoned military satellites); adding new and more detailed elements of the effects of armed conflicts (e.g. aerial assault, naval operations), and military activities from contamination of bases to effects of training, those of nuclear warfare (e.g. thermal and radiation impacts, blast effects, on biodiversity); and including research gaps.³¹ Finally, one must remember and be reminded that armies are normal, special and protected polluters due to the ambivalent nature of the unified State system, where the military, in charge of national security, has a privileged position being above the law.³²

Furthermore, the list would benefit by adding a more detailed analysis on environmental degradation by, and risks of, disarmament, as well as modernization of arms/military production. Disarmament here includes, in addition to stopping

development and production of new arms, conversion of military equipment for civilian use,³³ (re)storing old military equipment, destroying of old ammunition—in particular land and sea mines, chemical weapons, and nuclear weapons, including warheads and vehicles carrying/transiting them. All these activities cause, more or less, environmental impacts and entail, smaller or bigger, risks for the environment and human life.

The decommissioned nuclear submarines, mostly Russian, were defined as one of the most risky hotspots in the Barents Sea area in the 1990s, defined by the IIASA 1996 Report,³⁴ primarily due to a lack of proper technology. An answer to this was the Arctic Military Environmental Cooperation (AMEC), established in 1996, as a forum for dialogue among Norwegian, Russian and US military and environmental officials on Arctic environmental issues related to the military. The aim, which was fulfilled with success, was to develop new technologies for hazardous waste management, monitoring and nuclear safety.³⁵

A strange episode in the military vis-à-vis the environment relationship, as well as the ecological security debate, was the discourse of ‘militarization’ of the environment after the end of Cold War period. Amidst growing concern for the environment by people, the pressure by environmental movements, and requests to clean up the mess, after a ‘party’ – i.e. the Cold War military competition and arms race—national security establishments were, after losing the Cold War’s ‘good enemy’, almost desperately searching for a new mission for armies. Such tasks included help during environmental catastrophes, cleaning up toxic, radioactive and other wastes, and cleaning up damages due to a war/armed conflict, and such troops were called the ‘Green Helmets’.

This discourse tried to apply ecological security for military purposes and included such questions as: ‘Why the military is good for the Environment?’ and ‘Can armies save parks?’ Although this sounds more like green washing or the Goebbels propaganda, this was seriously raked up, argued and formulated into concrete proposals in some countries (for example in Norway), as well as tested and developed within NATO and the NACC cooperation (including Finland as a militarily non-aligned country and the Russian Federation) in the 1990s. According to its Environmental Guidebook for Military Operations (2008) NATO’s goal was to measure and control, ‘to prevent damage and degradation of the environment, including the sustainability of its living resources’.³⁶

In spite of all this, this the effort was to militarize the environment, or affect ‘environmental rearmament’ by research projects, such as the one on ‘Green Security or Militarized Environment’ of 1994.³⁷ The thinking behind this was that military security, mostly indicated to a State, includes nationalistic and militaristic aspects.

In the next section, the Essay analyses military security as a substitute for ecological catastrophe, instead of being an answer to geopolitical tensions.

V

One of the paradoxes of our times

If ‘environmental security’ as an (alternative) security concept is to preserve and maintain the planet as habitable, it has to be an existential factor, i.e. a ‘must’ for people and societies. What about ‘military security’ then? Is that a ‘must’ for people

and societies, or only for the national security establishment? Or is it a ‘substitute’ for the climate crisis, and the ecological catastrophe?

The environment vis-a-vis (military) security has become a relevant issue in the political agenda of States, and more important in security studies. At the 2000s, ‘energy security’ was redefined as strategic, including a need to decrease its use, even in armies. This became a concern in the designing of arms, managing military vehicles and infrastructure, planning military strategies and minimizing environmental impacts. For example, the US Navy ordered that its vessels, including aircraft carriers, should decrease dependence on oil and increase the use of bio-fuel.³⁸

At the same time, climate change—meaning global warming—was defined as a growing risk to people and societies, and national security.³⁹ Albeit, still debated, there are indications that climate change is a root cause for riots and armed conflicts, by directly causing droughts, floods, wild fires and environmental migration indirectly, like for example, the Syrian uprising and civil war, since 2011.

The military’s new mission has not been forgotten by armies and ministries of defence. As part of new measures, guides and standards, for all phases of military operations, the *Environmental Guidebook for Military Operations* (2008) recommends that environmental considerations of the military, comprising a broad range of issues (e.g. damage, risk management, competition for resources, ethnic, cultural, religious and historical considerations) should be taken into consideration by armies.⁴⁰ These methods ‘must be integrated into all phases of military operations ... planning throughout the operational process at all echelons of command’, and ‘commands should consistently reinforce the tenets of environmental stewardship’.⁴¹

Armies are used to rescue people from natural catastrophes like for example 23,000 military personnel were ordered to rescue people hit by *Hurricane Harvey* in 2017, as ‘The best uses of our armed forces will always mean battling foes of nature’.⁴² Finally, military presence and activities in land and water areas, as well as their ownership, by armies is being, still in the 2020s, legitimized by the protection of the biodiversity of Nature like for example, in the army-owned islands outside Helsinki, and in the shooting areas in upper Lapland in Finland and Northern Norway.

Indeed, being actively involved in the global oil-running-economy, world trade, parliamentary or quasi-democracy, as well as integration and/or bloc-building, States would also like to legitimize their power by protecting citizens also, when securing (State) sovereignty as the main aim. In spite of the climate crisis, they continue to do this through the pursuit of power by force, from threat pictures, rivalry and sanctions to bombardment and other military interventions. This kind of state of war, fostering fear and insecurity, is nonetheless more a substitute for, than a must. And it is not inevitable, as in politics there are always alternatives. Unlike, 86 per cent of people (according to People’s Climate Vote 2024) want States to forget geopolitical disagreement and rivalry, and instead cooperate with others to tackle climate change. Behind this is their growing concern on extreme weather conditions, i.e. the climate crisis.

The unified State system has fundamental troubles in the efficient management of global environmental challenges.⁴³ This is seen by the political inability of States, as parties at the United Nations’ COP summits, to mitigate climate change in the last 30 years. Yet, this is no surprise, as ‘neither economic nor ecological security can ultimately be ensured by violence, nor can they be ensured by the unilateral actions of a single State. Instead they require international cooperation and participatory politics’.⁴⁴ Nonetheless, it is a bit surprising that the military—causing environmental degradation, including carbon emissions—and climate

change, defined as a security issue—is not recognized in its own category of CO2 emissions, and was excluded the emission regulations at the Kyoto COP4 negotiations declarations.⁴⁵

‘Power’ and ‘cooperation’ are controversial factors in world politics, as well as in International Relations: Power indicates control over and force, and causes a fear, which is physiological, relates to threat-pictures and is (easily) manipulated by power. Consequently, ‘the state of war. . . fosters fear, jealousy, suspicion and insecurity’.⁴⁶ Also States have plenty of options, as power is not only based on the military and economics, and national security not only deals with military power: Knowledge (on the environment, climate) can be transferred into power, too. Thus, freedom from fear could be had via conflict-prevention as a top priority, followed by conflict resolution and confidence building.

Overall, alternative ways are needed in world/planetary politics. One of the most useful and practical is cooperation, mostly across borders. Being flexible and practice-oriented, it is mutually beneficial and encourages sharing, and creates reciprocity. Furthermore, functional cooperation, in fields of low politics, could be interpreted as a confidence-building measure, where a political will for a dialogue ‘can be achieved by “agreeing to disagree” . . . [without reaching] a consensus on ultimate truth claims’.⁴⁷

Finally, the Essay concludes by provoking that environmental security is a ‘must’, and military security is a substitution of environmental security.

VI

Conclusion

More factors indicate, and more actors interpret, that the ecological catastrophe, including the climate crisis—not geopolitical tensions or great power rivalries—is the biggest security threat that people and modern societies face by making the industrial civilization and the entire global system fragile and putting it at risk of collapse. Hence, though modern societies are consciously taking bigger risks, concerning the environment and the safety of people, and human kind uses to lean on a faith of technology, environmental security is a must.

Unlike, as the two citations in the Introduction indicate, military security—preparing for a war, threatening of use of forces and fighting against an hypothetical external enemy—is a part of the problem. It uses a big part of natural resources (strategic minerals) and energy (oil), uses intellectual resources and advanced technologies and causes environmental risks (nuclear accidents). Armies are special and protected polluters (radioactive and toxic wastes), and cause and accelerate environmental degradation and carbon emissions. Even worse, military security—as the mainstream concept of the unified State system—has overtaken security discourses and marginalized the environment, as well as occupied the minds of political and economic elites, technocrats and media, all of which is taken from climate change mitigation.

This Essay has argued— Q.E.D. – that military security is more a substitute for solving real (wicked) problems than for safety of people and the environment. A comprehensive and holistic approach of security, including human and environmental security, gives real readiness to mitigate, as well as to adopt to, the climate crisis, as (rapid) global warming is a fact. An urgent question remains—whether humankind would aim to make peace with the environment.

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