Environmental Security

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Contributor: Dimitrios Kantemnidis , Iosif Botetzagias

Researchers offer an overview of the development of the concepts "environmental security" and "climate change security" in the scholarly community as well as in the EU security agenda.

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1. Introduction

Environmental security started to significantly evolve in the second half of the 1980s, notwithstanding the assertions of many academics that there are deeper roots in the relationship between environmental challenges and security. One of the oldest writings on environmental security, according to many scholars, is Thomas Malthus's "Essay on the Principle of Population", which connected population growth with environmental limitations to foreshadow the potential of conflict [1]. Several analogies made in the 1960s and 1970s connected environmental issues to scenarios that would pose a threat to the security of individuals, communities, or even entire states [2][3][4][5]. However, Richard Ullman's 1983 article "Redefining Security", which connected population growth, environmental quality, world hunger, and human rights to American national security, is regarded as the magnum opus on environmental security affairs [6].

In the European Union, security assessments began to take environmental factors into account in the late 2000s. The first EU report relating global security and climate change was published by the European Commission and High Representative Javier Solana in 2008 with the title "Climate Change and International Security" [7]. Because the EU's economic crisis had substantially overshadowed the environmental security issues, the EU actively returned to the topic with its Global Strategy and the Green Deal [8][9]. Both texts regard the EU as a key player in combating climate change, and they frequently make connections between it and the EU's security. However, the European Parliament's study "Preparing the CSDP for the new security environment created by climate change", released in 2021, provided Europe with its first comprehensive review of the security concerns posed by global warming [10].

Despite efforts to include environmental issues in the European Union's security agenda, many analysts assert that member states and officials in Brussels still find it difficult to address environmental security issues [11]. Richard Youngs argues in his book *Climate Change and European Security* that despite some advancements in the EU's foreign policies, environmental issues, particularly climate change, are still not a major cause for concern [12]. Some experts attribute this lack of progress to three causes: a lack of resources, institutional constraints, and conceptual confusion. They also point out that, in addition to conceptual confusion, the EU's actions about

environmental security certainly raise difficult normative obstacles [13]. Another disconnect between the climate security discourse and its policy outcomes was revealed in 2019 through interviews with practitioners from EU agencies [14]. The findings indicate that, even though a growing group of practitioners in the EU are integrating environmental threats into the EU's security agenda, these professionals frequently overlap and are in competition with one another. The existing literature thus suggests that despite being a pioneer in environmental politics since the end of the 1970s—especially those relating to climate change—the European Union shows a notable reluctance to integrate the environmental component into the routine tasks of its Common Security and Defence Policy (CSDP) actors [15]. The increasing rhetoric on climate security issues is far distant from concrete methods and procedures that will be able to specifically handle the climate challenges and environmental security issues more broadly.

2. Historical Background of the "Environmental Security" Discourse

Since the early 1960s, many academics have portrayed a variety of environmental challenges as immediate threats to humanity and, subsequently, to nations. The urgency of dealing with these issues was frequently demonstrated with dramatic illustrations, emphasizing the need for governments and citizens to act to survive. The book *Silent Spring*, by Rachel Carson in 1962, is one such example [2]. Its core argument was that anthropogenic environmental change must be approached with extreme caution because we are destroying the natural systems that support our very existence. Similarly, in 1968, the ecologist Garrett Hardin brought to public attention a warning first issued in the nineteenth century by the economist William Forster Lloyd on the "inherent" vulnerability of common resources [3]. Hardin popularized the concept of "global commons" in his 1970s article "The Tragedy of the Commons", where he argued how self-interested human behavior concerning the environment would lead to mutual collapse, highlighting as the prime driving force the ever-expanding human population, which at the end would surpass the earth's "carrying capacity" [16] (pp. 137–138).

The "tragedy of the commons" idea was soon followed by the "limits to growth" thesis [17] (p. 11). In 1972, the apolitical Club of Rome mobilized the Volkswagen Foundation to fund an MIT research team for its project: "On the Predicament of Mankind". The findings of this research provided the basis for the book *The Limits to Growth*, by Meadows et al., which sold 12 million copies in thirty-seven different languages. The book introduced the concept of anthropocentric climate change to a mass audience, while it made environmentalists, scientists, and policymakers think of environmental problems in large-scale terms and as dynamically interconnected [18] (pp. 8–152, 229, 391). In the *Limits to Growth* preface, the UN secretary-general, U Thant, wrote,

"I do not wish to seem overdramatic, but I can only conclude from the information that is available to me as Secretary-General, that the Members of the United Nations have perhaps ten years left in which to subordinate their ancient quarrels and launch a global partnership to curb the arms race, to improve the human environment, to defuse the population explosion, and to supply the required momentum to development efforts. If such a global partnership is not forged within the next decade, then I very much fear that the problems I have mentioned will have reached such staggering proportions that they will be beyond our capacity to control" [4] (p. 17).

U Thant went on to authorize the convening of a conference on human–environment interaction in response to a proposal from Sweden to the United Nations Economic and Social Council (UNESOC). On 5 June 1972, 113 states attended the Stockholm United Nations Conference on the Human Environment [16] (p. 136), [17] (pp. 3–7). During the conference's preparations, Canadian diplomat Maurice F. Strong, who also served as its secretary-general, formed a committee of experts led by Dr. René Dubos to prepare an informal report to influence public opinion and governments on the meeting's content. The result was the book *Only One Earth: The Care and Maintenance of a Small Planet*, by Barbara Ward and René Dubos [5]. Ward and Dubos's book was an effort that publicly debated the words "development" and "environment", expressing worries about environmental degradation and inadvertently securitizing environmental issues, similar to Rachel Carson's, Garret Hardin's, and the Club of Rome's contributions.

While the issue of "security" was lurking in all the earlier discussions about development and (its effect on) the "environment", it was in the 1980s that several actors squarely incorporated the environmental component into the security discourse, giving rise to the environmental security concept [19][20]. In 1983, Richard Ullman, in his article "Redefining Security", related population growth, environmental quality, global hunger, and human rights to United States national security, urging countries to demilitarize international relations since the aforementioned nonmilitary threats were expected to become prominent and exacerbate insecurity [6]. In a similar vein, 6 years later, Jessica T. Mathews, in an article also titled "Redefining Security", recommended a redefinition of what constitutes national security in the United States, highlighting climate extremes, the greenhouse effects, changes in the carbon and nitrogen atmospheric cycles, and environmental refugees [21]. By then, the concept of "environmental security" has found its way into high-profile actors' reports [22]. In 1983, the United Nations General Assembly established a commission, led by Norwegian ex–Prime Minister Gro Harlem, to propose ways of achieving sustainable development. Four years later, the Commission's report "Our Common Future" drew also a clear line connecting the environment to security: "Environmental stress is both a cause and an effect of political tension and military conflict" [22] (pp. 239–240). The report also went a step further by highlighting the detrimental effects of a, then, still-debated environmental "problem", that of climate change: "Slowing, or adapting to, global warming is becoming an essential task to reduce the risks of conflict" [22] (p. 294).

While many international figures and organizations supported this newly created, broader vision of security and the increased awareness about human-caused environmental degradation, the lack of empirical data meant that the conventional notion of state-centered, national security had not been seriously challenged. All that changed in the 1990s, when several environmental security analysts presented empirical insights into the link between environmental change and conflict in response to criticisms about the lack of supporting evidence. The University of Toronto's Project on Environment, Population, and Security, led by Thomas Homer-Dixon, intended to deviate from the philosophical discussion and develop research on a firm empirical foundation [23] (p. 475). The Toronto Group's research offered evidence of the causal path from scarcity of cropland, forest, fish stocks, and water to violent conflict by using examples from developing countries [24][25][26]. Similarly, in February 1994, the journalist and travel writer Robert Kaplan directly challenged the conventional security agenda in his article "The Coming Anarchy". In Kaplan's own words, "It is time to understand the environment for what it is: the national-security issue of the early twenty-first century" [27]. Kaplan's dramatic illustration caught the interest of the vice president of the

United States, Al Gore, who invited Homer-Dixon and the Toronto Group to consult him on environmental change and its security implications. The major finding of the group, that various forms of environmental constraints may trigger civil conflicts, prompted the Clinton administration to release federal funds for environmental security considerations and establish the position of deputy undersecretary of defense for environmental security [28] (pp. 75–76).

3. From Environmental Security to Climate Security: An Emerging Trend

Accordingly, the 1990s was a period when major security actors started to seriously engage with the "environmental threat". Thus NATO, with Javier Solana as its secretary-general (1995–1999), enriched its diplomatic tools with an environmental agenda. In 1997, NATO's Founding Act with Russia referred to the need for cooperation on defense-related environmental issues. Solana and US President Bill Clinton worked closely for 5 years and launched the Euro-Atlantic Partnership Council (EAPC). It brought together 16 NATO nations and 28 partner countries to cooperate on various environmental security-related issues [29].

The 1990s was also a period when climate change came to the spotlight of global attention. Already in 1988, the World Meteorological Organization (WMO) and the United Nations Environmental Program (UNEP) created the Intergovernmental Panel on Climate Change (IPCC) to provide objective scientific information on climate change and to present the state of scientific knowledge—with its "First Assessment Report" coming out in 1990 and thereafter updated every 5 years. In 1992, the UN Framework Convention on Climate Change (UNFCC), aiming "to achieve [the] stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system", was signed by 154 states in Rio de Janeiro, Brazil.

Despite these developments, climate change did not feature prominently in discussions about environmental security in the 1990s. It is quite telling that the Toronto Group considered climate change as a long-term process that did not require consideration in their specialized studies on environmental change and violent conflict. For example, Homer-Dixon, who had a significant impact on the US environmental security policies throughout the 1990s, was writing in 1994 that "When analysts and policymakers in developed countries consider the social impacts of large-scale environmental change, they focus undue attention on climate change and stratospheric ozone depletion" [25] (p. 7). Thus, even though numerous scientific forecasts appeared in the 1990s concerning the severity of this particular threat, climate change did not gain traction as numerous critics suspected that the security establishment was exaggerating "non-traditional" security risks [30].

This changed in the early 2000s when systematic academic research on climate security challenges gained traction [31][32]. The first major milestone was a 2002 study by the National Research Council (NRC)—a private, nonprofit organization—following a request from the US Global Change Research Program (USGCRP), which represents several federal agencies in the United States [31] (p. 2). It was soon followed by Schwartz and Randall's 2003 report for the US Pentagon [31][32]. Both articles examined the prospect of a sudden climatic shift and its implications for US national security, and they are regarded as the starting point for the evolution of the climate

security concept [33]. Across the Atlantic, the mood was also changing. In 2004, Sir David King, the British PM's senior scientific advisor, stated, "In my view, climate change is the most severe problem that we are facing today, more serious even than the threat of terrorism" [30] (p. 415), while 3 years later, in 2007, the United Kingdom convened the first-ever United Nations Security Council summit on climate change [30].

The latter is one of the reasons for which several scholars consider 2007 to be a landmark year for climate security [30][33][34][35][36][37][38][39][40][41], the second being the fact that in that same year, IPCC, along with Al Gore, was awarded the Nobel Peace Prize. Both cases were unprecedented. It was particularly radical that the UNSC, instead of convening to address a war situation or an act of aggression, convened to address climate change as a threat to peace and security. Of the 55 speakers, 24 agreed that the Security Council was the appropriate forum for addressing climate change policy, 13 disagreed, and 18 did not take a position. Most speakers from the global South opposed the Security Council's engagement in climate change, while 70% of the speakers from the global North supported the Security Council's involvement [42]. Despite the disagreements, the British chair, with the assistance of small-island states, succeeded in a unanimous nonbinding UN General Assembly resolution [43].

Similarly, the awarding of the Nobel Peace Prize to the IPCC and Al Gore was another extraordinary occurrence that reinforced the notion of climate security. The Nobel Peace Prize is generally awarded to those who have done the most or the best work for fraternity between nations, for the abolition or reduction of standing armies, and for the holding and promotion of peace congresses [44]. While the IPCC's mission is to offer impartial scientific information on, and assessment of, climate change, starting with its Third Assessment Report (2001), it had begun to highlight the effects of climate change on sociopolitical, economic, and security levels [45]. Gleditsch and Nordas identified numerous linkages to what they called the "climate–conflict nexus" after reviewing the Third (2001) and Fourth (2007) Assessment Reports of the IPCC [18]. Thus, the IPCC gradually started to emphasize climate change as a global threat affecting all countries, indicating that global action is necessary to address these threats. The highlight of this effort was reflected in its 2015 Fifth Assessment Report, when the IPCC included a 36-page chapter titled "Human Security" [46].

The startling events of 2007 sparked several reactions yet also motivated numerous institutions to conduct assessments on the connections between climate change and security [47]. The most comprehensive report (2007) came from the Scientific Advisory Council on Global Environmental Change of the Federal Republic of Germany (WBGU), a group composed of nine prominent natural and social experts from Germany and Switzerland. In WBGU's view, climate policy would be a preventive security policy [48]. International Alert, an international nongovernmental organization (NGO) sponsored by the UK Department for International Development, conducted a less thorough and more narrowly focused research (2007) [49]. The CNA Corporation, a US Navy think tank, issued a report (2007) focusing on US national security, though human security issues were not neglected [50]. Finally, a report (2007) by the Center for a New American Security, which is largely composed of former high-ranking officials of the Clinton administration, emphasized the risks to all nations and the importance of international cooperation [51].

Today, the idea of climate security has grown considerably in the United States, both at the government level and among nonstate entities, such as institutes, think tanks, and universities. The way those actors conceptualize and articulate the concept of climate security is largely focused on how climate change affects either the homeland and national security of the United States or how climate change may threaten US interests overseas [52][53][54][55][56][57]. One of the institutes famous for its prominent climate security research is the Woodrow Wilson Center, which has incorporated climate change issues into its Environmental Change and Security Program (ECSP). The ECSP program, which was founded in 1994 to convey academic research on environmental security to policymaking audiences, is one of the longest in the field. Several Washington-based institutes are also dedicated to climate security, including the CNA Corporation, the Center for Climate and Security (CCS), the American Security Project (AMS), and the International Military Council on Climate and Security (IMCCS) [58][59].

4. The Issue of Climate Change in the Security Agenda of Europe

The European Union declared the need for a unified security and defense policy through the Treaty on the European Union on 7 February 1992, in Maastricht, a few months after the fall of the Berlin Wall [60]. This policy should address all issues relating to the Union's security, including the potential establishment of a common defense strategy that could eventually result in a collective security structure. The Common Foreign and Security Policy (CFSP) was established by the treaty as the second pillar of the new EU'S three-pillar framework. The European Security and Defence Identity (ESDI) concept was how the broader CFSP concept was put into practice. Its goals were to defend Europe in areas where the US or NATO had no interest and to give the EU more authority over its security course.

However, no substantial steps were taken towards a common defense until French President Jacques Chirac and British PM Tony Blair signed the Saint-Malo Joint Declaration on 4 December 1998 [61] due to their common understanding that it was crucial to implement the CFSP principles fully and quickly to forward the formulation of a common defense policy. This movement's central component was a quick response to emerging threats. Thus, in 1999, ESDI was renamed to European Security and Defense Policy (ESDP), which was to last for 10 years until the Treaty of Lisbon in 2009 and the creation of the Common Security and Defence Policy (CSDP) [62] (pp. 8–10).

CSDP is the first security attempt to address the CFSP's mandate and to include all questions related to the security of the European Union. The Treaty of Lisbon except for CSDP introduced some new actors to address the CFSP's objectives: the high representative/vice president (HR-VP), the council president, the European External Action Service (EEAS), and the European Defence Agency (EDA) [62] (p. 26). All these actors were supposed to set the security agenda regarding proactive and reactive responses to potential security challenges. They should also address risks and construct their missions following the European Security Strategy (ESS), which was officially revealed in 2003 and amended in 2008 [63][64].

As a pioneer in environmental politics, the European Union has made significant efforts to address climate change concerns through initiatives that are frequently connected to its security and foreign policy [7][8][9][10][65][66][67][68][69]

[70][71]. Climate security was smoothly introduced into the political agenda of the EU. The 2008 revised edition of the ESS by the European Council followed the recommendations from the high representative and the European Commission to produce the first EU paper on Climate Change and International Security [7]. Although the EU's economic crisis overshadowed the climate security issues, the EU actively returned with its EU Global Strategy and the EU Green Deal. However, for the first time since *Solana's Paper*, climate security is addressed in 2021 when the European Parliament delivered its first in-depth analysis of the security threats posed by climate change to Europe with its report *Preparing the CSDP for the new security environment created by climate change* [10].

Numerous nonstate actors also raise awareness of and conduct research on climate security threats, either independently or with governmental support. The Institute for Environmental Security (IES) was one of the earliest nongovernmental organizations to deal with climate security, and it was mainly responsible for introducing the environmental security concept into a Brussels policy. Established in 2002 by high-ranking officials of EU agencies and governments with significant influence in the European Commission and the European Parliament, the IES initiated two major programs, the 2007 Climate Change and International Security and the 2009 Climate Change and the Military, which later evolved into the current Global Military Advisory Council on Climate Change. The IES no longer has a vibrant presence in Brussels, but its place has been taken by two other institutions with significant influence in European institutions: the Stockholm International Peace Research Institute (SIPRI) and the Berlin-based adelphi [72]. All those entities have enabled the European Union to develop a climate security practice community that routinely advises European governments and agencies. This community of practice is closely related to initiatives such as the German government's Group of Friends on Climate and Security, the Dutch government's Planetary Security Initiative, the adelphi's Climate Security Expert Network (CSEN), and the Hague Roundtable on Climate and Security [59].

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