The Interlinkage of Climate Security and Human Security: The Convergence on Policy Requirements

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Abstract

This is a preliminary study about the theoretical implications of the concepts of climate security and human security. This paper argues that the concepts of climate security and human security can well capture the various aspects of the threats faced by humankind and contribute to raising awareness of root causes of social disturbances and armed conflicts. They can also help elevate the priority order of developmental issues. Policy recommendations for dealing with climate security and human security may overlap and lead to inefficient use of scarce resources. However, if they are implemented in an efficient and integrated manner, they might further promote the policies to adapt to climate change and to ensure human security. In addition, the concept of human security may help to generate various military and non-military security as well as non-state security studies, although these concepts themselves may hardly generate systematic and empirical study.

Introduction

Research on the impact of concepts of climate security and human security on international relations theory awaits thorough investigation. The preliminary study of the relationship here is limited to a review of the main trends in the study of security in the field of international relations. An initial survey suggests that the evolving concepts of climate security and human security are broadening their scope and domain beyond the realm of national and military security. I argue, however, that the concepts of climate security and human security are not necessarily useful as an analytical concept either in the field of international relations theory or as a clear guideline for policy, because of the ambiguity of

the concept of *security* in general and the inclusiveness of the notion of *climate security* and *human security* in particular. The concepts of climate security and human security nevertheless have a heuristic value that has spawned all sorts of security studies relating to the state, the community, and to people as well as to military and non-military issues like terrorist attacks and natural disasters. Above all, the concepts of climate security and human security have great potential to raise the priority of policies that address threats to people, their communities and built- and natural environment by identifying the issues of daily life and environmental degradation as issues of "security."[1] In fact, one of the findings of this study is that there is a clear convergence on policy requirements between climate security and human security. The policy linkages of these security concerns are the policies for adaptation to climate change and those for ensuring human security. If these policies were fully implemented, they could lay the foundation for building sustainable society and, at the same time, help eradicate the root cause of social disorder and armed conflicts in many less/least developing countries.

In the first section of this paper, I briefly review conventional conceptualizations of security in international relations theory, which tend to be biased in favor of national and military security. In the second section, I introduce various efforts to broaden the scope and domain of security. The next section deals with the arguments of those who advocate the redefinition of "security," arguments that often revolve around environmental or ecological

[1] I thank the participants of the Korea-Japan seminar on "Security and the United Nations" held at the United Nations University in Tokyo, Japan, on 15 December 2007 for their constructive and insightful comments on my first draft, above all, Prof. Wangi Choe, Prof. Sukehiro Hasegawa, Prof. Jung-Hoon Lee, Prof. Seo-Hang Lee, Prof. Kazuo Takahashi, as well as Prof. Takeo Uchida. I also extend my thanks to the Global Environment Research Fund of the Ministry of the Environment in Japan for financing some research for this article and the governmental subsidy for scientific research (Basic Researc B).

security. Having reviewed these major trends broadening the concept of security in international relations theory, this paper examines the concepts of climate security and human security articulated by the United Nations Development Programme (UNDP), the Commission on Human Security as well as International Commission on Intervention and State Sovereignty. Then, I explore some meanings of the intersection between climate security and human security á la UNDP and the Commission on Human Security. The security concerns overlap with their policy recommendations, above all, the policy packages for adaptation to climate change and those of human security.

1. What Is Security?

The concept of security is elusive and open to many different interpretations, but one of its most noticeable characteristics in international relations theory is identification with national security. One of the broadest and the most abstract definitions is summed up succinctly by Arnold Wolfers: "…security, in an objective sense, measures the absence of threats to acquired values, in a subjective sense, the absence of fear that such values will be attacked" (Wolfers 1962: 150). Since international relations theory has been built upon the premise of relationships among nations, the term generally connotes "national security." Wolfers also pointed out the ambiguity of the notion of national security. He warns us about the use of such notions as "national security" and "national interest," observing that, "while appearing to offer guidance and a basis for broad consensus, they may be permitting everyone to label whatever policy he favors with an attractive and possibly deceptive name" (Wolfers 1962: 147).

Another common meaning of security in international relations theory is in the narrow

sense of military strategy dominated by the realist perspective. As a subfield of strategic studies, security studies have been closely linked with the development of military technology such as defensive and offensive weapon systems. Similarly, strategic studies have been associated with military strategy, theory of deterrence, and arms control.[2] In this context, security studies in international relations theory are closely related to military security. Of course, at the opposite end of the ideological spectrum, idealists have presented different world views regarding security, but these are commonly referred to as "peace studies" rather than realism-oriented "security studies" because the latter were "far too war-prone" (Buzan 1983: 7).

The conventional notion of security that is generally shared is the narrow sense of security within the framework of the Westphalian system of international relations, in which a sovereign state is bound to defend its political independence, territorial integrity, and its people. Thus, the conventional notion of security in international relations theory can be seen as a concept focusing on a state and its government, which is concerned with safeguarding territory, maintaining political independence and protecting, through military and other necessary means, the people and assets within its territory from invasion by outside enemies. Realists such as E. H. Carr and Hans Morgenthau and neo-realists like Kenneth Waltz built their theories from roots deep in national and military security concerns (Carr 1946; Morgenthau 1948; Waltz 1979).

[2] They are far too numerous to mention even the more seminal works here. Yet, we cannot fail to mention Bernard Brodie's *The Absolute Weapon* for his insights on the great strategic transformation with the advent of nuclear weapons (Brodie 1946). Classical studies of the theory of deterrence and its implications for foreign policy have also generated many publications (Kissinger 1957; Schelling 1960; Kahn 1962; George and Smoke 1974; Smoke 1987; Jervis 1984, 1989, etc.). Some initial works on arms control after World War II include Brennan's *Arms Control, Disarmament, and National Security*, Bull's *The Control of the Arms Race*, Schelling and Halperin's *Strategy and Arms Control*, and Singer's *Deterrence, Arms Control and Disarmament,* to mention just a few (Brennan 1961; Bull 1961; Schelling and Halperin 1961; Singer 1962).

However, this kind of state-centric or politico/military-centric view of security is ill-suited to dealing with transnational terrorism, massive population movements, infectious diseases such as HIV/AIDS, and threats to the earth's environment, global issues that transcend the territorial boundaries of states. The collapse of the Cold War system that was based on the balance of fear between two superpowers has lessened the sense of imminent danger of a nuclear confrontation. As a result, other security concerns have become more conspicuous.

2. Security and Common Security

Even during the Cold War era, efforts were begun to broaden the concept of security by some scholars of international relations, among whom Barry Buzan is representative. With the intention of offering a "complement" to neo-realist Kenneth Waltz's *Man, State and War* (Waltz 1959), Buzan attempted to broaden the concept to include concerns in the non-military realm in his book entitled *People, States and Fear* (Buzan 1983, 1991).

Although the central theme of his discussion is the pursuit of freedom from threat by a state, Buzan explains that the security of human collectivities is affected by factors in five major areas: military, political, economic, societal, and environmental. Military security concerns the two-level interplay of the armed offensive and defensive capabilities of a state, and a state's perceptions of other states' intentions. Political security pertains to the organizational stability of states, their systems of government, and the ideologies that give them legitimacy. Economic security involves access to the resources, finances, and markets necessary to sustain acceptable levels of social welfare and state economic power. Societal

security entails the sustainability of traditional patterns of language, culture, religious and national identity, and customs. Environmental security, finally, concerns the maintenance of local environments and the planetary biosphere as the essential support systems upon which all other human enterprises depend. While these five factors are closely linked to each other, each "defines a focal point within the overall security problematique, and a way of ordering priorities" (Buzan: 18-19). In this way, Buzan attempted to broaden the scope and domain of the concept of security in order to include non-military concerns in the lexicon of security.

Buzan's efforts indicate the attempt by an IR theorist, even before the broader concept of human security emerged following the collapse of the Cold War system, to go beyond the purely military concept of security. Thus, before examining the impact of the broadened concept of human security on international relations theory, which is the theme assigned to this author by the organizer of this seminar, we may ask first, for instance, why security studies are so closely associated to military affairs. This may be partly explained as stemming from the systematic academic efforts made most extensively in the United States after World War II to construct IR theory, the focus of which was the causes of war with the realist perspective as the mainstream paradigm (C. Brown 2005: 28-31). It can also be attributed partly to the advent of nuclear weapons, as already discussed in the previous section. The "balance of terror" resulting from the situation of mutual assured destruction (MAD) by the nuclear weapons of the two superpowers prompted people to find ways free the world from nuclear threat. The concept of common security addresses that pursuit.

Common Security

The concept of common security challenged the logic of the realist's basic notion of the security dilemma. In an anarchical international society, or in the absence of centralized government of states, the increase of one country's security means the decrease in the security of others. According to John Herz, "Striving to attain security from attack, [states] are driven to acquire more and more power in order to escape the power of others. This, in turn, renders the others more insecure and compels them to prepare for the worst. Since none can ever feel entirely secure in such a world of competing units, power competition ensues, and the vicious circle of security and power accumulation is on"[3] (Herz 1950).

On the contrary, the concept of common security is based on the belief that no country can increase its own security without at the same time increasing the security of other countries. The Report of the Independent Commission on Disarmament and Security Issues (ICDSI) proclaims: "*A doctrine of common security must replace the present expedient of deterrence through armaments. International peace must rest on a commitment to joint survival rather than a threat of mutual destruction*" (Emphasis in the original.) (ICDSI 1982: 139) The two superpowers' nuclear confrontation required their "cooperation" to prevent pulling the trigger, particularly after both sides built up second strike capabilities (Jervis 1989). In fact, a hot line for direct communication to avoid a nuclear war was set up between the Soviet Union and the United States after the Cuban missile crisis of 1962 (Allison 1971, Nye Jr. 2007). Not only did the danger of nuclear war reinforce the Commission's concept of common security, economic and political interdependent

[3] Quoted in Karen Mingst (Mingst 2008: 208).

relationships between nations and different regions, too, supported the claim (ICDSI: 12). The concept of common security further assumes that the main threats to global security come not from individual states but from global problems shared by the entire global community, such as the threat of nuclear war and the destruction of the global environment (Porter and Brown 1996: 28). The proponents of this concept argue that global environmental problems and nuclear war constitute the two most serious threats to the future of humankind.

Japan's Concept of Comprehensive Security

A report on Japan's concept of comprehensive security shows one example of multi-sector security concerns. The opening statement of this report reads: "Security means protecting the people's life from various forms of threat" (Barnett: 1). In April 1979, the late prime minister Masayoshi Ohira requested that a task force led by Dr. Masamichi Inoki, former head of Japan's Defense Academy, carry out a study outlining a comprehensive national security plan for Japan. In July 1980, shortly after Ohira's unexpected death, the Report of the Concept on Comprehensive Security was submitted to Acting Prime Minister Masayoshi Ito. The report contains a conceptual definition of comprehensive national security, a discussion of the international situation and tasks to be faced, and analyses of specific issues.

Efforts required to address security concerns need to take place on three levels: to turn the overall international environment to a favorable one; to cope with threats autonomously; and as an intermediary measure, to create a favorable international

environment within a limited scope while promoting solidarity with countries sharing the same ideals and interests.

The specific issues include Japan-U.S. relations, defense capability, relations with China and the former Soviet Union, energy and food security concerns, countermeasures for large-scale earthquakes, and discussion of crisis management (Barnett: 1-6). Although the 1980 report introduced a concept of comprehensive security that remains within the traditional security framework, its authors were compelled to broaden their definition of security to include non-military concerns. The report addresses not only military but also the political and economic aspects of security. It stops short of referring to the social and environmental factors that are included in Buzan's concept of security, but it does address concerns about natural disasters. It urges, for instance, comprehensive countermeasures against large-scale earthquakes, such as in improving prediction techniques, as well as in strengthening emergency management capabilities at the national and local government levels.

3. Redefining the Concept of Security: "Environmental Security"[4]

There are four distinctive views of the relationship between ecology and security: traditional, semi-traditional, alternative, and eclectic. Traditional views are represented by the dominant social paradigm of the realist perspective and the idea of a politics of scarcity (Dyer: 22-40; Kegley and Wittkopf: 136). This idea is very similar to the state-centric view of security. According to the theory of the politics of scarcity, scarcity may develop into

[4] The following outline on ecological security is excerpted from my previous study (Ohta 1998: 154-56).

international conflict when there is restricted access to vital nonrenewable and renewable natural resources such as oil, coal, water as well as food. Thomas Homer-Dixion is representative of this school of thought (Homer-Dixon 1991, 1994). Other prominent environmentally concerned theorists and policy advocates who base their arguments in this conception of ecological security are Lester Brown and Jessica Mathews (Brown 1986; Mathews 1989). They stress that global environmental threats or social and/or political disorder can be caused by "environmental refugees" moving across national borders. Richard Ullman extends this concept of security to include natural disasters including earthquakes (Ullman 1983).

The View of the Copenhagen School, whose key concept is "securitization," attempts to go beyond the traditional conceptualization of security. When we attach the term "security" to certain issues, such as climate security, and if such designation is accepted by concerned community—local, national, or international, those issues take politics beyond the established rules and they are framed as a special kind of politics or as above politics (Buzan, Wæver and Wilde 1998: 23). "Securitization" is a more extreme version of politicization. According to Buzan, Wæver and Wilde, any public issue can be located on the spectrum ranging nonpoliticized (meaning there is non-public debate and decision) through politicized (meaning the issue incites public debate and demand governmental decisions) to securitized ("meaning the issue is presented as an existential threat, requiring emergency measures and justifying actions outside the normal bounds of political procedure") (Buzan et al. 1998: 31-2).

Thus, for instance, if a policy proposal on global climate change launched a

"securitizing move" by using the term or associating with climate security, it attempts to persuade the national and international public to recognize global climate change as an imminent threat. Whether or not this issue is finally "securitized" or not eventually depends on the general public's response. Since "securityness" relates to the future or to alternative futures, the policymakers and the public have to weigh one prediction with the other: "What will happen if we do not take 'security action,' and what will happen if we do" (Buzan et al. 1998: 32). Therefore, in the end, political decision has to be made. In any case, the notion of securitization enables to address non-military threats and treat non-national threats as the matters of security (Hugh 2008: 8). However, we have to dig the ground deeper to arrive at security concerns regarding the relationship between humans and the earth eco-system.

The alternative view of environmental security is framed from the ecological perspective and is based on Harold and Margaret Sprout's pioneering works in international relations, *The Ecological Perspective on Human Affairs* and *Toward a Politics of the Planet Earth* (Sprout and Sprout 1965, 1971). The ecological perspective envisages "international politics as a *system of relationships* among *interdependent, earth-related* communities that share with one another an *increasingly crowded planet* that offers *finite* and *exhaustible* quantities of *basic essentials* of human well-being and existence" (Sprout and Sprout 1971: 14) (emphasis in original).

Regarding the root causes of ecological crisis, this perspective points to "a transformation both in human capacity to cope with nature *and* in human attitudes toward

nature and other men" (Sprout and Sprout 1971: 25). In other words, rapid technological advancement and the "narrower engineering perspective" drive human beings to further exploit natural resources and reshape nature. The "engineering perspective" is that which results in the invention of new technologies without concern for side effects damaging to human health or the natural environment (Sprout and Sprout, 1971: 18). Similarly, according to the most current advocates of the ecological perspective, the prevailing social perspective reflects an industrial culture that shapes the structure of social institutions. In other words, "there is a general set of values, attitudes, beliefs, and perceptions that are shared by most members of industrial societies."[5] The proponents of this view of the ecology-security relationship argue that environmental security will demand changes in attitudes, beliefs, and perceptions if an environmentally secure world is to be realized.

The eclectic view, finally, revolves around the concept of "sustainable development," as articulated in the 1987 report of the World Commission on Environment and Development (Brundtland Commission). The commission called for radically different approaches to economic development, equity, resource management, and related issues in order to meet the challenge of a rapidly growing world population. Although it has acknowledged the necessity of development in order to break the vicious cycles linking poverty to population growth and environmental destruction, it has rejected unlimited development. The commission defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987: 8).

[5] Dennis Pirages, "Environmental Security and Social Evolution" (*International Studies Notes* 16/1: 8-13), cited by Dyer (Dyer 1996: 26).

Some caveats, however, should be mentioned regarding the notion of environmental security as an analytical concept in international relations. Although both military violence and environmental disasters kill people and destroy property, we do not normally regard an earthquake disaster or a destructive hurricane as a national security issue. Violence perpetrated by humans is highly intentional: "organizations are mobilized, weapons procured, and wars waged with relatively definite aims in mind, whereas environmental degradation is largely unintentional, the side effect of many other activities" (Deudney 1995: 448). Moreover, while people and their property may be protected from external threat by a highly centralized and hierarchical military organization, the environment can only be protected by the participation of everyone involved in preserving fragile ecosystems at national, regional, and global levels. The skeptics thus argue: "If everything that causes decline in human wellbeing is labeled a security threat, the term loses any analytical usefulness. … Because national security from violence and environmental habitability have little in common, the new fashion of linking them may create a conceptual muddle rather than a paradigm shift" (Deudney : 448).

We should be attentive to these caveats, but the consequences of global warming expose the peoples of small island states and states with long coastal areas to imminent danger to their survival due to the rising level of the sea. In this case, a general term like "environmental security" or a more particular term like "climate security" becomes useful in prioritizing the measures people and their communities can use to cope with environmental threats.

4. The Concept of Climate Security

The Impacts of Climate Change

The reports by Working Groups I and II for the IPCC Fourth Assessment Report have concluded that over the past hundred years the average temperature of the globe and sea levels have risen at an accelerating pace; that an enormous quantity of observational data demonstrates that the effects of climate change are occurring on a global scale, and that such warming is very likely (with a very high confidence level of greater than 90%) caused by anthropogenic emissions.[6]

Moreover, the IPCC concluded that there is a likelihood that climate change has contributed to the frequent occurrence of unusual weather phenomena over recent years. They include:

- Eleven of the past twelve years have been among the hottest years recorded since 1850.
- More than 35 thousand people died as a result of a heat wave that hit Europe in 2003.
- More than 2000 people died due to torrential rains in India and Bangladesh in 2004.
- More than 1700 people died as a result of damage caused by Hurricane Katrina in the United States in 2005.
- Due to a record-breaking drought in Australia in 2006, wheat harvests fell by about 60% from the previous year.

[6] As to the following information I referred to the IPCC's website available at http://www.ipcc.ch (30 June 2008).

According to the report of IPCC Working Group I, the global average temperature has already risen 0.74 degrees Celsius over the past 100 years, and under different scenarios is projected to increase by between 1.8 degrees (the best estimate for the low scenario, with a likely range between 1.1 and 2.9 degrees) to 4.0 degrees (the best estimate for the high scenario, with a likely range between 2.4 to 6.4 degrees) over 1980-1999 levels by the end of the 21st Century. The speed of sea level rise is expected to accelerate, and under the different IPCC scenarios is expected to rise a further 18 to 59 centimeters by the end of this century.

Working Group II projects that in the future, growing and severe impacts are anticipated in various sectors, including with respect to water resources, ecosystems, food production, and coastal areas, including the following:.

- By the middle of this century, water resources are projected to decrease by 10 to 30% in the mid-latitudes and arid tropical regions.
- With an increase of more than 1.5-2.5 degrees, there is a risk of extinction of some 20 to 30% of species.
- With a 1-3 degree rise of sea surface temperatures, coral bleaching and die-off events will occur frequently.
- With a 1-3 degree or greater increase in air temperatures, global food production is expected to decrease.
- By 2080, many millions of people would suffer impacts of annual flooding.

Moreover, while the costs and benefits from a lower than 1-3 degree temperature rise may balance out for certain regions or sectors, there is a high risk that the impacts from

temperature rises of greater than 2-3 degrees would have negative economic effects in all of the world's regions. However, as averaged calculations of worldwide effects are not able to capture many unquantifiable effects, there is a high possibility that impacts are underestimated. Additionally, the recent report for the Fourth Assessment Report by IPCC Working Group III reconfirmed that a 4-degree rise in the global temperature would lead to average losses of 1 to 5 percent of GDP.

The "Costs of Action" and the "Costs of Inaction"

It is significant that the Stern Review, which was tasked with calculating the costs of climate change, included consideration of the "costs of inaction." Moreover, the Stern Review found that such "costs of inaction" should be weighed against the "costs of action" when determining measures to take in response to climate change.

The Stern Review found that the "costs of action" would equal 1% of global annual GDP. However, the report of Working Group III for the IPCC Fourth Assessment Report concluded that "co-benefits" arising from such climate change response actions (through returning tax revenues to society, technological advancements, reductions in air pollution, and other effects), can be substantial and may offset such costs.

In contrast, the "costs of inaction" can be expected to equal at least 5% of global GDP, with a possibility of reaching 20% of GDP or more, a scale which the Stern Review Report noted would be as damaging as the two World Wars and the Great Depression experienced during the Twentieth Century. Thus, the Stern Review concluded that it is necessary to act immediately.

Governmental funds alone would not be sufficient to meet the costs of these response measures, equal to 1% of global GDP, or the costs to address losses of at least 5% of global GDP; it is clear that efforts will be needed that engage society as a whole, including measures that involve reforming economic and social structures.

Thus, as indicated in the IPCC Fourth Assessment Report and the Stern Review, climate changes are accelerating, and it is clear that if prompt actions are not taken, all nations face the threat of irreversible and severe damage.

The Concept of Climate Security

The term climate change has begun to be used at international fora, in a diplomatic world and policy-making circles, at least, in developed countries. The former Secretary General Kofi Annan's address to the Climate Change Conference in Nairobi, in November 2006, global climate change is considered "an all-encompassing threat."[7] He includes a threat to health, food supply, the foundation of life (threat of sea level rise and natural disasters), peace and security. He further maintains: "Global climate change must take its place alongside those threats—conflict, poverty, the proliferation of deadly weapons…"[8] Similarly, the current UN Secretary General Ban Ki-moon regards climate change as not merely an environmental problem but a serious social and economic issue. He also indicates that climate change along with energy scarcity has "implications for peace and security."[9]

At the First Session of the 110th Congress, the Biden-Lugar Resolution called on the

[7] Kofi Annan, "Frightening Lack of Leadership on Climate Change," in Nairobi, 15 November 2006, SG/SM/10739, ENV/DEV/904
[8] Ibid.
[9] Ban Ki-moon, "Climate Change requires Long-term Global Response" at the United Nations Security Council, 17 April 2007, SG/SM/10949, SC/9001, ENV/DEV/921

government to address global climate change by returning to international negotiations. This resolution recognizes that the potential impacts of global climate change such as "long-term drought, famine, mass migration, and abrupt climatic shifts" may generate international conflicts closing related to U.S. national interests.[10] Likewise, in September 2006, Margaret Becket, then British Secretary of State for Foreign Affairs, gave a speech in front of American business community on "Climate Security: Risks and Opportunities for the Global Economy."[11] After identifying several impacts of climate change, she maintained: "…climate insecurity means greater global insecurity." Then, she urged business to rise to this challenge by saying "It (climate insecurity) makes managing commercial risk much harder. And it means tackling global warming is a business imperative, not a business choice. And the second equally basic commercial imperative for action: staying competitive."[12]

One of the policy studies of Japan's Ministry of the Environment attempts to conceive climate change as a security concern (Ministry of Environment, 2007). According to this study entitled *Report on Climate Security* (hereafter the *Report*), the threats from climate change are all-encompassing including threats to food production, public health, economic activities and ecosystems. The economic and social damages caused by abnormal weather events are becoming increasingly more destructive than before and hit hard poor and vulnerable people and their communities. The sea-level rise adds an extra stress to these people and communities. At the worst scenario, the sea-level rise compounded with other

[10] The Biden-Lugar Resolution, 110th Congress 1th Session, S.RES.
[11] A Transcript, September 21, 2006, Council on Foreign Relations, New York, NY. It is available at http://www.cfr.org/publication/1511/climate_security.html. (Retrieved on February 15, 2007)
[12] Ibid.

environmental degradation may force the people to abandon their communities and to migrate to some other places as "environmental refugees." The *Report* also suggests that the sea-level rise might cause some territorial disputes, for example, dues to the alterations of exclusive economic zone as a result of the submergence of territorial islands or the erosion of the seashore. Therefore, the *Report* argues, the impacts of various threats of climate change "can be expected to build on one another, potentially leading to conflicts between nations" (Minister of the Environment 2007: 19).

As to the usefulness of the concept of climate security, according to the *Report,* "framing the climate change issue as a security-related concern raises the political priority placed on the issue both domestically and internationally" (op. cit.). If nations, international community, corporations and citizens share the growing and imminent threats of climate change, the policies and measures both to mitigate climate change and to adapt to climate change will be given a higher policy priority domestically and internationally. The policies and measures for reducing greenhouse gas emissions are taken globally so as to seek to establish a low-carbon society. The concept of climate security may also help promote international technological and financial transfer from developed countries to developing countries. Moreover, the recognition of climate security might generate the sense of international solidarity and may promote international actions to assist "adaptation measures" for low-lying and island nations and other countries vulnerable to the consequences of climate change such as the sea-level rise. Finally, the Report suggests that the wide spread of the awareness of climate security may exert pressures to the large emitters' nations to actively join international efforts to stabilize the global climate system.

EU's paper from the High Representative and the European Commission to the European Council entitled "Climate Change and International Security" also addresses the issue of security threats from climate change. According to the title of the contents of this report, it lists up seven major concerns relating to climate change. They include: (1) conflict over resources; (2) economic damage and risk to coastal cities and critical infrastructure; (3) loss of territory and border disputes; (4) environmentally-induced migration; (5) situations of fragility and radicalization; (6) tension over energy supply; (7) pressure on international governance.[13] This report as well takes a comprehensive approach to address security concerns about the consequences of climate change.

Having mentioned to the concept of climate security, now let us turn to another recent attempt for broadening the scope of the concept of security by human security.

4. Various Concepts of Human Security

The concept of human security was first introduced in official parlance in the UNDP *1994 Human Development Report* (UNDP 1994). The Report succinctly points out the necessity of going beyond realist IR scholars' conceptualizations of security: "The concept of security has been far too long been interpreted narrowly: as security of territory from external aggression, or as protection of national interests in foreign policy or as global security from the threat of nuclear holocaust. . . .Forgotten were the legitimate concerns of ordinary people who sought security in their daily lives" (UNDP 1994: 22). However, the Report's definition of human security begins to lose its lucidity as it goes on to refer to all

[13] The High Representative and the European Commission to the European Council (113/08), http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/reports/99387.pdf.

the risks and dangers that people encounter in their daily lives. According to the 1994 Report, "human security means: safety from such chronic threats as hunger, disease and repression; and protection from sudden and hurtful disruptions in the patterns of daily life—whether in homes, in jobs or in communities" (UNDP 1994: 23).

Having set an inclusive definition of human security, the 1994 Report includes seven specific elements that comprise human security: economic security (e.g., freedom from poverty); food security (e.g., access to food); health security (e.g., access to health care and protection from disease); environmental security (e.g., protection from such dangers as environmental pollution and depletion); personal security (e.g., physical safety from such things as torture, war, criminal attacks, domestic violence, drug use, suicide, and even traffic accidents); community security (e.g., survival of traditional cultures and ethnic groups as well as the physical security of these groups); and political security (e.g., enjoyment of civil and political rights, and freedom from political oppression). When we ponder on what this list of human security means for the theory of international relations, they go beyond the realm of the analytical scope and domain of international relations. Certainly, IR theory has to be able to address the issues of the ever-widening gap between the rich and poor nations, world hunger, and various aspects of human rights, but it is not appropriate for IR theory to address issues such as domestic violence, suicide, and traffic accidents.

In a similar vein to the UNDP's conceptualization of human security, the Commission on Human Security attempts to promote the practical usage of the concept of human security in such a way that it can work to give priority to human suffering. The

Commission's definition of human security is "to protect the vital core of all human lives in ways that enhance human freedoms and human fulfillment" (Commission on Human Security 2003: 4). With regard to state security, it is said that human security complements "state security" in the following four respects: more focus on the individual and the community than the state; inclusive of threats to and adverse circumstances of people (and community) that have not necessarily been regarded as threats to state security; inclusive of non-state actors; by requiring the empowerment of people in order to "fend for themselves" (Commission on Human Security 2003: 4).

The core of the Commission's human security is the people-centered approach in that "human security shifts from focusing on external aggression to protecting people from a range of menaces." While considering military threat from external forces one of the major menaces to human security in the traditional sense, it also includes "protection of citizens from environmental pollution, transnational terrorism, massive population movements, such infectious diseases as HIV/AIDS and long-term conditions of oppression and deprivation." The actors engaged in human security, in this view, range from states, regional and international organizations, NGOs and civil society. Securing people also entails empowering people and societies since people can directly cope with insecure situations by finding and implementing solutions. Even in post-conflict situations, empowered people and communities can work together with diverse constituents to rebuild their communities. Thus, according to the Commission, "Human security and state security are mutually reinforcing and dependent on each other. Without human security, state security cannot be attained and vice versa. Human security requires strong and stable

institutions. Whereas state security is focused, human security is broad" (Commission on Human Security: 6).

No one would deny the importance of a comprehensive approach or a people-centered approach to ensuring human security. However, as in the case of the term environmental security, as mentioned by Deudney, if all kinds of menaces to human well-being are included as threats to human security, the term loses its analytical usefulness. In addition, many of the issues that human security addresses overlap with developmental issues. How useful and practical is it to activate and substantiate developmental programs in which the concept of sustainable development has long been considered the guiding norm under the concept of human security? Perhaps the concept of human security can contribute to the betterment of human well-being by helping to elevate the order of priority for developmental issues.

Finally, the Canadian concept of human security deserves special attention. It is defined as "freedom from pervasive threats to people's rights, safety or lives" (Canadian Foreign Ministry). Above all, the notion of "responsibility to protect" points to more focused concern with human security. The International Commission on Intervention and State Sovereignty (ICISS) published a report entitled *The Responsibility to Protect* (ICISS 2001). The basic principles the report enunciates include: "(1) State sovereignty implies responsibility, and the primary responsibility for the protection of its people lies with the state itself; and (2) Where a population is suffering serious harm, as a result of internal war, insurgency, repression or state failure, and the state in question is unwilling or unable to halt or avert it, the principle of non-intervention yields to the international responsibility to

protect" (ICISS 2001: XI).

According to this report, the foundations of these principles lie in: "(1) obligations inherent in the concept of sovereignty; (2) the responsibility of the Security Council, under Article 24 of the UN Charter, for the maintenance of international peace and security; (3) specific legal obligations under human rights and human protection declarations, covenants and treaties, international humanitarian law and national law; (4) the developing practice of states, regional organizations and the Security Council itself" (ICISS 2001: XI).

As to what kinds of action states can take in order to take responsibility for providing human security, the report identifies three specific responsibilities. The first is the *responsibility to prevent*, which addresses "both the root causes and direct causes of internal conflict and other man-made crises putting populations at risk." The second is the *responsibility to react*, in other words "to respond to situations of compelling human need with appropriate measures, which may include coercive measures like sanctions and international prosecution, and in extreme cases military intervention." The last, the *responsibility to rebuild* relates to the efforts of peace building. The responsibility is "to provide, particularly after a military intervention, full assistance with recovery, reconstruction and reconciliation, addressing the causes of the harm the intervention was designed to halt or avert" (ICISS 2001: XI).

The Canadian approach to human security is more narrowly focused compared with the abovementioned notions advocated by the UNDP and the Human Security Commission. However, the situations in which international society should intervene in the internal affairs of sovereign state are still too broad and too controversial to take responsibility to

protect. The situations include where people are suffering from serious harm “as a result of internal war, insurgency, repression or state failure, and the state in question is unwilling or unable to halt or avert it.” It is quite difficult to decide when and how to intervene in the internal affairs of a sovereign state. Moreover, it is still controversial for the Canadian notion of human security to include military means for humanitarian intervention. Although humanitarian intervention through the UN system has not gained full support in international society, it is necessary to follow the due processes of UN collective security measures as stipulated in the UN Charter.

5. The Intersection between Climate Security and Human Security

The impacts of climate change have now constituted political, economic, societal and environmental threats to the international community. For small islands states and the sates which have many lowlands, climate change has become an issue of national survival.

There are two major policy clusters to tackle the problems of climate change: that is, mitigation and adaptation. The UN Framework Convention on Climate Change and the Kyoto Protocol are the international instruments for the mitigation of climate change. On the supply side of economy, various policy-options can be taken to arrest anthropogenic global warming that allegedly causes global climate change. First of all, we can switch the major energy sources from coal to oil to natural gas while making efforts to improve energy efficiency of various sources of greenhouse gas emissions such as power plants and steel mills. We can also increase the use of alternative energy sources to fossil fuels, or renewable resources including biomass, solar, wind, hydrology, geothermal and so on. In

the long run, the massive technological approach such as carbon dioxide sequestration (carbon capture and storage: CCS) is now considered seriously. Renewed interests in nuclear energy as one of the policy-options to arrest global warming is now gaining a momentum though heavy reliance on nuclear energy is not necessarily desirable from the aspects of sustainable development simply because of the lack of firmly established ways and means of storing nuclear wastes for a long period of time. Regarding the demand side, modal shift, for instance, from individual car to public train systems is one of vital policy-options to mitigate climate change. Moreover, the improvement of energy efficiency of commercial and residential buildings can also contribute to the mitigation of climate change. In addition, afforestation, reforestation and decreasing deforestation as well as improved forest, cropland and rangeland management are altogether consisting of a policy package relating to land-use, land-use change and forestry (Article 3 of the Kyoto Protocol).

Policies and measures for the adaption to climate change have something to do with agriculture and food security; hydrology and water resources; coastal and low lying areas, natural ecosystem, biodiversity, human health and human dimensions.

The measures for agriculture and food security aim at increasing adaptive capacity by modifying farming practices, improving crops and livestock through breeding and investing in new technologies and infrastructure (IPCC 2007: 476). Regarding hydrology and water resources, conversion of cropland to forest (grassland), restoration and re-establishment of vegetation, improvement of the tree and herb varieties, and selection and cultivation of new drought-resistant varieties are effective to prevent water scarcity due to climate change.

One of concrete examples is water saving schemes for irrigation to be enforced to avert water scarcity in regions already under water stress (IPCC: 490).

The response to sea-level rise for coastal and low lying areas could mean protection, accommodation and retreat. Protection as one of the adaptation measures means the dike heightening and reinforcing the dike. More long-term and comprehensive adaptation measures include, for instance, the strategy of integrated coastal zone management (ICZM), which provides an effective coastal protection strategy to maximize the benefits provided by the coastal zone and to minimize the conflicts and harmful effects of activities on social, cultural and environmental resources to promote sustainable management of coastal zones. The ICZM is a central organizing concept in the management of fisheries, coral reefs, pollution, megacities and individual coastal systems in China, India, Indonesia, Japan, Korea, the Philippines, Sri Lanka, Vietnam, and Kuwait.(IPCC: 491)

Adaptation measures for natural ecosystem and biodiversity also requires a comprehensive inter-sectoral approach that combines measures to control deforestation and forest degradation with measures to increase agricultural productivity and sustainability. Other measures include a traditional practice of “extending rotation cycles, reducing damage to remaining trees, reducing logging waste, implementing soil conservation practices, and using wood in a more carbon-efficient way such that a large fraction of their carbon is conserved” (IPCC: 491).

The essential part of adaptation measures for human health is to create the disease monitoring system by identifying the potential impacts of climate change and its impacts on human health. Above all, the monitoring of diseases along with related ecological factors is

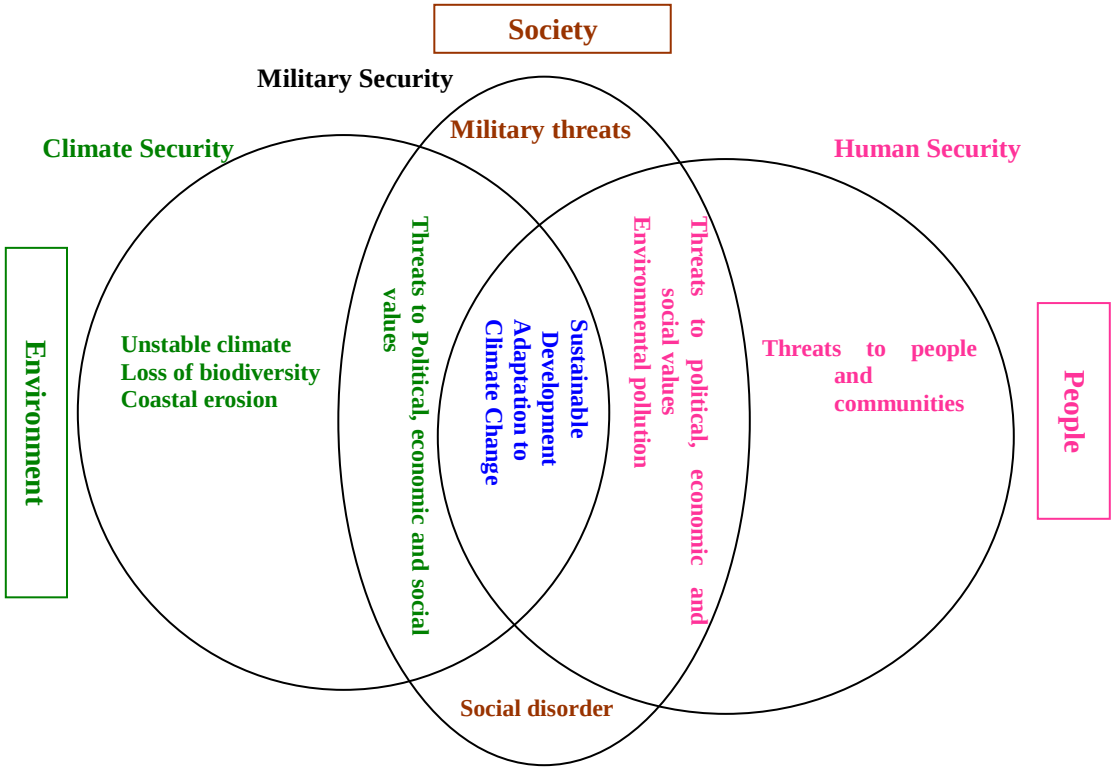
necessary because of complicated and delicate relations between weather factors and vector-borne diseases (IPCC: 491). Finally, adaptation measures for human dimensions address the issues of rapid population growth, urbanization and weak land-use planning in rural areas. These factors often force poor people to migrate from rural to urban areas, or to fragile and high-risk areas, which are very vulnerable to natural disasters. Thus, raising awareness about the dangers of climate extremes and reconstructing a community of migrants are prerequisite to build an adaptive capacity for poor people. The Asian Disaster Preparedness Center in Bangkok, which is a community-based disaster management program, is a good example of human dimension's adaptive measures to reduce vulnerability and to strengthen people's capacity to cope with hazards (IPCC: 491-2).

It is striking to notice that above mentioned policies and measures for the adaptation to climate change is identical with those of human security á la UNDP and the Human Security Commission, which in turn resemble those of sustainable development. Furthermore, there are many commonalities in overseas aid activities for sustainable development and adaptation to climate change. Indeed, human security emphasizes the importance of capacity building of people and community (UNDP and Human Security Commission).

With including all the aspects of security, the following figure (Figure 5.1) tries to map the relationships among military security, climate security and human security by identifying different as well as common threats belonging to each security concern. In the area, which is overlapped by all three security concerns (the core part of three circles), indicates that the policies and measures for climate security (adaptation) and human

security (sustainable development) are identical. In addition, the same core area also suggests that proper policies and measures for adaptation and sustainable development—with their successful implementation--can eradicate the root causes of military threats and social disorder.

Figure5.1: Security, Climate Security and Human Security



Conclusions

Since this is still a preliminary study of the impact of the concepts of climate security and human security on international relations theory, it does not attempt to present any conclusive judgments. Rather, it provides an overview of the concept of security in international relations theory. Mainstream conceptualizations of the term security have been state-centered and mainly related to military security, as is compatible with the realist views

of international relations, above all, the Hobbesian view of "warre of every man against every man" (Hobbes 1967: 110). However, even during or because of the Cold War, various efforts to broaden this narrow conceptualization of security were begun. They include Buzan's security study, the concept of common security, comprehensive security, and environmental security, as touched on above. On top of all these efforts, the concepts of climate security and human security add another effort to broaden the concept of security, stressing particularly the importance of the people-centered approach and all-encompassing nature of climate security.

However, as the skeptics question the usefulness of the concept of environmental security, "if everything that causes decline in human wellbeing is labeled a security threat, the term loses any analytical usefulness" (Deudney: 448). This caveat can be applicable to the all-inclusive nature of climate security and human security as well. One IR scholar suggests that human security has too many aspects to guide a coherent practical program and to carry out both empirical and even normative studies (Paris 254). It can be said the same thing about the concept of climate security.

Nevertheless, the concepts of climate security and human security can well capture the various facets of the threats faced by humankind and contribute to raising awareness of root causes of armed conflicts. It can also help elevate the priority order of developmental issues. Policy recommendations for dealing with climate security (policies and measures for adaptation to climate change) and human security (policies and measures for sustainable development) may overlap and lead to inefficient use of scarce resources. On the contrary, if they are implemented in an efficient and integrated manner, they might further promote

policy priority for environmental and human security. Finally, under the category of human security, it may help to generate various military and non-military as well as non-state security studies, although the concept itself may hardly generate systematic and empirical study.

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