ENVIRONMENTAL SCARCITY AND GLOBAL SECURITY: THE ASSESSMENT OF ENVIRONMENT RELATED CONFLICTS IN BANGLADESH, SENEGAL-MAURITANIA, PHILIPPINES AND EL SALVADOR

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Abstract

Environmental threats and conflicts have become the epicenter of many problems we now face globally. The environmental problems do not concern just poor people in Third World countries, but also people in all over the World. This paper touches upon the significance of environment related problems in terms of global security. For this purpose it assesses some environmental conflict cases and discusses the importance of global cooperation to eliminate the environment related conflicts.

Keywords: Environmental security, environmental scarcity, environmental conflict, global security

> *"Growing scarcities of renewable resources can contribute to social instability and civil strife"(Homer-Dixon, 1993)*

Introduction

We are living in a world that has limited renewable resources. As Dixon mentioned above, renewable resources are of utmost importance for global security. In this vein, environmental security problems such as drought, erosion and climate change can cause negative impacts for renewable resources of the globe.

Environmental security is a new phenomenon of the last decades. Understanding of the relationship between environment and security has evolved in the last quarter of 20th century. Before World War II, the concept of security was about the protection of territory against external powers and protection of the national interest. Because of international anarchy and the lack of trust between states, states had to arm to protect themselves and their

national security interests (Homer-Dixon, 1993). The creation of many new independent states after World War II in many parts of the world changed the concept of security from national security to other formulations. In these newly established states, people was insecure not because of the international wars but because of the wars occurring in their states especially arising from scarcities in renewable resources. Moreover, people's fears were mostly related to "threat of disease, hunger, unemployment, crime, social conflict, political repression and environmental hazards" (UNDP, 1994). The world has become more threatened by the environment and it has become more unstable for human life than before. In this regard, traditional national security notion was not sufficient for a safer world (Fell, 2006).

The concept of environmental security first emerged in the Brundtland Commission Report of 1987. In this report, environmental problems were seen as a threat for human activity. Today, environmental security has become an important issue in terms of sustainable development.

This paper discusses environmental security concept with its all aspects. For this purpose, it will first touch on the definition of environmental security and then explain the environmental security approaches. Thirdly, it will mention about the causes of environmental conflicts. After that, some examples of environmental conflict cases will be given. Finally, it will conclude by discussing the *"Are the environmental threats and conflicts a regional problem?" and "how can we eliminate these environmental threats and conflicts?"* questions.

What is Environmental Security?

There are several definitions for the concept of environmental security. All these definitions point out the relationship between natural source scarcity and human safety. According to Varshney's definition environmental security "is concerned with relative safety from environmental change caused by natural or human processes due to ignorance, accident, mismanagement or design and originating within or across national borders" (Varshney, 2005). Moss defines environmental security as

> "the condition, which exists when governments are able to mitigate the social and political impacts of environmental scarcity of resources, drawing on their own capabilities as well as the capabilities of inter-governmental and non-governmental organizations . . . Environmental security is thus a function of three sets of factors: (a) current and projected levels of resource exploitation, (b) the social and political impacts of scarcity, and (c) the response capabilities that are available to mitigate the effects of scarcity" (Moss, 1992).

Environmental security is defined as a concern with "the maintenance of the local and planetary biosphere as the essential support system on which all other human enterprises depend" (Buzan, 1991). Environmental security is "a concern with human vulnerability to natural resource scarcity created by human and/or natural process" (Carr, 2005).

The concept of environmental security first emerged in the Brundtland Commission Report in 1987 but it is first popularized under the concept of human security in 1994 Human development report of the UNDP. In this report, environmental security mentioned as a component of human security (Fell, 2006). Human security has emerged because traditional concept of national security wasn't sufficient for living in a safer world. Human security aims the protection of people from threats, "building on their strengths and aspirations" (CHS, 2003).Human security is a concern with "human life and dignity" (UNDP, 1994) and its referent object is the individual or groups of people (Fell, 2006).

Human security is the product of the Middle Powers' (such as Canada and Norway) conception of "responsibility to protect". Middle Powers claimed that states must provide their citizens with freedom from fear and freedom from want (Fell, 2006).

According to 1994 UNDP Human Development Report, there are seven components of Human security. These are;

- Economic security,
- Food security,
- Health security,
- Environmental security,
- Personal security,
- Community security,
- Political security (UNDP, 1994).

As it can be seen from the above, the concept of environmental security was seen as a component of human security in 1994 Human Development Report. On the one hand, if environmental security is assessed from human life and dignity points of view, as indicated in 1994 Human Development Report, then it can be seen as environmental security is related to human security. On the other hand, environmental security is also seen as a national security problem by some scholars. These scholars indicate that environmental security is a national security problem. Carter's approach to environmental security "simply adds the 'environment' to the list of potential threats to the external security of individual sovereign states" (Carter, 2007). In this regard, because of being a potential problem that may cause conflicts between states, the environment should be seen as a national security issue.

Causes of Environment Related Conflicts

According to the studies commissioned by the University of Toronto and the American Academy of Arts and Sciences, it was found that many conflicts occurring in the world were caused by the scarcities of renewable resources(Homer-Dixon, 1993). These conflicts may be the indicators of future civil or international strife that our world will face over the next few decades arising from below mentioned projections. Homer-Dixon claims that within the next 50 years,

> "the human population is likely to exceed nine billion, and global economic output may quintuple. Largely as a result of these two trends, scarcities of renewable resources may increase sharply. The total area of highly productive agricultural land will drop, as will the extent of forests and the number of species they sustain. Future generations will also experience the ongoing depletion and degradation of aquifers, rivers and other bodies of water, the decline of fisheries, further stratospheric ozone loss and, perhaps, significant climatic change" (Homer-Dixon, 1993).

Scarcities of water, arable land, and forests will cause great hardship with growing population. According to a contemporary projection of Population Action International (PAI), World population will increase from 7 billion in 2011 to a number between 8.1 billion and 10.6 billion by 2050. The increase in human population will decrease cropland and water availability, and so food production. In this respect, PAI asserts that the number of people living under water-scarce conditions will increase from 397 million in 2010 to 2.1 billion by 2050 and the number of people living under cropland-scarce conditions will increase from 508 million in 2010 to 1.3 billion by 2050. In addition, the number of people living in countries with low forest cover will increase from 2.3 billion in 2010 to 4.1 billion by 2050 (PAI, 2012).

On the one hand scarcities arising from environmental change and population growth are of high importance for the environmental security. On the other hand elite's behavior about controlling productive resources (which is called as "resource capture") and their exclusion poorer communities from these resources (which is called as "ecological marginalization") are also important for the environmental security. As a result of "resource capture" and "ecological marginalization", poor people may resist to the marginalization of elites or being displaced by elites, they may move into displaced fragile, marginal environments. Both of these situations are among the reasons for conflicts resulting state failure and political violence "in developing states where insurgencies are fueled by grievances related to injustice and inequity" (Brown, 2005). In this respect, controlling of productive resources by marginal groups, poor people's displacement,

insurgencies fueled by grievances and scarcities in renewable resources result in intrastate conflicts. Humor states that scarcities of renewable resources are caused by human actions in three ways. These are indicated as below;

- Reducing the quantity or degrading the quality of these resources faster than they are renewed.
- Population growth.
- Changes in distribution of a resource (Homer-Dixon, 1993).

Hauge and Ellingsen explain the causes of environmental conflicts with five hypotheses. The first three of these hypotheses are based on Homer-Dixon's model (Hauge, 1998). The causes of conflicts are explained like below;

- States experiencing land degradation are more prone to intrastate conflicts.
- States experiencing deforestation are more prone to intrastate conflicts.
- States with low water availability per capita are more prone to intrastate conflicts.
- States with high population density are more prone to intrastate conflicts.
- States with high income inequality are more prone to intrastate conflicts.

Furthermore, the approach proposed by the International Peace Research Institute in Oslo (PRIO) argues that when "different groups attempt to gain control of abundant resources", it results in conflicts occurring in many developing countries (Hull, Barbu, & Goncharova, 2007). According to this approach, dependency upon the export of primary commodities makes the states more prone to the conflicts than other poor countries especially when economic decline occurs.

Environmental Conflict Cases

In this part four different conflict cases will be examined in order to put forward how environmental insecurities can cause serious global security problems.

Bangladesh Case: Population Growth

Bangladesh has vast floodplains and large extent of arable land and therefore it does not suffer from lack of available cropland. Its main problem is its population growth. Because of its huge population, available cropland per capita is about 0.08 hectare in Bangladesh and this amount is desperately scarce for Bangladeshi people. Bangladesh's population density is 785

people per square kilometer. On the other hand, population density in the adjacent Indian state of Assam is about one-thirds of the Bangladesh population. Because of inadequate national and community institutions for water control, flooding causes the lack of land and therefore poverty (Homer-Dixon, 1993).

Bangladesh's population is about 120 million according to 1993 data, and it will reach 235 million by the year 2025. The amount of available cropland will decrease to 0.04 hectare per capita by 2025 because of this population growth. This means the amount of arable land per capita will be cut by population growth by 2025 (Homer-Dixon, 1993).

As a result of above mentioned problems, millions of people have migrated from Bangladesh to neighboring areas of India for a better life over past forty years. Because of Bangladeshi peoples' movement for a better life, the population of neighboring areas of India has expanded by 15 million.

This huge flow of Bangladeshi peoples has caused social changes in the hosting Indian states. Changing the land distribution and the balance of political and economic power between religious and ethnic groups because of this flux resulted in conflicts. For instance, members of the Lalung tribes people massacred nearly 1,700 Bengalis in one five-hour rampage in the village of Nellie (Swain, 1996).

Senegal and Mauritania Case: The Water Dispute

Senegal lacks of abundant agricultural land, and much of these lands suffer from wind erosion, and loss of nutrients, salinization arising from over irrigation. Its overall population density is 380 people per square kilometer and with a 2.7 percent population growth rate its population will be doubled in 25 years. In comparison Mauritania has mostly arid desert and semiarid grassland. On the other hand it has very low population density. Although its population density is 20 people per square kilometer, it cannot support its population because of very low arable land. In sum both countries face with lack of arable land for their populations (Homer-Dixon, 1993).

In 1989, Senegalese government announced a project named the Fossil Valley Rehabilitation Project to increase its available land for agriculture. This project was going to be implemented by Senegalese government in the near future, and therefore it threatened Mauritanian people "by the thought of reduction to their water supply and its misuse" (Kneib, 2002).

The water dispute between Mauritanians and Senegalese began in the spring of 1989 in the Senegal River valley which is in the border of these two countries. The killing of Senegalese farmers by Mauritanians triggered an ethnic explosion in Senegal. Hundreds of people were killed and 17,000s of Mauritanian shop–owners were deported. At the same time, members of

the white Moor elite of Mauritania seized the land of the black Mauritanian peasants in the river valley, and expelled 70,000 of them to Senegal (Homer-Dixon, 1993).

Philippines Case: Maldistribution of Good Cropland

The Philippines was a former Spanish and American colony. Spanish and American colonial polices caused inequitable distribution of land in the Philippines. As it mentioned before in the environmental approaches part, unequal access to resources causes conflict.

In the Philippines unequal access to resources and increasing population growth combined with the maldistribution of good cropland, leaded to an economic crisis and a surge in agricultural unemployment in the first half of the 1980s.

Because of this unemployment, "millions of poor agricultural laborers and landless peasants have migrated to shantytowns in already overburdened cities, such as Manila; millions of others have moved to the least productive and often most ecologically vulnerable territories, such as steep hillsides" (Homer-Dixon, 1993).

In the upland regions, people caused to deforestation by their small-scale logging, charcoal production and slash-and-burn farming. As a result of deforestation, erosion and, landslides occurred and hydrologic patterns of this region changed and therefore food production rate decreased. Peasants had difficulty in finding arable land. At last, these landless peasants entailed conflicts in the country.

El Salvador Case: Deforestation

William H. Durham of Stanford University indicates that changes in agriculture and land distribution beginning in the mid-19th century resulted in concentration of poor farmers in El Salvador's uplands. These poor farmers realized the worth of land and they used it with deliberative methods. On the other hand, their growing numbers on very steep hillsides resulted in deforestation because of the activities such as small-scale logging and slash-and-burn farming. Because of the erosion arising from deforestation, most of the arable land became useless. In addition, 3.5 percent of natural population growth rate further reduced land availability. Many people moved to neighboring Honduras for a better life because of lacking of arable land in their country. "Their eventual expulsion from Honduras precipitated a war in which several thousand people were killed in a few days" (Homer-Dixon, 1993).

Conclusion

Today, in an age of rapidly growing industrialization, the natural systems of the planet are being degraded by growing human population, and therefore it causes a new realm of environmental insecurities. Broadening threats such as infectious disease, massive population movements and the danger of environmental pollution cause internal conflicts (CHS, 2003). Intrastate conflicts occur more frequently than interstate conflicts and, thus, intrastate security has become a more important security than national security (DoD, 2006). Although environmental conflicts arising from the scarcities of renewable resources and environmental degradation are mostly seen in poor countries, it should not be seen as these problems are regional and they don't affect us globally, instead it must be seen as a global threat.

Environmental insecurities cause the countries to become a failed or a fragile state, because these states' poverty is generally caused by having insufficient arable lands for agriculture and by having scarcities of renewable and natural resources. Poverty arising from especially the scarcities in renewable resources and environmental degradation is the key root cause of conflicts and therefore "in the absence of economic development neither good political institutions nor ethnic and religious homogeneity, nor high military spending provide significant defenses against large-scale violence" (Collier, 2003).

As a result of poverty arising from especially the scarcities in renewable resources and environmental degradation, poor people becomes refugee or IDP for a better life. Refugees and IDPs in failed and fragile states are a global security threat. According to a recent study, from the mid 1960s to 2003, the total number of refugees and IDPs in the world has increased from about 5 million to 33 million (HSC, 2005). Most displaced persons are IDPs in the world today. In 2003, approximately 70 percent of total displaced persons (about 24 million) were IDPs. When refugees returned to their home country they became internally displaced persons because their home country was not secure for them anymore (HSC, 2005). On the other hand, Refugee/IDPs are not only a destabilizing factor for failed and fragile states in their countries but also a crucial destabilizing factor for host countries.

Because of above mentioned problems, environmental threats and conflicts have become the epicenter of many problems we now face globally. To prevent such threats and conflicts, states should work on reducing these scarcities and take the responsibility to protect their natural resources and the environment. They should develop and implement environmental sustainability programs. They should lead in policy development and enforce regulations and international agreements. For this purpose, environmental security should be part of all ministries and organizations of the national governments. At the same time, environmental security should be a crucial

part of a nation's foreign policy. At the national level, the Ministry of the Environment should have the same importance and significance as the Ministry of Interior, for example.

The environmental problems do not concern just poor people in Third World countries, but also people in all over the World. Therefore, rich and poor countries must cooperate together. The developed countries should strengthen the developing countries by technology transfer. Moreover, global institutions should make effective policies on these poor countries to restrain population growth and to provide equal distribution of wealth within and among their societies. For this purpose, UN agencies, IGOs, NGOs, and National governments should coordinate with each other and this coordination should be a political entity above the level of the state. With the leadership of UN agencies, a new environmental security policy must be developed by all these players. In this context, a plan came into action in 1982 to reduce pollution problem around the Mediterranean Sea can be given as an example. This plan was first was initiated in 1975 by the UNEP and formulated 17 Mediterranean countries. In sum, as in the previous example and also as it was indicated in Brundtland Report in 1987, what is needed to ensure sustainable development is the global cooperation.

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