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Studying climate change impacts and consequences on global security

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Today, security is the most important and obvious example of fundamental human rights. In circumstances that most of peoples' lives are exposed to threats and insecurity like wars, floods, tsunamis, and food and water shortages, these people cannot benefit from their rights; and if observing human rights is necessary, security rights of affected people should be guaranteed. There is a determined relation between security and living rights on one side, and freedom rights in the other. In addition to the impacts of climate change on peoples' lives in different ways such as losing agricultural lands, it disrupts security in some parts of the world by creating conflict and contention and prevents realization of human rights and support of individual security. This research attempts to explain the impacts of climate change on economic, social, environmental, and human security that as a new in security arena, and to define international organizations' roles in creating global peace.

Key words: Security, Global Warming, Peace, Millennium

INTRODUCTION

Climate change is a continuous chain. This chain is initiated from development activities especially using fossil fuels, and has various consequences. We have studied mostly on the amount of greenhouse gas production, its control, and finally, its resulting phenomenon such as earth warming, sinking settlements, storms, floods or droughts, whereas the most severe disasters will occur in the future. Of estimated 262 million affected by climate change in 2000-2004, over 98% are in developing countries (Morine and Patino, 2010). These impacts can cause threats against security from the smallest regional land to the wider field namely global security. Based on assessments carried out in 2007 by

climate change inter-governmental organization, there are three main principles capable of creating security consequences: destruction of grain fields, fresh water shortage, and population immigration (Raleigh and Urdal, 2007).

Most case studies in North Pakistan [Matthew Richard, 2001], South Asia (Najam, 2003), Niger Delta (Mochizuki, 2004), Pacific Islands (Cocklin and Keen, 2000), and Ethiopia (Haile, 2004) represent environmental changes as important factors in weakening human security. In the recent 50 years, defensive concepts changed from total defense to social security, exhibition of forces and crisis management. Crisis management is an approach to maintaining security and preventing struggle, protecting forces and their exhibition are the three other approaches. Therefore, this management is to respond to real threats (Houben, 2005). In the meeting of United Nations countries in September the year 2000, the

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biggest goals were determined for developing human communications and the countries were committed to do all that is required to reach these aims until 2015. The important thing is the role of climate change impacts on these aims and can be barriers to millennium development in eradicating poverty, health, access to education, and insuring sustainable development

This article represents total statistics of events resulting from climate change consequences (Table 1). Then, it will analyze climate change security and its suitable approaches by assessing these events along with each characteristic.

RESULTS

The Most Important Consequences Of Climate Change

Although climate change has various impacts, but in this chapter we will only examine factors that create the most sensitivity in human community and probably create threats against security.

Creating Conflicts

The future negative security impacts of climate change are more on regions that today are the hosts of nuclear wars like East and Center of Africa, Middle East and Center and East of Asia Hegere and et al. (2006). In 1970, a destructive hurricane devastated Bangladesh. At that time, the country was occupied politically and militarily by west of Pakistan. Trivial aid and clear ignorance of Pakistani leaders accelerated the formation of Bangladesh's segregationist movement resulting in war and conflicts leading to the country's independence in 1971 (Kolmannskog, 2008). Based on the United Nation's environment program report in 2007, one of the most important causes of Darfur tensions is soil erosion and desertification because of 30% reduction in rainfall and drought of millions of hectares of land (UNEP Report, 2007).

Threatening Food And Water Resources

Of the most important causes of global warming is reduction in agricultural products and increasing grain competition, in a way that one-degree temperature increase in growing season, will result in 10% reduction in rice fertility. In 2002, unexpected heat and the following drought decreased grain production in India, USA and Canada, therefore global grain production was 89 million tons lower than consumption (Brown, 2006). In 2006,

heat increasing and in the following pest addition caused the destruction of agricultural productions in Australia, Ukraine, Argentina and North America and the grain price increased as much as the rate of 10 years. High price of corn caused unrest in Mexico (Paskal, 2007). Studies show that 2 to 3 degrees Celsius temperature increase in India can decrease 9-25% of income from agricultural leased lands. Each degree increasing in temperature can decrease rice production by 10% in Africa (Venton, 2007).

Impact On Spreading Poverty

The Darfur situation in Sudan is an irrefragable example from a hard conflict of poverty and survival that started from the catastrophic draught of the 80's until present. It appears that long climate changes cause not only lower rain falls in Sudan, but also in most of Africa especially in south of the Africa desert, where living depends on rain and, draught spells death (Pirzad, 2007). Mitch storm that is the most powerful storm in the history of the Atlantic Ocean occurred in 1998. Its speed was 360 km/hr. and caused 2-meter rains in Nicaragua and Honduras within two to three days. Other than houses, schools, factories, roads, and bridges, this caused destruction of 70% fertile land in Honduras. Now, harvest is virtually impossible in this country (Teravatie, 2003).

Impact On Inland And Exterritorial Immigrations

The most catastrophic impact of global warming is immigration. People affected by natural disasters are increasing and have reached 231 million per year in average. Among them, 98% are affected by climate change (Kolmannskog, 2009). In 2008, 42 million people immigrated because of conflicts resulting from climate change (Norwegian Council Report, 2009). Norway salvation committee has announced recently that only in 2008, 20 million people immigrated due to natural disasters from climate change (Norwegian Council Report, 2009). Based on other statistics in 1995, there were 25 million immigrants and it is expected that immigrants will reach 250 million people by 2050 namely in a period of half a century, immigrants will grow 10 times their current amount (Mayers, 2001).

Impact On Political-Geographical Boundaries

Melting North Pole glaciers opened a western-north canal as a shipping international canal and this way accessing to rich resources like oil is the starter of conflicts about canal autonomy and its ecological dimensions.

Table: Potential impacts of climate change on millennium development goals (Macguigan & Reynolds,2001).

Global statement goals of millennium development	Chains relating to climate change
First goal Uprooting poverty and severe hunger	It is expected that climate change affects through change in peoples' lives such as effects on health, access to water and housing and all required infrastructures It is expected that change in economic development through change in natural resources and productions causes decrease in economic growth that directly influences peoples' income It is expected that change in food security worsens this situation especially in Africa
Second goal Access to primary education	It is not much related to climate change, but due to compulsory immigration and lack of time, indirectly affects people's education opportunities.
Third goal Developing gender quality and empowering women	It is expected that climate change causes intensifying gender discrimination, depletion of natural resources and reduction in agricultural products may impact women's health and reduce their access time for cooperation in decision making Disasters relating to climate change can have the most impacts on housewives, especially those with low income
Fourth, fifth and sixth goal Goals related to health Fighting important disease Decreasing child mortality Recovering mothers' health	Direct climate impacts through fatality resulting from heat and disease from heat waves Climate change can cause outbreak of diseases such as Malaria and Dang fever, and can cause diseases like Cholera and Dysentery through water pollution Children and pregnant women are more prone to contagious diseases from water. One fourth of mother fatalities are from Malaria. Climate change threatens food security especially in South of Africa due to impacts on reducing fresh water quality and quantity and also intensifying malnutrition among children
Seventh goal Insuring sustainable development	Climate change alters natural resources quality and output and results in irreversible damages to ecosystems It also causes reduction in biological diversity and worsens and destructs the environment
Global cooperation	Climate change is a global worry and needs global cooperation especially to help developing countries in order to adjust with harmful impacts of climate change

This conflict is being intensified because several countries are setting political and juridical acts to offer the juridical authorities about different parts of the area. Small island country, Tuvalu 1, will disappear in about 30 to 50 years. Indonesia said that it has lost 26 islands because of climate change. Bangkok, with over 10 million populations, may sink in the next 15 to 20 years. This is one of the 13 cities from 20 global large cities that are exposed to rising water level risks in the future decade (Gerome, 2008).

Threatening Human Health And Spreading Contagious And Dangerous Diseases

Based on Global Health Organization assessments, in the 2000, 150,000 people died due to impacts of climate change. In addition, there is a report of 300,000 deaths due to increase of Malaria in 2003, and estimates show that this number may increase to half a million by 2030 (Our Unstable Planet, 2009).

Security

Some regard security as basic and central subjects of human rights along with individual and group freedom, and others consider it in classifications such as "individual operation freedom" along with the right to live, freedom and house security right and commuting freedom. Overall, it appears that enjoyment of security rights is a conception beyond individual freedom. Studies by Bozeman and Aleman published later, believed that security conception should be expanded in two directions. First, security should not be limited to the military field, but it should cover more general concepts,

to be used in military fields and also economic, social, political and environmental fields. Second, the security reference goal should not be conceptualized based on country, but it should include people inside the government and superior international systems. Regarding Bozeman, human communities' security is affected by factors in five principle sections:

Military security is related to a two-level interaction of aggressive and defensive capabilities of countries and their understanding from each other's intents.

Political security is about government's organizational stability, governmental systems and ideologies that legitimize them.

- Economic security is about access to resources, capital, money, and necessary markets to maintain an acceptable level of wealth and power for the government.

- Social security is related to traditional models stability of language, culture, religion, identity and national habits under acceptable conditions for relevant evolutions and change.

- Environmental security is related to keeping and maintaining the local and global environment as necessary supportive system, which all vital and important activities depend on.

It should be mentioned that these five parts do not operate separately. Each dimension will define a focal clause to emphasize on classification of priorities. However, they are dependent unavoidably and infer each other (Dehghani, 2009).

In a wider concept, security is defined by the UNDP (United Nations Development Program) as security against severe threats like hunger, disease and suppression (Gleditsch, 2005).

Climate Change And International Security Threats

Studies indicate that in the first step, climate change can damage human security, because as it is clear from its definition, meaning first, security from long and everlasting threats like hunger, disease and suppression, and second securing from immediate disorders in houses, or work places, or societies. Spread of these impacts can include both. Therefore, it is seemed that to provide human security against climate change, it needs to consider the adopted approach in economic, food, health, environment, individual, and social dimensions. Today international peace is one of the important pre-requisites of human rights and putting international peace and security in danger will hurt all human rights and freedom, because war in the world affects international peace and security, and also threatens development, economic growth, civil and political rights, economic, social, cultural and environmental rights. Of course, not only war and severity that threatens peace, but by

disregarding environmental issues, non-sustainable development, by destroying and destructing the environment, can place global peace and security at risk. 25 Principle on Rio Declaration states that peace; development and environmental protection are dependent and cannot be separated from each other. Therefore, threats to each factor will threaten other factors. In other word, when threatening peace, environment and development will be threatened.

Climate Change And Threatening Environmental Security

There are two clear spectrums about environment security:

The first group includes military security experts who consider natural resources sufficiency and availability in their conflicts. The clearest example is the tensions and conflicts especially in the Middle East about water shortage, like the Darfur war in Sudan. Considering population growth and global warming and decreasing water resource levels, the trend of these conflicts is increasing.

The second group includes people who know environment as a common human worry and disagree with environmental losses by means of military goals. As an example, they conduct military wars by controlling environmental flows in places short of resource and flows like water, for example the operation by Turkey's military forces which forced Iraq to talk to Syria in order to stop supporting Turkey's segregationists in the east, or the intentional fires of Kuwait oil wells by Iraqi forces.

Studies show that shortage of vital resources in different parts causes tensions and security threats. This shortage of resources resulting from climate change is occurring in different ways: 1. shortage by means of destroying environmental resources; 2. Shortage resulting added demand due to increasing population (imposed immigrations to certang regions); 3. Shortage resulting from unequal distribution of a resource in a region where other people have shortage of, in other regions. Developing countries are more prone to these pressures. In most of these countries, shortage of water and food and draught may force residents looking for jobs and raw materials to migrate to other regions. High amount of immigration from an area and entrance to new regions forces a lot of pressure on the infrastructures of the destination region, and therefore, it may create conflicts in the system unable to meet demands. This situation will be more severe when people have to immigrate to regions outside their geographical boundaries, and need foreign governments support. This situation is regarded as a security issue when it challenges international peace or results in military intervention.

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The important thing is that raising security conditions for climate change is itself a threat. As threats were the main cause of applying security measures, continuous environmental destruction can be regarded as environmental threat against peace and stability. The subject of climate change has drawn much global attention to it, and demands the same importance as solutions for military issues. In addition, making a subject secure legitimizes using force and authorizes the government to apply special power and to devote considerable governmental resources to expose that problem. Therefore, raising security conditions is a more severe instance of the politicizing phenomenon. An issue is determined security related, when a convincing logic can be adducted, stating it as a more important issue compared to political agenda, hence it must be given absolute priority. Therefore, security is self-reference.

In 2007, the United Nations Security Committee held the first discussion meeting about climate changes and their problems for security (Climate Change and International Security,2008).

We should consider three basic dimensions about international security threats from climate changes: 1. Security aspect (the person or thing that we support its security). It can be said in this field that this attitude can include the environment (all that surrounds and interacts with us) as well as humans who can be regarded as constitutes of environment. We will explain it separately due to its affectability from climate change and the priority for maintaining security. It is clear that impacts and severity of environment destruction due to consequences from climate change in the recent two decades are increasing, and experience shows that the sensitivity of international communities toward this issue are more than before. As observed in Japan, the tsunami and the disasters related to the Fokoshima nuclear power plant and its problems, we should behave more consciously toward this challenge. The threat identity can be in different forms and include numerous social and economic dimensions and all discussions related to homeless people, health, nationality, war, and finally, devices that by utilizing them, we are looking to achieve security. The most important of these devices are legal and juridical devices that we can use to reach administrative and practical guides. In fact, juridical institutions have expressed all constituents of security agendas. Many obligatory and not obligatory documents stand against different threats beyond physical severity like epidemic diseases, poverty, natural disasters and environment destruction. One of the examples that can show how law can be used as a device to guarantee human security is establishing international criminal bureaus that provide a law structure to guarantee human security. This structure includes the following: response given to international peace and security threats by obtaining authorization from security committees, peace keeping of the united nations organization to prevent conflicts and cashes.

Climate Change And Threatening Of Economic Security

Considering Bari Buzau's definition in 1983, economic security is "access to resources, capital, money and necessary markets to maintain acceptable levels of government welfare and power". Clauseing to resources can mean both natural and unnatural. On the other hand, this access can be limited or no-access. For example, one of the climate change consequences is starvation, draught (mostly in Africa), flood, and storm and generally, disasters that increase the security-breaking coefficient for assets and efficient human forces and limits access to agricultural products. However, no access to food is not the cause of insecurity, like starvation in Bangladesh in 1974 that most of village workers went jobless, could not buy food, and starved. Here, money economy led people to death, not food shortage. Therefore, what determined survival right for these people was their ability to prove their access right to food. Of course, the coverage is not limited to food and we have water too. On the other hand, unnatural resources also include human resources. It is obvious that not having suitable infrastructure for living in the production stage will decrease human forces that can potentially operate in the working market, and will result in the insecurity of an economic cycle that requires this resource to survive. Some countries that had international trading for their agricultural products cannot continue because of current situations. Not following international commitments of a government in trade will trouble future agreements in other sectors and this situation can endanger other future valuable agreements. The difficulty in this part can cause difficulty in the formation of other parts of the cycle that can cause agricultural economy growth and forces the government to compensate this financial defect in different ways. The other important clause is acceptable welfare level that is a completely different concept. It emphasizes that supporting citizens' health and happiness is a complete security subject that can include poverty, health level and employment level. Poverty itself can threat international security directly and through spreading contagious diseases like Malaria, Tuberculosis, AIDS and inability to cure it poses an international security threat. Poverty and hunger create a good basis for war especially when it connects with other factors. Most current conflicts occur inside countries. Therefore, explaining internal causes is necessary and understanding economic security as a primary human need is allowed. Human survival and development extensively depends on primary needs for

living such as food, clothes, housing, education, and suitable health services. Requests for uprooting hunger and creating food security are the main subjects in international programs and human rights institutions. Supplying food is the vital factor in third world countries' security. If the countries depend on international aid to supply essential goods, it can hardly be said that their population secure. Therefore, the only way to security is through economic security that can be placed inside an expanded security framework without any ambiguity. Meeting necessary and primary material needs is the first stage in understanding human security.

Climate Change And Threatening Social Security

Talking about social security means the combination of society and government in one direction, although they are separate in social security discussions. Government is an official structure based on fixed area and formal membership and society is supervisor to identity, a method that communities think about themselves, define themselves and know their people as a special society. Like the Kurd community that mostly live in Turkey, Iraq, Iran and Russia. The concept of social security is diverse among different races and its differentiation from other dimensions of security is very difficult. In general, immigration is the biggest threat against society rather than the government, because it endangers the identity of the current population. Threats for immigrants depend on factors like immigration scale, society compatibility and the way that social identity has been formed; and widespread immigration is maybe important for countries accepting immigrants, because the main cultural characteristics are affected by immigrant values and behaviors. Immigration can be threatening due to direct worries in economic fields because immigrants are regarded as who are ready to work in the worst conditions with the lowest wages. Therefore, they have higher priority in competition to get jobs. In this condition, social security will overlap with the economic security agenda. In the social security framework, immigrant can define the other culture and endanger present living styles. This perception can be problematic for security. Because the created fear can act in both individual and group levels and the problem here are not only insecure people who are threatened by foreigners but also an insecure collective identity that unites the insecure people together. Society and government have different perceptions of immigration. Societies fear from cultural changes and ethnic composition and government fears that this feeling causes forming racist parties and lead to conflicts.

The high commissioner office of human rights is small compared to the international society scale and disasters relating to violation of human rights, and is limited in resources. Although all actions from that office and United Nations Organization is to support human rights, but it needs to reinforce other legal devices in order to protect the rights of victims of human rights violations.

DISCUSSIONS

Security Council Role Toward Preventing Threats Of Climate Change

Defining climate change as a threat for international peace and security, the UN Security Council is allowed to adopt necessary actions with the authorization of two thirds of its permanent or non-permanent members. These actions are taken when threats against international peace and security or war are present, or when a country assaults another country. The main difference to separates peaceful settlement and security systems is the situation of the crisis and its sensitivity. Regarding peaceful settlement in the sixth chapter of the charter, peace maybe in danger, but it has not been eliminated. While in the seventh chapter about security systems, violence appears and discussion will retreat in favor of harsh actions, the exact event occurring in response to the consequences of climate change. As stated previously, violence appeared from different causes like natural resources storage, widespread immigration to new areas, poverty or fighting in new lands. The solutions for these differences are available in instructions in the seventh chapter. The other main difference is that the United Nations Organization's resolutions are necessary in the seventh chapter framework, whereas in the sixth chapter, it is not so. Using peaceful methods is the best way to address global security. Different kinds of executive mechanisms are in the Security Council against climate change threats for international peace and security in Article 41 and 42 of the seventh chapter. Article 41 discusses non-compulsory actions that do not require armed forces, whereas article 42 shows actions needing military action. However, climate change cannot change into a special subject in article 42, because it is based on cooperation that is the most important principle in international laws and mentioned in the introduction of climate change convention. Global climate change requires the most cooperation by all countries and their collaboration in an international effective reaction, and utilizing armed forces is against the cooperation moral in this convention. Secondly, conflict is destructive by nature. It destroys development and Rio Declaration on Environment and Development on Principle 25 peace, environment protection and development are dependent and cannot be separated. Therefore, using military equipment and

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war actions to protect from destructive environmental impacts is against international environment instructions and these actions can be implied as distribution of greenhouse gases that is mentioned in clause 45. Therefore, using the mentioned actions in clause 42 to create peace and security is not suitable concerning climate change threats.

Studies in international environment laws represent that in the climate change field, actions against the environment include destruction and pollution. Therefore, it can be regarded as an ecocide crime. Conforming general aspects of ecocide crimes with occurred events due to climate change, we can find that because the trend of greenhouse gas emission is increasing, and posing international impacts, and considering the fact that countries producing the most greenhouse gases cannot offer an international justification, and the most damages in environment are not limited to a government and are international, therefore it is regarded as an international crime whose victims are the international society.

However, although this crime is international and needs to be investigated in international references such as the International Criminal Court (ICC), unfortunately, this court is silent in this environmental issue and the lack of an international authority for environmental crimes is evident. There is no doubt that the main offenders who are the main producers of greenhouse gases are operating freely around the world, without any fear of prosecution. Therefore, establishing an international court is necessary to handle environmental violations; removing the existing gap in protection from environment and creating united legal information about the environment in the international environment court under supervision of the UN or act solely. This body will play a great role in adjudicating the rights of affected victims. Creating an international food security network, and international insurance institutes to cover anticipated risks, and creating risk-taking mechanisms in events can be the main executive actions in developing peace and preventing security risks.

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