Environmental Security in Focus: Challenges and Insights from Iran's Experience

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Abstract: In the past, national security was predominantly defined in terms of military security. However, today the prominence of military security has diminished, with environmental issues emerging as central concerns for world leaders and policymakers at both national and international levels. This article seeks to explore the impact of environmental challenges on national security, focusing on the question: How do contemporary climatic and environmental changes affect national security? Security studies hold a vital position within political science and international relations, and environmental protection is increasingly recognized as a crucial dimension of security. Throughout history, natural phenomena such as droughts, floods, earthquakes, storms, and other environmental disturbances have posed significant security threats to human societies and have been major causes of mortality. In modern societies, however, advancements in technology, trade, industry, high energy consumption, labor specialization, and the expanding influence of social organizations have greatly affected human security by intensifying environmental problems. In the context of Iran, issues such as water scarcity and air pollution are particularly urgent and critical, bearing significant implications for national security.

Keywords: national, security, environment,, climate change, pollution

INTRODUCTION

The widespread environmental degradation, including habitat destruction, pollution of biological systems, global warming, and the emergence and re-emergence of diseases, along with resource conflicts at various levels—sub-national, national, and transnational—over the past few decades, have significantly driven research in ecology and environmental studies. These issues have become some of the most frequently discussed topics across fields such as politics, security, health, and livelihoods. Consequently, this period has seen the emergence of new terminology and concepts like sustainable development, environmental security, environmental geopolitics, and comprehensive security. (Kaviani Rad, 2013: 7.)

In this regard, environmental security deals with threats that are not only the result of social and economic activities of humans, but also progress very slowly compared to military threats. Therefore, in terms of comparing the time horizons required for political planning, it is infinitely broad, while some targeted programs related to the environment, such as a sample program to reverse the environmental destruction of a complete ecosystem or to restore it to It can take at least 50 years to achieve the desired results, or at least 10 years for policies related to the restoration of the ozone layer to be effective, and climate change policies require even more time

These time horizons express the importance of the attitude of environmental security in the form of policy-making processes (Pishegahi Fard and Alizadeh, 1390: 116). In Iran, the process of environmental destruction has increased unprecedentedly during the last few decades, and in many cases, this The trend has been more serious than other countries. Most of the alarming statistics related to Iran's environment are the result of the geographical location and topography of Iran's land, lack of attention to the role of environmental sustainability studies in the design and implementation of structures and spaces, general ignorance and lack of attention by government organizations. It seems that the continuation of this situation, at least in the next two decades, will make the country face costly and time-consuming environment-based security challenges, which also have stability and stability (Kaviani-Rad, 2019: 33.(

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In this context, paying attention to some foreign research results about environmental conditions, especially the researches of the World Bank and Yale University, are worthy of attention and express this fact. The announcement of the global environmental performance index of 2013, which is periodically published by this university, revealed that Iran was ranked 114th among 132 countries in the world with a score of 42.73. While our country was ranked 67th in the world in 2008 and 78th in 2010. It is noteworthy that no country has dropped more than 30 steps between two consecutive measurements, but Iran has dropped 36 steps in the latest measurement (Aslipour and Sharifzadeh, 2014: 247.(

It seems that the continuation of the intensification of the destruction and pollution of the country's environment has resulted in such harmful and long-lasting results in various dimensions that sometimes their restoration and reconstruction will be very expensive and time-consuming, if not impossible, so that it deserves to be called an environmental crisis. We are environmental (Kavianirad, 2009:34-33) In the definition, "environmental crisis" refers to

a situation that represents a degree of threat to people's lives, their health, and their living facilities. Most crises are silent and at the same time have the potential to create damage, and when a dormant crisis becomes active, it demands an immediate response. In the process of environmental disputes between countries, international laws are fundamentally different from domestic laws because there is no global government whose sovereignty is enforced on countries.

As a result, these laws must be based on the agreement of the relevant parties and the countries must oblige themselves to comply with them, now many citizens of a certain country may be against it. In a set of international policies, agreements and treaties, some environmental issues have been addressed, which are collectively called international environmental laws.

EXPLORING THE DIMENSIONS OF SECURITY

With the end of the Cold War, a revolution took place in the field of security studies, in which thinkers and policymakers moved away from the traditional approach of the centrality of the state and its military security and sought a broader understanding of the concept of security. This argument had two main reasons: the first reason was that the war between the states remained strong, but nowadays the internal wars involve more violence.

National interests are not so important for conflicts such as group and cultural identity. This view states that the realist view in this field is a reductionist view. The second point is that the government's ability to provide security to its citizens has been attacked by some other erosive and civilian threats such as environmental problems, population growth, diseases, refugee problems, and lack of resources.

This approach reflects a wider range of issues related to the issue of human security, which includes all aspects of life and human dignity. The concept of human security focuses on individual rights and not the state. This concept states that the main goal of any policy in the first place should be to realize the security of the individual along with the security of the state. The government can live in security, while its citizens lack security conditions for various reasons and are involved in insecurities such as disorder in the distribution of wealth, or the emergence of ethnocentrism in multi-ethnic societies, or natural and climatic conditions such as the land. Earthquakes, volcanoes, floods, conflicts and separatist [or freedom-loving] disputes, which make the need to ensure the security of these cases subject to the intervention of regional or international institutions.

In the 1994 report of the United Nations Development Program, seven dimensions of human security were proposed based on the philosophy of human needs:

(1Economic security: guaranteed basic income for each person;

(2food security: ensuring minimum food for each person;

(3Health security: guaranteeing minimum protection and health care from diseases and their prevention;

(4Environmental security: safety of land, air and water, and protection of humans against environmental changes and protection of the environment against human destruction;

(5Personal security: protecting people against crime and violence by the government, governments, transnational actors, etc., especially women and children who are more at risk;

(6Community security: guaranteeing stability in traditional social relations and values against ethnic, sectarian, religious, religious and linguistic violence;

(7Political security: guaranteeing human life in a society where fundamental human rights are respected (a society that guarantees and promotes human rights.(

-The concept of environmental security

From a lexical point of view, the term "environment" is derived from "to make a place" and "to attain dignity"; It means conquering a place and making it your home. Therefore, the environment is the environment in which humans live with all their life needs and in which they communicate with their fellows. In another definition, "the environment is the framework in which humans live in a set of natural, social and cultural systems that form the life cycle of them and other creatures (Botkin, 1385: 125). Environmental security is also the protection, safety and security of society members from the dangers that are occurring or may occur (Seyd Noorani, 1381: 166.(

In fact, environmental security is a product of national security concerns about the lack of natural resources and the destruction of the global environment, and on the other hand, it plays the role of the conflicting actor of the Cold War and militarism in the world security operations scene. Barry Buzan says that environmental security is "the protection and preservation of the regional and global biosphere as a necessary and vital support system on which all human organizations and activities depend." When environmental security is defined in this way, this definition is clearly included in the circle of security issues. Because it involves the same dangers that during the Cold War, drew a lot of attention to the issue of nuclear weapons; It means the possibility of events that can cause the complete destruction of human civilization.

Environment as a policy has been on the agenda of international relations for a long time. The fear of the rapid destruction of the environment was raised in the 1960s and early 1970s. However, due to the lack of convincing information and data, as well as due to the strong and understandable international focus on the dangers caused by nuclear war, environmental issues did not gain any priority in the hierarchy of government goals, but gradually Concerns about the environment also increased. Following this gradual development, the United Nations held a conference on the human environment in Stockholm in 1972.

This development can be considered as the beginning of a process "that led to the gradual establishment of a number of environmental institutions and institutions, the continuous development and expansion of the security agenda, and the increasing acceptance of international monitoring that led to compliance with environmental standards." (Dades, 1384: 96-102)

In the late 1970s, demands for rethinking the concept of security intensified to include civilian threats such as the increase in poverty rates, the spread of diseases and the spread of plague and famine among the people, and the destruction of the environment. For this reason, studies were directed towards the analysis of the relationship between environmental changes and international conflicts, and as a result, the lack of resources led to economic decline and the migration of citizens to neighboring regions and countries, and finally entering into a number of conflicts. became. The important feature of environmental issues is that they are not limited to the two elements of time and place. While wars are the most important events that endanger the security of human societies, but in the end they do not last more than a few years; On the other hand, the Cold War, which imposed the most security effects on the countries of the worldIt lasted for about half a century. Social, economic and other events are of this category; That is, for a short period of time, they are at the peak of influencing human societies, and after a while, they return to the state of balance. Climate changes create an unstable world, which sometimes takes centuries to rebalance. (Trif, 1382: 95,(

ENVIRONMENTAL SECURITY IN IRAN

Countries are trying to recognize the future trends in front of them and make long-term plans and develop framework strategies. What doubles this need for the Islamic Republic of Iran is that, considering the essentially independent nature of the Islamic Republic of Iran's system, as well as challenging the basic norms of the international system and the need to realize the plans foreseen in the vision document of 1404, J.A. Iran needs to design and plan its future. At the same time, the vision document has specific and important security requirements. The security aspects of the vision document can be separated into five cultural, political, economic, environmental and military approaches, and the realization of the vision document requires a multi-faceted view of the security category (Aftakhari and Digran, 2010: 58.)

In fact, fields connected with environmental security will have a direct reaction on the process of gaining Iran's first regional position. Iran, as an influential regional power, in order to move forward with the developments in the international arena, needs to examine and explore the developments around it, in the regional and international dimensions, and this issue makes it necessary to deal with its possible obstacles and challenges. . The response to the expanding environmental crisis has been widespread and has taken various forms. Iran has always been exposed to environmental threats. Environmental factors such as energy supply and its availability, water pollution of rivers and seas, fine dust, desertification, drought, climate change, population increase and migration in creating tension, divergence, disrupting public order and most importantly national integrity. Iran, have significant effects (Jajermi et al., 1392: 195). With a closer look at the causes of environmental problems, it can be seen that management factors contribute and play a significant role in the occurrence or aggravation of these problems. In the field of communication Various studies have been conducted between the lack of water resources and social and economic crises, and it has been repeatedly emphasized that the crisis in the issue of water resources is not a crisis of water scarcity, but a crisis of water management and governance.

In this regard, the United Nations Sustainable Development Commission announced in a report that "the water crisis in the world is a crisis of governance and not a crisis of water shortage". Some other researchers also believe that the problem of lack of water resources is not the cause of tension and crisis, but it is caused by tension and lack of proper water management and governance.

In addition, various studies regarding the crises and tensions created in the 20th century in three different regions of the world; America (Central America, North America, South America and the Caribbean), Western Asia (Middle East) and Western Europe have been done. These studies show that the main root of water crises in these areas is mismanagement and lack of proper organization in the governance of water resources, and the lack of water resources has aggravated the issue of water crisis

Today, strategists are also convinced that the issue of water security in Southwest Asia, which also covers the Iranian plateau, is one of the fundamental challenges that will disturb the security of the governments of these regions. According to the available reports, the lack of water resources, successive droughts along with the ineffectiveness of water management have turned water demand into one of the most important aspects of Iran's environmental crisis, which will increase and expand in the near future. The same data shows that according to the current trend of population growth, Iran's population will reach 105 million people by 2025, which will mean a shortage of tens of billions of cubic meters of water, which will bring the issue of water into the realm of security issues. (Rahmati, 1391: 13.(

After the drought in Hirmand and the drying up of Lake Hamon and the severe water crisis in the Sistan and Baluchistan region, in 2006-2004 joint studies were conducted with the cooperation of Iran and the Netherlands regarding basin problems and comprehensive water management. The reports published after the completion of these studies in the basin of Sistan and Baluchistan and Hirmand River and Hamon Lakes state that the water crisis created in the region of Sistan and Baluchistan is not caused by a lack of water, but it is caused by the lack of proper water management. is in the region. To put it more simply, Sistan and Baluchistan region suffers from mismanagement and weak governance rather than the lack of water resources.

 .A short and cursory look at some of the completed projects that have caused huge water crises in the country, shows that a huge part of these projects, rather than having a scientific and logical justification, due to Local and cross-sectional interests and sometimes political pressures have been approved and implemented. So that the Minister of Energy clearly pointed out the excesses in dam construction and declared that some of these dams built in the country did not have the necessary efficiency and their destructive and crisis-causing effects were more than their positive effects (Salehi, 2012: 121(

-Iran's environmental security challenges

According to the prediction of the United Nations, Iran will be among the countries that will face a chronic water shortage in 2025 (Mehkoui et al., 2013: 138). It has been stated many times. As Hamid Chitchian, Minister of Energy, warned that "Iranian life, civilization and survival are under threat due to the country's water conditions" and "supplying people with

drinking water has become one of the country's problems." Based on these statements, water resources, which are considered as an economic commodity, will become a "security commodity" with the growth of demand for it and its scarcity, which will lead to the formation and intensification of s The increase in population and change in the pattern of water consumption causes that in the continuation of the past crises, the competition between the settlements for the possession of surface and deep water resources increases and the conflict between communities develops, which has political and security consequences for the country. In this connection, it is possible to threaten the resignation of all Khuzestan parliament members in protest against the water transfer of this province in September 2013, the occurrence of some social unrest in the eastern region of Isfahan province and damage to the water transfer facilities to Yazd, due to the protest of the farmers of this region. The lack of security in 1391, which turned it into a security problem, and its unfortunate consequences continue to this day. She also pointed to the protests that took place in East and West Azerbaijan provinces against the drying up of Lake Urmia (Sadeghi and Naderi, 1395: 191-194).

In another case, the phenomenon of dust and fine dust in recent years has caused an increase in the amount of fungal infections and fruit rot diseases, as well as the drying of date palm leaves. The phenomenon of dust and settling of fine pollen on the bunch and its fruit, if the date bunches are not covered due to the fungal factors of sourness and rotting of the fruit, it will cause the fall and loss of a large part of the product, and in addition, it will cause Its quality decreases in the market. Therefore, investigating the effects of micro-pollens on the severity of rotting diseases and identifying the factors that cause fungal rotting to determine the most suitable time for covering and harvesting the fruits of cultivars such as Kabkab and Majul, will increase the quantity and quality of the produced product When dust settles on date fruits in groves and in relatively humid conditions, the severity of fruit damage increases to 8.53%, and it also causes an increase in the fall of infected fruits by 13.43%. . Fruits infected with fine dust are rotten and are affected by fungi that cause rotting and sourness.

The internal centers, which are the source of micro dust storms in Khuzestan, with an area of about 350,000 hectares, mainly extend from the east and southeast of Ahvaz to the east of Handijan in the southeast of the province. In addition, in the west of the province, the dried parts of the Horul Azim wetland in the west of Hoizeh and its surrounding areas, as well as parts of the north of Khorramshahr are also focal areas. In most of these areas, the decrease in surface humidity and the salinity of the ground as a result of the penetration of underground water can be seen. The infiltration of underground water as a result of its capillarity and evaporation on the surface has caused the crystallization of salt in the empty space between the soil particles and the disintegration of the soil texture in such a way that in many places, the surface part of the soil is 5 to 10 The centimeter has become bubbled and highly susceptible to wind erosion. These areas are:

 (1South-western area of Hoyza

 (2North and East of Khorramshahr

 (3East Ahvaz region

 (4South and Southeast of Ahvaz

(5Imam-Omidiyeh port area

(6Mahshahr - Handijan range

Another example is Shadgan wetland in Khuzestan province. Many factories discharge their waste in rivers and seas. As it turns out, many of these wastes are toxic, hazardous, and a combination of chemicals. The worst scenario in this regard is that in some developing countries, the underground water has been polluted due to toxic waste being buried around them. Water is also exposed to thermal pollution. Since industrial facilities consume a large amount of water for cooling operations, when these waters become hot, they are returned to their original sources and, in turn, increase the temperature of the waters

Therefore, this leads to the reduction of oxygen in the water and as a result, it leads to the death of fish and other marine creatures. Shadgan wetland is one of the most important wetlands in the world; Three thousand fishermen and fifteen hundred bird fishermen live through the wetland, and its value is much higher than large industrial units such as Khuzestan Steel. Some of the environmental activists in Khuzestan believe that the trustees of the sugarcane development project, despite the fact that the industries are polluting, do not pay serious attention to compensation for the damages caused by the implementation of the mentioned project. 152 types of birds from 38 families have been identified in this wetland, which together with aquatic migrants such as the gray-footed pelican, white-tailed sea eagle, marble duck and golden duck have created a beautiful paradise in this area;

;It is worth mentioning that Shadgan wetland is the best marble duck habitat in the world. Considering that this species is in danger of extinction, the sighting of 2500 marble ducks in Khuzestan is good news for bird lovers. Marbled duck has a brown body with pea spots. This bird likes open water and can be seen in Shadgan Wetland in all seasons. Among Iran's wetlands, all of which are in a state of disarray, Shadegan is in the worst condition. Shadgan Wetland, having a high diversity of animals and plants, which if protected, could become one of the most important tourism hubs of Iran, has now become one of the largest wastewater treatment plants in Iran.

This wetland is very significant in terms of the number and types of birds, because the largest number of endangered birds live in this wetland (Kaab, 1400: 220-210

CONCLUSION

The depletion of natural resources represents one of the most pressing challenges facing humanity today. In light of the critical need to ensure environmental security, public administration in Iran strives to balance effective management rationality with the realization of public interests. The primary cause of challenges in the country's environmental policies can be traced to the inadequate performance of the Environmental Protection Organization. This organization suffers from structural misalignment with its mission and suffers from politicization in managerial appointments, which severely undermines its effectiveness.

Effective environmental policies in Iran must be localized, measurable, and continuously adaptive to changing conditions. The concept of environmental governance encompasses the

active participation of public institutions and influential stakeholders in the policymaking process. To address environmental issues comprehensively, Iran must adopt an approach that integrates both "environment-appropriate governance" and broader "environmental governance" principles.

Statistical data and recent research clearly show an alarming trend: environmental degradation, biodiversity loss, and destruction are accelerating throughout various regions of Iran. If this trajectory continues unchecked over the next few years, the country will confront costly challenges spanning security, politics, economy, and society. Consequently, there is an urgent need to revisit and expand the concept of security in the minds of policymakers and decision-makers to adequately address these emerging threats.

Numerous environmental crises individually possess the potential to escalate into significant security threats, thereby imposing substantial costs on the Islamic Republic. For example, the ongoing water shortage crisis has severely impacted national security and has already evolved into a critical security concern. Similarly, the phenomenon of fine dust pollution threatens public health, contributes to increased migration and unemployment, and exerts considerable pressure on government institutions. Failure to recognize the security dimensions of these crises—particularly their potential to spark social unrest, violate human security, and jeopardize public health—could lead to irreversible consequences.

Unlike traditional threats that originate from external military attacks or wars, these non-traditional threats stem largely from internal inefficiencies and the absence of forward-looking, effective policies. Therefore, it is imperative to adopt a broader and more inclusive understanding of security, alongside the formulation of strategies and policies designed to address both current and future environmental challenges. The government and relevant institutions have a vital responsibility to prioritize emerging security trends related to the environment to minimize the socio-economic and political damages these threats might cause.

For Iran, strong and immediate action toward environmental preservation is crucial to achieving sustainable development goals—goals deeply embedded in the country's vision for the future. By prioritizing environmental security, Iran has the potential to establish itself as the leading power in the region, securing not only its natural resources but also the health and stability of its population.

However, if environmental and security concerns continue to distract policymakers and disrupt the daily lives and well-being of citizens, the nation risks deviating from its developmental path. Many dedicated individuals and organizations in Iran have actively worked to protect the environment, including producing educational films broadcast on television to raise awareness and prevent environmental degradation.

With collaborative efforts and sustained commitment, it is hopeful that even small steps can be taken toward reviving and safeguarding the environment of the region and the world. Addressing these challenges today is essential not only for the current generation but also for the future security and prosperity of Iran and its people.

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