



The 18th International Scientific Conference
**“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”**

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ENVIRONMENTAL SECURITY AND ARMED CONFLICTS

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Abstract:

In recent years, as a result of the reduction of non-renewable natural resources and excessive environmental degradation, environmental security has begun to be part of the agenda of high-level meetings, causing changes in the geopolitical and defense paradigms of the world's states. One of the current issues related to environmental security considers the interdependence between armed conflicts, the quality of environmental factors and people's health.

Key words: management, transparency, military, environment, Tunisia

1.Introduction

Contemporary society feels, from the local to the global level, social, economic, environmental, cultural and educational insecurity. This insecurity is triggered by climate change, extreme poverty, social and economic crises, and armed conflicts.

Environmental degradation and climate change interact with human security. Environmental security, as a component of human security, aims to ensure a sustainable livelihood, health and well-being for all people, regardless of the area of the globe where they live. But the security of the environment can be disrupted by military conflicts and that is why, in the current security environment, the military plays an important role.

2.Research methodology

The paper discusses how environmental security, as a component of human security, is affected during armed conflicts. Based on specialized literature and direct observations, the concepts of "human security", "environmental security" and the effects that armed conflicts have on the surrounding environment and, implicitly on environmental security, are presented and analyzed.

3.Environmental security – component of human security

Currently, economic and social crises, extreme poverty, epidemics, increasingly violent armed conflicts, natural disasters lead to a decrease in the prospects for peace and stability, harmonious sustainable development and progress. People begin to feel more acutely the insecurity on all levels of life: economic, social, environmental, educational and cultural. In other words, human security is seriously threatened, starting from the local level to the global level.

The concept of "human security" began to be used with the publication in 1994 by the United Nations Development Program of the *Human Development Report 1994: New Dimensions of Human Security* [1]. The report clearly specified that "human security is not a concern with weapons - it is a concern with human life and dignity" [2], which led some authors to state that the report correlated "security with people rather than territories, with development rather than arms" [3] and that "the scope of this definition is vast: Virtually any kind of unexpected or irregular discomfort could conceivably constitute a threat to one's human security" [4].



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In article 143 of the Resolution adopted at the World Summit in 2005, by the General Assembly of the United Nations, reference is made to human security, emphasizing "the right of people to live in freedom and dignity, free from poverty and despair. We recognize that all individuals, in particular vulnerable people, are entitled to freedom from fear and freedom from want, with an equal opportunity to enjoy all their rights and fully develop their human potential" [5].

In 2012, the United Nations General Assembly states that "human security is an approach to assist Member States in identifying and addressing widespread and cross-cutting challenges to the survival, livelihood and dignity of their people" [6]. Based on this resolution, a common understanding of human security was agreed: the right of people to live in freedom and dignity, free from poverty and suffering.

Currently, although several definitions of human security have been developed from 1994 to the present, the definition stated in the Human Development Report 1994 remains the most cited and is considered the most "authoritative definition of human security" [7]. In table 1 we present the conceptions of traditional security and human security.

Traditional and human conceptions of security		
	Traditional Security	Human Security
Object	The state	The individual
Core power	Sovereignty of the state	International community
Direction	Top-down defensive	Bottom-up integrative
Protects	Integrity of the states & territories	Dignity of the individual
Threats	Interstate war, revolution, nuclear arms (military)	Poverty, disease, natural disasters, riots (non-military)
Goals	Negative peace / non-violence	Positive peace / human development
Degree of action	Non-action acceptable	Action required in the name of prevention

Table 1 The concepts of traditional security and human security
(source: [8])

Human Development Report 1994: New Dimensions of Human Security also enshrined the essential characteristics of human security: universal concern, interdependence of components, early prevention measures, people-centered approaches [9] and delineated its basic components: (a) economic security; (b) food security; (c) health security; (d) environmental security; (e) personal security; (f) community security; (g) political security [10]. Figure 1 shows the basic components of human security.



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Fig.1 Basic components of human security

4.Environmental security – concept, dimensions, major concerns

To date there is no unified definition of the concept of "environmental security", there are different approaches, depending on how the environment and security are understood in themselves.

In the case of the United Nations Environment Programme, environmental security means "understanding how environmental degradation and climate change interact with peace and security dynamics - both negatively and positively - and, based on that understanding, ensuring that effective measures are put in place to protect the environment , ensure resilience to climate change, and promote peace in politically complex and fragile contexts" [11]. In figure 2 we represented the framework of the concept of environmental security as a combination of "ecosystem integrity" and "human security".

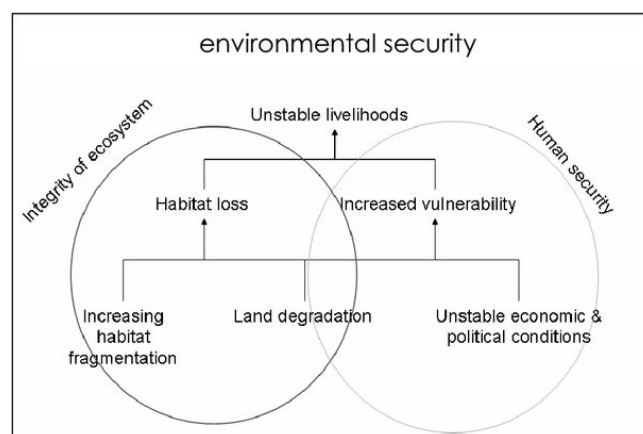


Fig. 2: Conceptual framework for environmental security as a combination of 'integrity of ecosystem' and 'human security' (source: [12])

For some authors, environmental security represents "a bundle of issues which involves the role that the environment and natural resources can play in peace and security, including



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environmental causes and drivers of conflict, environmental impacts of conflict, environmental recovery, and post-conflict peacebuilding . The scope of security and insecurity is by no means limited to violent conflict or its absence but includes the roots of sustainable livelihoods, health, and well-being." [13], "the concept concerns the ways in which environmental change puts national security at risk, the ways in which it may be a factor in violent conflicts, and the ways in which environmental change puts human security at risk" [14] or "may be defined as the intersection of environmental and national security considerations at a national policy level" [15]. In figure 3 we represented the intersection between environmental issues and elements of national security.

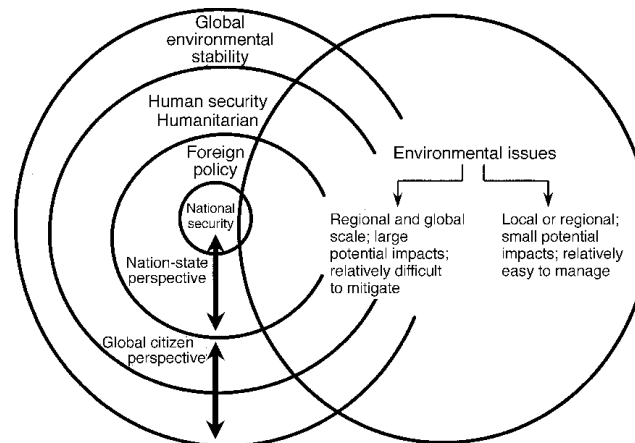


Fig. 3 The Intersection of Environmental and Security Issues. (source: [16])

In the view of the Global Environment Facility [17], environmental security presents four important dimensions:

- ❑ ecosystem goods & services fundamentally underpin human **well-being** and human-security;
- ❑ **conflicts** affects the viability of sustainability of investments in environmental protection, and their outcomes – regardless of its source;
- ❑ ecosystem degradation, resource competition or inequitable distribution of benefits can increase **vulnerability** and conflict risk;
- ❑ environmental **cooperation** can increase capacity for conflict management, prevention and recovery.

The major environmental security concerns are represented by [18]:

- a) The negative impact of human activities on the environment, respectively the protection of the environment due to its inherent moral value;
- b) Direct and indirect effects of environmental changes on national, regional or transnational security, respectively the prevention or response to conflicts caused by the environment;
- c) Responding to situations where environmental threats and conflicts overlap;
- d) The negative impact of violent conflicts and military actions, namely the prevention or repair of military damage to the environment.

5.Armed conflicts and the issue of environmental security

Armed conflicts represent some of the most destructive phenomena that can occur on the planet, along with large-scale natural disasters. They have multidimensional and persistent effects over time, and the destructive potential is increasing. As human society has evolved, as technology



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has developed, so has the impact that conflicts have on human society and the environment. Military conflicts have accompanied and will accompany human society, due to the combative and conflictual potential of the human species. The evolution of society determined the emergence of the desire to ensure peace, stability and security by adopting measures in various fields, by signing treaties and joining some international or regional organizations. However, the risk of conflict cannot be eliminated, and states must develop and maintain the necessary capabilities to deter a potential aggressor, defend fundamental values, and ensure security. Thus we are witnessing a paradox: to ensure peace, security, stability, harmonious and sustainable development, to protect life and the environment, states must prepare for military actions and, if necessary, engage in military operations, which have a great potentially destructive. However, "to ensure peace and security, there is a need to have a balance between usage and exploitation of physical environment on one hand, and carrying out of military exercises and operations" [19].

Until the modern era, conflicts were conducted without the use of highly destructive military technologies, and as a result, although human suffering was at high levels, the impact on the environment was negligible most of the time. Along with the development of technology, the destructive potential of military actions also increased. The emergence and development of artillery, aviation took the war to another level, increasing the level of destruction and amplifying human suffering, both for combatants and for the civilian population. The destruction caused by the use of weapons with the greatest destructive potential has deeply marked the environment, and the effects can be seen even after more than a century. Thus, the battlefields of the First World War, furrowed by the traces of artillery shells are still visible today, reminding of the scars of a large-scale war. Moreover, in addition to the direct effects on the environment, in addition to the sometimes irreversible destruction of war zones, armed conflict affects the environment in a much more complex way. War is a great consumer of human, material and financial resources, and mechanized and highly technological units use immense amounts of resources to be able to sustain the pace of military actions, resources that are often non-renewable. There are also concerns to increase the destructive potential of the weaponry in order to deter a potential adversary and create the conditions for a speedy victory. We have seen the development of nuclear weaponry, with enormous destructive potential and long-term effects on the population and the environment, and now we are witnessing the proliferation of ballistic and cruise missiles and a return of artillery to the modern battlefield. These weapons, used in the first large-scale war fought in Europe since World War II, give us a picture of the effects that war can have on the environment, projecting before us the images of the destruction caused in Ukraine. Nowadays, war is fought in all environments and in all dimensions simultaneously, and the effects of actions carried out in the land, air, sea, space or cyber environment are felt on all areas of social life and especially on the environment. The impact of conflicts on the environment is felt not only during the conflict, but also long after its end, so that a long period of time is needed to restore the environment and to reduce the effects of war. But the issue of the impact of military actions on the environment is much more complex, because, in addition to the visible and direct effects of military actions, we can also consider the impact that the production of armaments and combat equipment can have on the environment, through the huge consumption of natural resources that it determines, being able to state that "the environmental impact of wars begins long before they do" [20], because everything related to the military field (training of forces, equipping with military equipment, testing of equipment, etc.) means consumption of natural resources and pollution. Also, another aspect that must be taken into account is related to the analysis of the impact of military actions on the environment. More often than not, military decision-makers base their battle plans on military necessity and the effects they can produce on the enemy in order to achieve victory, neglecting the environmental impact of these



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actions. This approach is natural, because during the war it is more pressing to obtain the intended military effects, with as few losses as possible, the effects on the environment being considered acceptable, and the analyzes carried out by specialists and direct observations on the way of carrying out the most recent conflicts entitle us to state that "there seems to be little evidence that military strategists consider environmental consequences of military activities when planning or executing military actions related to conflict" [21]. If in times of conflict this approach can be understood, things are quite different in times of peace, when the focus is on exercises and training the forces, testing equipment and materials, demonstrating capabilities and deterring potential adversaries. For these reasons, it can be stated that military planners should put more emphasis on understanding the impact that military actions can have on the environment and on implementing measures to reduce the impact of training activities on the environment.

In the current security environment, the army has a complex, dual role. On the one hand, it can be considered as a basic tool in ensuring national, regional and even global security and stability by performing basic functions, and on the other hand, it can be considered an active actor in the matter of ensuring environmental protection surrounding. The problem of the impact of military actions on the environment does not have an immediate and satisfactory solution in the context of increasing concerns about the protection of the environment and the reduction of the impact of human actions on it. For the military to fulfill its core functions it is necessary to prepare to face complex, evolving challenges, it must be ready to decisively engage the adversary and defend national or alliance territory, and to be able to do this, it needs to use means of destruction adapted to the concrete situation on the ground and the missions to be accomplished, it must use the environment to project combat power and to engage the adversary, with military actions having a significant impact on it. However, as in military actions, it is necessary to ensure the application of the principle of proportionality, discrimination and military necessity, so that the destruction is not disproportionate, and the damage to the environment is reduced as much as possible.

The military actions carried out in Ukraine, since the beginning of the conflict, on February 24, 2022 and until now, provide us with devastating and conclusive images of the effects of military actions on the environment. In this type of ongoing conflict, both the aggressor and the defender have engaged in military actions with a strong environmental impact. The attacker's actions targeted the elements of Ukraine's defense system, military formations, deployment sites and facilities for the production and storage of military equipment, but they also targeted, often indiscriminately, elements of civilian infrastructure in all fields, with the aim of causing destruction, panic, demoralization among political and military decision-makers, combatants and the civilian population. On the other hand, Ukraine used all the means at its disposal to repel the attacks, to delay the actions of the aggressor and to gain the initiative. The results of military actions are telling and the effects on the environment are undeniable, affecting both the land, air and sea environments. Thus, we can see a strong air pollution, due to the smoke and dust released into the atmosphere as a result of the bombings and fires caused by them, the emissions of combat vehicles but also a local radioactive pollution, which manifested itself in the first weeks of the invasion, when the Russian army occupied the Chernobyl nuclear power plant area [22]. The waters of the Black Sea have been polluted by the destruction of warships and the leakage of fuel into the water, but also by the use of sea mines for the prohibition of certain areas and the protection of important objectives. But, by far, the terrestrial environment suffered the most, due to the destruction of infrastructure elements, the damage to the ground by bombings, the movement of forces, the engineering works and the installed minefields. Surface waters were also polluted, the habitats of animals and birds were affected, large areas were affected by the effects of floods caused by the breaking or destruction of some dams and hydrotechnical facilities, etc. [23]. All this is evidence of how military actions affect environmental



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security and implicitly human security, and must represent an alarm signal for political decision-makers in particular, to try to adopt measures aimed at environmental protection during military actions, but especially to adopt measures to reduce the effects of these military actions as quickly as possible after the end of the conflict, by allocating funds and directing efforts to rebuild the destroyed areas, remove unexploded ammunition, land and sea mines, recondition the soil, etc.

6. Conclusion

❑ Many of the social and economic conflicts in contemporary society have environmental issues as their starting point.

❑ Environmental security is an important part of human security and national, regional and global security.

❑ Armed conflicts, along with natural disasters, represent phenomena with a strong destructive character, having multidimensional effects.

❑ In order for the destruction caused by military actions to affect the environment as little as possible, it is necessary to ensure the application of the principle of proportionality, discrimination and military necessity during the military actions.

❑ After the end of military conflicts, it is necessary to adopt measures aimed at reducing the effects of military actions on the environment as quickly as possible.

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