

# ON THE NECESSITY OF CARRYING OUT THE REFORM OF THE SECURITY SECTOR IN BULGARIA IN THE CONTEXT OF ADAPTATION TO THE ERA OF THE FIGHT AGAINST CLIMATE CHANGE

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**Abstract:** The fight against climate change necessitates the reform of the security sector owing to the increasing risks faced by the population and regions within the country as a consequence of climate change and the rapid occurrence of disasters, accidents, and catastrophes. Within the scope of climate change, a transformation of the security system is required, which includes enhancing the existing security framework through the clear articulation of strategic interests pertinent to the reform of the security sector in this context. The objective of this article is to delineate the necessity for reforms within the security sector in response to the challenges posed by climate change and the natural disasters resulting therefrom, which threaten the lives and health of the nation's population.

**Key words:** security sector, climate change, adaptive strategies, integrated security framework, security sector reform.

## 1. INTRODUCTION

The investigation into the necessity for reforms within Bulgaria's security sector is motivated by strategic planning efforts aimed at effectively confronting the emerging challenges associated with climate change, which have become increasingly prominent in recent years. In this analysis, the authors endeavour to demonstrate how current security frameworks can be adapted or transformed through the integration of comprehensive strategies aimed at enhancing resilience to climate change. The analysis and implementation are grounded in an understanding of the imperative to modify existing structures, as the complexity accompanying risks related to climate change may not be adequately addressed. Undeniably, the nation's security sector must evolve in accordance with global trends, and the most effective international practices for risk mitigation related to climate change should be carefully planned and executed.

Various scholarly works [1, 2, 3, 4] have indicated that existing security structures, along with the policies currently in place, are insufficiently prepared to meet the dual challenges of safeguarding public safety and mitigating climate impacts in vulnerable regions. The necessity for comprehensive risk assessment remains unquestioned, serving as a foundation for developing modern management systems. In this context, the formation of each subsystem within an organisational management structure mandates thorough risk analysis. By examining both the external and internal environments in which an organisation operates, valuable data are generated that serve as inputs for the optimal functioning of each subsystem. Consequently, analysing and assessing the security environment facilitates the evaluation of threats to sustainability across subsystems or the determination of each system's resilience [5].

Structurally, this study is organised into the following sections: 1. Introduction, outlining the necessity and framework of the study; 2. Methodological Framework, presenting the conceptual basis of the research; 3. Literature Review and the Theoretical Framework of Security and Climate Change, this section provides an overview of the existing concepts connecting security to climate change mitigation.; and 4. The Security System in the Context of Climate Change and the imperative for reform within the security sector, which presents practical findings aimed at defining the need for reform driven by the socio-economic impacts of climate change on national development.

## **2. METHODOLOGICAL FRAMEWORK**

This article, presented within a theoretical framework, results from a thorough and comprehensive examination of an extensive array of research and theories that establish a robust foundation for addressing the primary research question. It seeks to determine and identify the necessary measures for executing reforms within the security sector, with particular regard to how the most probable consequences of climate change may influence Bulgaria's security environment. Additionally, the article aims to identify the emerging challenges confronting the nation in terms of security, specifically those associated with climate change and the threats posed to the most vulnerable populations and settlements. Providing a response to the research inquiry necessitates a logical, objective, and systematic analysis of empirically validated data derived from completed studies, primarily through an extensive review of scientific literature from the past five years. Based on this review, the goal is to systematize well-established facts and to uncover new insights that facilitate the analysis of the process of protecting the population against disasters, accidents, and catastrophes caused by climate change. Furthermore, it involves identifying the cause-and-effect relationships that underpin the development of a new conceptual framework and theoretical understanding needed to address the challenges emerging from climate change. This framework is integral for comprehending and resolving issues within Bulgaria and underscores the importance of timely security sector reforms. The formulation of Bulgaria's national interests within the security sector and the establishment of priorities in climate change policy constitute complex and challenging endeavours, influenced by various internal and external factors that complicate the delineation of reform frameworks. The primary objective of this publication is to endeavour to articulate Bulgaria's national interests, thereby

establishing a foundation for assessing the necessity of security sector reforms in response to climate change—one of the foremost contemporary challenges confronting the nation—grounded in an in-depth situational and systemic analysis of the country's security environment. Several research tasks follow from this objective: to analyse and evaluate the security landscape in the context of climate change; to assess the fight against climate change and its implications for regional security; to attempt to define Bulgaria's national interests concerning the challenges and the requisite reforms within the security sector induced by climate change; and to present the authors' perspectives on the challenges faced by the security sector, its role in combating climate change, and the reforms required. Undoubtedly, the complexity and comprehensive scope of this study necessitate the employment of systemic and network approaches, complemented by geographical, territorial, functional, descriptive, and historical methodologies, alongside analysis and synthesis. Moreover, defining the challenges confronting the security sector in the context of climate change mandates that the study be grounded in the methodology of foreign policy analysis of the security environment as outlined in [6], recognising that climate change is an international issue affecting not only Bulgaria but the entire world. For this purpose, a combination of quantitative and qualitative analyses was employed, wherein the quantitative component encompasses both numerical and nondiscretionary methods for classifying and evaluating existing data, while the qualitative component seeks to examine the causal relationships between the identified facts. A comprehensive analysis of the processes can assist in identifying sources of instability and their influence on the security environment. This offers an alternative perspective on the future risks associated with the impacts of climate change in Bulgaria. Through a combination of quantitative and qualitative methods, it is possible to facilitate a better understanding of the connections between different nodes in the process, as well as the analysis of the consequences and their impact on security and the mitigation of climate change. The information-gathering process concentrates on collecting relevant data concerning various climate factors affecting the nation, with the aim of identifying and detecting implications for regional security and threats induced by climate change. Particular emphasis is also placed on risks to the local population, resource depletion, economic damages, threats to critical infrastructure development, environmental migration, and tensions related to energy supply. This analysis is essential to identify vulnerabilities across social, economic, and environmental domains, thereby justifying the need for reforms in the security sector. These reforms should focus on identifying regional risks from climate change and their impact on the security environment, as well as defining the roles of responsible institutions in prevention and preparedness for threats arising from climate change.

### **3. LITERATURE REVIEW AND THE THEORETICAL FRAMEWORK OF SECURITY AND COMBATTING CLIMATE CHANGE**

The presentation of this theoretical framework, delineating the interrelationship between security and the fight against climate change, represents an effort by the authors to offer their interpretative perspective, thereby justifying the necessity for reform within the security sector during times of change and uncertainty. Moreover, it emphasises the

importance of developing and implementing a comprehensive, integrated approach to establishing security and stability. In this context, climate change should be regarded as a catalyst for conflict and instability in the most affected regions. It is unequivocally recommended that climate security [7, 8] be regarded as a contemporary paradigm; consequently, theoretical approaches to studying security within the framework of climate change should incorporate economic, social, and legal adaptation strategies [9, 10]. Considering that different regions face a variety of risks and challenges related to climate change, the attainment of sustainable solutions [11, 12] necessitates the active participation of local communities in policy adaptation efforts. Furthermore, the pursuit of sustainable solutions [13, 14] justifies the need to integrate climate-related risks into traditional security paradigms, thereby enabling the identification of gaps within existing theoretical frameworks. Notably, significant progress has been achieved regarding the understanding of the links between climate change and security; however, the mechanisms underlying these links require further elucidation. Existing scholarly works [15, 16] primarily focus on overarching trends, with considerably less attention devoted to specific case studies. This presents a prerequisite for identifying gaps in understanding how and why climate change leads to conflicts and how political and economic actors across various regions respond to climate change. Consequently, difficulties arise in establishing connections between social dynamics and climate factors [17, 18].

Gradually, the scientific literature is emphasising greater importance on countries' adaptation strategies and highlighting the necessity for an integrated approach to security, considering the perception that climate change could accelerate conflicts by linking environmental security issues with defence policy and the development of sustainable progress within specific countries and regions. These emerging trends indicate the need to not only examine the relationships between nations but also to clearly define the roles of non-traditional actors in crafting strategies to address climate challenges. The strategic partnership among Balkan nations must evolve into a formal alliance within South-East Europe, achieving this through the alignment and synchronisation of regional initiatives and organisational objectives. In this context, the Bulgarian state "supports integration and bilateral relations between the Balkan countries" [19].

Evaluating the effectiveness and sustainability of the current global security system in the face of escalating climate threats requires analysing the vulnerabilities inherent in traditional security paradigms. Furthermore, it is imperative to identify and address gaps in existing policies that do not adequately incorporate climate resilience within security structures. Ensuring national security amid the challenges of climate change has become increasingly urgent, necessitating clarification of the complex relationship between climate phenomena-such as rising temperatures, extreme weather events, and resource scarcity-and their implications for international security frameworks. Indisputably, the processes associated with climate change exert an indirect influence on weakening national security across countries, including Bulgaria, through impacts on critical infrastructure, public health, economic development, and the escalation of conflicts over access to dwindling or new resources. Table 1 illustrates the interconnection among national security, climate change, and the need for reform through forecasting and strategic planning.

Table 1. Model of global climate change affecting the need for changes in countries' national security strategies.

A significant global challenge of the twenty-first century.	Some primary causes of climate change.	Impact on the population	Necessity for amendments to the national security strategy.
High Levels of Greenhouse Gases (Causes Earth surface temperatures to rise, and increases natural disaster intensity)	Deforestation (Change in Reflectivity) Burning Fossil Fuels (Carbon Dioxide) Industrial Processes (Tropospheric Ozone) Some Agricultural Processes (Methane Gases)	Deterioration of environmental and socio-economic conditions. Impact on public health. Increased vulnerability of critical infrastructure. Impact on countries' economies. Impact of Foreign interests. Increased social tension and instability over scarce resources. Increased risk of intensified migration processes and displacement from uninhabited or economically unviable areas. Increase in the number of "environmental migrants."	The fact that climate change functions as a "threat multiplier" justifies the necessity for reforms within a nation's security sector to effectively adapt to the implications of climate change.

Source: Author's adaptation and interpretation based on [22]

The Table presented should be regarded as an illustration of the necessity to devise strategies for the implementation of security sector reform in every nation globally, considering that climate change is a universal phenomenon that impacts the socio-economic development of all countries. Based on the review, it can be concluded that establishing a conceptual framework and a fundamental strategy for national security should be perceived as the development of new strategies and the updating of existing ones, which delineate both the objectives and the tasks required to safeguard the country's domestic and foreign policy interests. Moreover, the presence of a robust economic structure [23] can empower governments to finance and sustain various departments and agencies capable of effectively addressing climate change, thereby ensuring the security of their populations. This process also involves enhancing the efficiency of Disaster Protection Status Reports, noting that, for example, only 134 reports were compiled at the municipal level in 2023, representing merely half (50.57%) of the 265 municipalities nationwide. Furthermore, only 95 municipal mayors submitted reports on priority activities for funding (35.85% of municipalities) to the relevant regional councils for disaster risk reduction [24].

#### 4. THE SECURITY SYSTEM IN THE CONTEXT OF CLIMATE CHANGE AND THE IMPERATIVE FOR REFORM WITHIN THE SECURITY SECTOR.

Undoubtedly, both for the country and for the region, the escalation in the frequency and magnitude of climatic factors attributable to climate change is exerting an increasingly profound influence on the nation's socio-economic development. The risks

associated with key impacts on human and natural systems are escalating, consequently emphasising the urgent necessity for reforms within the security sector. Each individual climate factor can simultaneously impact multiple areas, systems, and spheres. Notably, there is a significant increase in the risk of extreme temperatures, accompanied by trends towards global warming, prolonged droughts, intense rainfall events, and the reduction or absence of snow cover. These phenomena represent some of the principal challenges confronting both the social and economic sectors in Bulgaria. In the social domain, climate change significantly affects human life, health, and the security of food and water resources. It may lead to heightened incidences of diseases and infections, increased pressure on water and food supplies, deterioration in the quality of life, and elevated mortality rates. Economically, climate change impacts nearly all sectors, with agriculture experiencing potential reductions in yields and product quality, as well as increased prevalence of pests, diseases, and weeds. The forestry sector faces threats from both direct and indirect impacts on biodiversity, including an increase in wildfires, pests, and pathogens. Impacts on water management are evident through declining water quality and surface water quantities. It is noteworthy that the summer of 2025 is recorded as one of the driest in history, with seasonal rainfall falling below fifty per cent of average levels. This situation results in complications regarding irrigation, fisheries, hydroelectric power operations, increased flooding events, and disruptions in the processing industry and water transportation.

#### **4.1. Climate change as a “threat multiplier”**

Climate change must be recognised as a "threat multiplier" because it unequivocally amplifies existing security challenges. For instance, in the execution of military operations, the effects of climate change can become substantially more arduous, concurrently resulting in increased costs and diminished military capacity and capabilities due to potential damage to infrastructure from extreme weather events, as well as a marked rise in the demand for humanitarian aid and disaster response.

Addressing climate challenges also requires the implementation of a broader spectrum of policies, partnerships, and investments across all sectors of a society's socio-economic framework. It is critically important to establish precise quantitative targets for emission reductions and all activities related to climate change mitigation. To this end, the development and application of standardised methodologies- both new and existing- for monitoring the progress towards these targets is essential.

#### **4.2. Conditions for implementing security sector reform in the context of climate change.**

In this regard, the primary areas that ought to be addressed by security sector reform within the framework of climate change should pertain to establishing conditions for:

- Strengthening the nation's security and sustainability;
- Enhancing public health, as well as preventing and mitigating threats to public health;
- Improving the economic situation to ensure adequate funding for the security sector's efforts to combat climate change;

- Maintaining and developing existing critical infrastructure and constructing new infrastructure, recognising these as vital to the survival of the nation;
- Improving and safeguarding public health, since public health issues diminish workforce capacity, impacting both national security and the country's overall economic development;
- Sustaining international cooperation on key global challenges associated with climate change, given its influence on the international community's capacity to respond effectively to these challenges.

#### **4.3. Reform in the security sector should be oriented towards forecasting, planning, and the implementation of preventative measures.**

The aforementioned areas indicate, but do not exhaust, the need to identify various directions through which the effectiveness and efficiency of the security sector can be enhanced to address the challenges of the 21st century, which are precipitated by global climate change. This endeavour will necessitate a series of scholarly studies across diverse scientific disciplines, forming the basis for the development of an appropriate conceptual framework that accurately reflects the predominant issues faced by the security sector in the context of climate change at the global, regional, and national levels. The persistent decline in average annual rainfall in Bulgaria, coupled with various forecasts predicting a 5 to 30 per cent reduction in annual precipitation by 2100 relative to the reference period 1961–1990, underscores the importance of this issue. Conversely, an increase in precipitation intensity is anticipated, which is projected to lead to a rise in the frequency of floods and associated damages. Consequently, a segment of the reform within the security sector should concentrate on the forecasting, planning, and execution of preventative strategies, all of which must consider the comprehensive climate characteristics of Bulgaria.

#### **4.4. Building and developing early warning systems.**

There is a well-established necessity to construct and enhance early warning systems capable of supporting the security sector in addressing climate change and facilitating adaptation efforts by assisting societies in preparing for and responding to the adverse effects of a changing climate.

The primary institution within the disaster risk management system is the Ministry of the Interior. In addition to its other core responsibilities, the Ministry oversees fire safety and protection during fires, disasters, and emergencies. It operates the General Directorate for Fire Safety and Civil Protection (GDFSCP), which is tasked with implementing activities to ensure fire safety and protection in such events. Furthermore, it is responsible for disseminating information, as well as for the control, planning, and execution of preventive measures, administrative procedures, punitive actions, and administrative services.

The functions and authority of the General Directorate "Fire Safety and Civil Protection" are governed by the Law on the Ministry of the Interior, the Rules of Procedure of the Ministry, the Law on Disaster Protection, and other relevant legislation and subordinate statutes. It is important to note that the General Directorate is a vital component of the Unified Rescue System (URS), which aims to carry out activities to

safeguard the population in cases of danger or disaster. The URS encompasses ministries and institutions, regional and municipal administrations, first aid centres, other medical and health authorities, legal entities, limited liability companies, voluntary formations, and armed forces units. The principal elements of the system include the General Directorate "Fire Safety and Civil Protection," regional directorates of the Ministry of the Interior, the Bulgarian Red Cross, and emergency centres designated for disaster or crisis situations.

During a disaster, all population protection activities are coordinated through the Unified Rescue System, with operational centres of the General Directorate "Fire Safety and Civil Protection" overseeing coordination among various system components. The institutional and regulatory frameworks for data sharing related to disaster risk management, policy planning, implementation processes, and the development of agreements and standards among different institutions and organisations are governed by the Disaster Protection Act.

The National Disaster Risk Management Plan delineates the objectives, investment priorities, and financial mechanisms for managing risks associated with floods, earthquakes, landslides, forest fires, droughts, extreme heat, storms, harsh winter conditions, as well as communicable diseases in humans, animals, and plants, industrial and nuclear accidents, and transportation incidents.

#### **4.5. Measures to address identified gaps in the security sector system in the context of climate change**

The necessity for reform within the security sector is substantiated by the existence of a Strategy for Preparing the Armed Forces for Climate Change [25], which delineates a framework for action on climate change adaptation and identifies priority areas up to 2050. This strategy emphasises the importance of follow-up activities within the armed forces, highlights the need to raise awareness, and advocates for effective dissemination of information concerning the adaptation of the armed forces to climate change.

The following measures are proposed to address the identified deficiencies:

- Enhance the scope and quality of coordination between various security sector structures and all relevant agencies involved in climate change adaptation.

- Provide professional and specialised training related to combating and adapting to climate change.

- Increase the awareness and knowledge levels among senior management and foster opportunities for integrating climate change mitigation and adaptation knowledge into the planning and management processes of security sector entities.

- Address limited financial resources to support activities aimed at combating climate change and managing its consequences.

- Develop a comprehensive, long-term strategic funding program that encompasses all facets of the country's socio-economic activities and reflects the necessary measures to combat climate change.

- Mitigate the constraints posed by limited human resources, both in terms of quantity and expertise, involved in climate change adaptation within the security sector.

- Incorporate climate change issues into training programs and plans at various levels within the security sector.

- Select and train experts specialising in environmental protection and climate change mitigation.
- Strengthen inter-agency coordination concerning climate change adaptation activities.
- Foster interaction and cooperation between civil structures in managing potential natural disasters resulting from climate change.
- Recognise the need for planning and preparing specialised units to respond to the increasing frequency of natural disasters associated with climate change in affected regions.

## **5. CONCLUSION**

In the context of developing the security sector within a nation such as Bulgaria, the principal challenges revolve around enhancing professionalism in a contemporary setting. This process should be complemented by establishing independent expertise outside the security sector, thereby enabling objective assessments of reform needs and the outcomes achieved. An evident issue in this regard is the insufficient and ineffective training of civilian experts on security-related matters across various dimensions and manifestations within the country. To address a significant portion of these gaps, additional training is required on topics related to climate change and mitigation efforts, alongside the enhancement of competencies in risk identification and management. Furthermore, maintaining the reform of the security sector as a primary priority necessitates ongoing efforts in building and training expertise to ensure successful implementation. It is also critically important to develop a comprehensive, unified strategy for the reform and development of the security sector, one that encompasses and reflects the efforts to combat climate change. Such a strategy should aim to simultaneously improve education and training, as well as stimulate and advance research dedicated to establishing an effective system for collecting and disseminating information that highlights prevailing trends in the interrelationship between climate change and security. This involves establishing and integrating the necessary legal, administrative, and social frameworks for security experts operating in fields related to climate change mitigation. Climate change, given its multifaceted nature, adversely affects global security systems by amplifying existing vulnerabilities. This necessitates, on the one hand, the adaptation of traditional security paradigms to incorporate environmental dimensions into strategic assessments for security sector reform. Climate change not only jeopardises environmental stability within specific territories but also functions as a catalyst for geopolitical tensions and socio-economic unrest. Regions experiencing severe climate events are increasingly susceptible to conflicts driven by resource depletion and intensified competition for scarce resources. It is important to note that low-income nations and those with significant income disparities are most adversely impacted by extreme weather phenomena, particularly in the long term. This disparity makes it more difficult for socially disadvantaged groups to adapt, thereby exacerbating social inequality. In devising global climate policies, greater consideration should be given to social class differences to prevent further aggravation of climate change 's adverse effects on global inequality [26]. For this very reason, the development

of the national security strategy should be regarded as a system of interconnected issue areas, given that "the security and sustainable development of the state are two interrelated domains," and consideration should be given to establishing conditions conducive to enhancing economic security and ensuring the economic prosperity of the Republic of Bulgaria [27]. Undoubtedly, Europe is recognised as a global leader with an early warning system covering approximately 75% of its population [28]. This is why "the European Union's global strategy aims to make the Union more effective in terms of energy security, migration, climate change, violent extremism, and hybrid warfare" [29] Conversely, the security sector must adapt to the development and implementation of exercises and simulations that incorporate potential threats arising from climate change, providing assistance in natural disasters. Enhancing the effectiveness of coordination with relevant operational and humanitarian actors within affected regions is critical, which is linked to improving coordination among institutions responsible for responding to disasters, accidents, and catastrophes.

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