Original Scientific Article
DOI: 10.5937/gakv95-47886
UDC 551.583(497.6)

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VICTIMOLOGICAL ANALYSIS OF THE RISK OF VICTIMIZATION DUE TO CLIMATE CHANGE IN BOSNIA AND HERZEGOVINA[***]

ABSTRACT: The idea that every human being has the right to a clean and healthy environment has captivated the imagination of people worldwide. Is this the case with environmental human rights? The United Nations Charter (1945), the Universal Declaration of Human Rights (1948), and the two human rights covenants – The International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR) (both were adopted in 1966 and entered into force in 1977) omit any reference to whether being human encompasses such a right. Socioeconomic and cultural rights include the rights to dignity, education, health, food, water, sick leave, family

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[***] The paper was received on November 24, 2023, and the paper was accepted for publication on December 4, 2023.
The translation of the original article into English is provided by the *Glasnik of the Bar Association of Vojvodina*

leave, and employment, while the right to a healthy environment presents a boundary between these and various other rights. In an attempt to address this issue, the authors first analyze the meaning of the right to environmental protection. They specifically scrutinize the outcomes of the European Climate Conference regarding the scientific contributions to climate change transformations on the European continent, held on May 15th and 16th, 2023, in Warsaw. Additionally, the paper presents insights into climate change and the victimization of citizens, along with the risks of victimization associated with these changes. Building on the discussion, special attention is directed towards the issue of the relationship between Bosnia and Herzegovina and the United Nations Convention on the Law of the Sea (UNCLOS). To achieve an adequate standardization and regulation level, urgent preventive measures are proposed to address victimization in the context of climate change in Bosnia and Herzegovina with the aim of ensuring the right of all citizens to live in a safe, clean, healthy, and sustainable environment.

Keywords: climate change, Bosnia and Herzegovina, victimization, environment, water

INTRODUCTORY REMARKS

The Magna Carta Libertatum (medieval Latin for "Great Charter of Freedoms"), adopted in Runnymede (west of London) in 1215, drew a direct link between the environment and individual freedom. It gave rise to the Carta de Foresta (Charter of the Forest) or "Forest Charter" in 1217, guaranteeing "liberties of the forestand free customs, both within and outside the royal forest," and the obligation "to respect the liberties and customs granted by the Charter of the Forest."[1] This is precisely why recognizing the right to environmental protection should commence with the acknowledgment of the "right to water" in domestic constitutional law.

The initial efforts to solidify the substantive right to a healthy environment emerged from the United States, where constitutional recognition first found its voice in the early 1960s[2]. In 1968, a young congressman from the state of New York, Richard Ottinger, took on the responsibility of advocating for the constitutional recognition of the right to a healthy (or "decent," as per the terminology of that time) environment. He argued that "only a constitutional amendment in the United States, guaranteeing every citizen a healthy and unimpaired environment, can effectively address the ease with which cur-

[1] May, J. R. (2021). The Case for Environmental Human Rights: Recognition, Implementation, and Outcomes, *42 Cardozo Law Review,* 987.

[2] *Ibid.*, 989.

rent preservation efforts can be sidestepped."[3] In this context, the people have the right to clean air and water and the preservation of the natural, scenic, historical, and aesthetic values of the environment.

In the mid-1990s, Edith Brown Weiss[4] identified around 50 constitutional provisions globally, explicitly recognizing the fundamental right to a quality environment. The United Nations Environment Programme (UNEP) concludes that at least 150 countries recognize, in some form, the right to a healthy environment at a regional, national, or subnational level. The program addresses a broad spectrum of environmental issues, including the right to water.

The Stockholm Declaration of the United Nations[5] was the first international document to recognize what has become known as the right to a healthy environment. It proclaims that

> "...Man is both the creator and the product of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth."

Subsequently, a series of documents emerged, each affirming this right in different ways. Among them is the 1989 Hague Declaration, which acknowledges the "right to live in dignity in a viable global environment," as well as the principles articulated in the 1992 Rio Declaration, emphasizing that "human beings are at the center of concerns for sustainable development and entitled to a healthy and productive life in harmony with nature." The Paris Agreement on climate change[6] incorporates human rights in its preamble[7] ("When taking action to address climate change, parties shouldrespect, promote and consider their respective obligations on human rights..."). The objective of COP21 (the Paris Climate Conference) was to reach an agreement and adopt a new legally binding document that would define the obligations of the member states of the United Nations Framework Convention on Climate Change (UNFCCC) after 2020. The goal was to prevent a global temperature increase of over 2°C. Additionally, Ksentini's report[8] (United Nations), pub-

[3] May, J. R. (2021). The Case for Environmental Human Rights: Recognition, Implementation, and Outcomes, *42 Cardozo Law Review,* 990.

[4] A. B., Stanford; J. D., Harvard; PH.D. University of California, Berkeley; LL.D. (Hon.), Chicago – Kent; LL.D. (Hon.), University of Heidelberg.

[5] United Nations, *Stockholm Declaration of the United Nations Conference on the Human Environment*, Stockholm, 1972.

[6] This was the first universal, legally binding global climate agreement. It was signed on April 22, 2016 and ratified by the European Union on October 5, 2016.

[7] See: Fransen, T. *et al*. (2019). *Enhancing NDCs: A Guide to Strengthening National Climate Plans by 2020*. Washington, DC: World Resources Institute.

[8] UN. Special Rapporteur on Human Rights and the Environment: Human rights and the environment: final report / prepared by Fatma Zohra Ksentini, Special Rapporteur.

lished in 1994, concludes that "environmental harm has direct implications for the enjoyment of a range of human rights, such as the right to life, health, [and] a satisfactory standard of living."

Bosnia and Herzegovina has ratified[9] the UN Framework Convention on Climate Change (UNFCCC)[10] and the Kyoto Protocol to the United Nations Framework Convention on Climate Change[11]. The fundamental goal of the Convention is to ensure the stabilization of greenhouse gasses (CO_2, N_2O, CH_4, HFCs, PFCs, and SF_6) in the atmosphere at a level that will prevent dangerous interference with the climate system (which comprises the atmosphere, hydrosphere, cryosphere, land surface, biosphere, and the interactive relationships among these subsystems). Furthermore, the activities outlined in the Convention are designed to reduce the rate of global warming, thereby providing conditions for natural ecosystems to adapt to climate change, preventing adverse weather conditions for food production and water supply, and ensuring future economic development. Bosnia and Herzegovina became a party to the Convention on December 6, 2000. For the successful implementation of Bosnia and Herzegovina's obligations under the Convention, a BiH Climate Change Committee, consisting of 32 representatives, was formed. Subsequently, in accordance with the conclusion of the BiH Council of Ministers 66th session, a BiH Sub-Committee on Climate Change was established, consisting of 10 members, with the majority of its members also appointed to the BiH Climate Change Committee.

The foundation for environmental protection is also established by the right to life, as outlined in Article 6 of the International Covenant on Civil and Political Rights and Article 6 of the UN Convention on the Rights of the

[9] The Paris Agreement was adopted by all 196 parties to the United Nations Framework Convention on Climate Change. It commits countries to take action to limit global temperature rise to "well below" 2°C and pursue efforts to limit it to 1.5°C (see Article 2) (Lecerf, M., Herr, D., Thomas, T., Elverum, C., Delrieu, E., Picourt, L. (2021). Coastal and marine ecosystems as Nature-based Solutions in new or updated Nationally Determined Contributions, Ocean & Climate Platform, Conservation International, IUCN, GIZ, Rare, The Nature Conservancy, Wetlands International and WWF. Available at https://ocean-climate.org/wp-content/uploads/2021/12). Net-zero objectives must align with the objectives of the Paris Agreement and have a positive impact on biodiversity, or at least be biodiversity-neutral. (*Ibid.,* 15).

[10] *The Official Gazette of Bosnia and Herzegovina,* No. 19/00.

[11] *The Official Gazette of Bosnia and Herzegovina – International agreements and treaties*, No. 3/08. The Protocol was adopted in Kyoto, Japan, on December 11, 1997 and entered into force on 16 February 2005.

Child. The child's right to a healthy environment is an indispensable standard for early childhood, ensuring that children not only survive but thrive and develop.[12]

The United Nations Human Rights Committee (the body that monitors the implementation of the International Covenant on Civil and Political Rights by its State parties) recently released a commentary and several important decisions linking human rights to environmental outcomes, including climate crises. In this regard, it is recommended that the Committee of Ministers: (1) draft an additional protocol to the European Convention on Human Rights (ECHR, ETS No. 005) concerning the right to a safe, clean, healthy, and sustainable environment, using the terminology employed by the United Nations; (2) draw up an additional protocol to the European Social Charter (ESC) concerning the right to a safe, clean, healthy and sustainable environment[13]; (3) launch the preparation of a feasibility study for a "5P" convention on environmental threats and technological hazards threatening human health, dignity and life. This initiative presents an opportunity to incorporate principles of prevention and precaution into the Convention, which are essential for properly safeguarding the human right to a healthy environment.[14]

EUROPEAN CLIMATE CONFERENCE ON THE SCIENTIFIC CONTRIBUTIONS TO CLIMATE CHANGE TRANSFORMATIONS ON THE EUROPEAN CONTINENT

The European Climate Conference on the scientific contributions to climate change transformations on the European continent was held on May 15 and 16, 2023, in Warsaw, Poland. The conference was organized by the Polish Academy of Sciences and the German National Academy of Sciences

[12] See: Kofler, B., Netzer, N. (eds.) (2012). On the Road to Sustainable Development How to Reconcile Climate Protection and Economic Growth. Bonn: Friedrich-Ebert-Stiftung, 7–9.

[13] Incorporating this right into the European Social Charter (ESC) would make it possible to recognize the interconnection between the protection of social rights and environmental protection. It would also enable non-governmental organizations to file collective complaints on environmental issues.

[14] See: Moutquin, S. (2021). Anchoring the right to a healthy environment: need for enhanced action by the Council of Europe. Strasbourg: Committee on Social Affairs, Health and Sustainable Development. Draft recommendation adopted by the Committee with a large majority on 9 September, 1–17. and Pedersen, O. W. (2010). *Environmental principles and environmental justice*. Massachusetts Avenue Cambridge: Environmental Law Review, Vol. 12, No. 1, 26–49.

Leopoldina. Following the formal opening of the conference, the attendees were greeted and welcomed by Marek Konarzewski, President of the Polish Academy (biologist), and Gerald Haug, President of Leopoldina (climatologist). Participants included representatives/delegates from 90 science academiesfrom 45 countries in Europe and Eurasia. The goal is to institutionalize a scientific platform for an innovative approach to studying climate change and related transformations and effects from a European perspective, as well as define measures and activities for achieving climate neutrality. The Conference draws inspiration from the concept of the Anthropocene[15], defined by climatologists P. J. Crutzen and E. F. Stoermer.

The opening lecture (also known as "The Crutzen Anthropocene Distinguished Lecture'"), titled "Sliding into the Anthropocene: Surprises Ahead," was delivered by climatologist Thomas Stocker from the University of Bern, Switzerland. The conference proceeded with several plenary and parallel thematic panel discussions, including "The Planet and Us – What to Do and What Not to Do?"; "Climate Change: Focusing on Regional Differences"; Roundtable Discussion 1: Society's Response/Reaction (Community); Roundtable Discussion 2: Business and Political Response/Reaction; Sectoral Transformations Across Europe: Adaptation and Mitigation (parallel clusters): Cluster 1: Agriculture and Land Use; Cluster 2: Industry and Energy; Cluster 3: Water and Ecosystems; Cluster 4: Infrastructure, Mobility, and Risks; and Conclusions and Proposals for the Draft Warsaw Communiqué.

It is crucial to highlight the Conference's strong emphasis on science and scientific methodologies, particularly in documenting, proving, and scientifically demonstrating indisputable facts regarding climate change. These include the continuous rise in global temperature, polar ice melting, increased sea temperature, acidity, and sea levels, as well as the growing frequency of extreme weather events such as floods, droughts, hurricanes[16], agricultural land degradation, and deforestation[17]. All of the above directly correlates with the intensity of anthropogenic (human) activities. The need for collective and coordinated efforts, as well as international cooperation, has been empha-

[15] Anthropocene is the term for a proposed geological era/epoch dating from the beginning of significant human impact on Earth's geological and ecological systems, including anthropogenic (human-made) climate changes. Coined by Dutch atmospheric chemist and Nobel laureate Paul J. Crutzen and American biologist Eugene F. Stoermer, the term Anthropocene has received official support from the International Commission on Stratigraphy (ICS) and the International Union of Geological Sciences (IUGS).

[16] They are characterized by the windless area formed at the center of a cyclone, known as the "eye of the cyclone." Due to specific conditions, they are confined to tropical regions and should not be confused with "extratropical" cyclones.

[17] Deforestation, also known as forest clearance, involves the cutting down and removal of forests from land to repurpose it for non-forest uses.

sized (particularly among European and Eurasian countries), directed towards harmonizing measures and adjusting strategies across all sectors to mitigate climate change until achieving a climate-neutral state. In this regard, it has been proposed that this Conference be inaugurated as an ongoing activity in the form of a periodic gathering every two or three years.

Alongside representatives from nearly all European Union countries, the presence of delegates from numerous smaller and less developed nations was notable. It was striking that delegates from all countries that emerged after the breakup of the SFRY, along with Albania, Armenia, Azerbaijan, Israel, Cyprus, Moldova, and Turkey, were also present.

The summary of the Conference, along with conclusions, future action plans, and priorities in various sectors, are outlined in the Warsaw Communique on Climate Change in Europe. Point 5 of the Communique stresses the importance of ensuring fairness in transformations both within and between social communities. Point 9 highlights the significance of recognizing regional differences, while point 10 addresses political and market-based instruments such as the European Green Deal, national green investments, and regulatory norms aimed at spurring technological and social innovations. The Communique also underscores the need for scientific-based communication among politicians, citizens, and scientists to reduce negativity and denialism.[18]

CLIMATE CHANGE AND VICTIMIZATION OF CITIZENS

The nature and pace of the observed climate changes and the emerging scientific consensus on their anticipated consequences pose serious risks to national security. Thus, each citizen should contemplate what he or she can do individually to mitigate climate change and, collectively, what their local, state, and national leaders are doing to ensure a sustainable world for future generations.[19]

In Africa, Asia, and the Middle East, the repercussions of extreme weather conditions, such as droughts and floods, have resulted in food shortages, desertification, population displacement, and mass migrations, along with rising sea levels. These trends pose significant security challenges to the governments of these regions, and their intensification is a growing concern.[20]

[18] In the psychology of human behavior, denialism refers to an individual's choice to deny/reject reality as a means of avoiding an emotionally uncomfortable truth.

[19] CNA Military Advisory Board, National Security and the Accelerating Risks of Climate Change (Alexandria, VA: CNA Corporation, 2014), 1.

[20] Ibid., 2.

The rapid population growth, particularly in coastal and urban areas, coupled with intricate shifts in the global security landscape, has made it more challenging to comprehend the strategic security risks posed by anticipated climate changes. According to the assessment of the U.S. National Intelligence Council, by 2030, population growth will lead to a worldwide demand for 35 percent more food and 50 percent more energy. Rising temperatures in mid-latitudes will escalate the demand for water and energy. These growing demands will strain resources, hinder their development, and intensify competition among agriculture, energy production, and human survival.

In light of anticipated climate changes, the escalating consumption of water, food, and energy is emphasized as an increasing security threat in the expanding regions of the world.[21] Warmer oceans also mean more intense rainfall. As sea levels rise, storm surges will become more invasive, destructive, costly, and deadly. Densely populated areas, including numerous major cities along coastlines or major waterways, are particularly vulnerable to monsoons and storm-induced floods.

Developing economies are grappling with the intricacies of the threats they face posed by anticipated climate changes, yet they are far from being ready to cope with the ensuing challenges. Climate change can significantly contribute to the issues of global instability, hunger, poverty, and conflicts. Escalating shortages of food and water, pandemics, disputes over refugees and resources, and more severe natural disasters further burden the economy, society, and institutions worldwide[22].

Rethinking the experiences of different countries, the European region clearly indicates the need for two distinct objectives: enhancing overall health and reducing health inequalities. To achieve this, strategies should be implemented at both the national and transnational levels. Within each country, efforts should focus on addressing the social determinants of health to enhance overall well-being and minimize health disparities. Simultaneously, collaborative actions on a transnational scale are necessary to tackle the root causes of inequality among countries.[23] Preventive measures should, therefore, focus on reducing greenhouse gas (GHG) emissions, particularly CO2 emissions, and enhancing carbon sequestration to safeguard the well-being of marine life and climate. Currently, efforts must be made to find strategies (measures) to

[21] CNA Military Advisory Board, National Security and the Accelerating Risks of Climate Change (Alexandria, VA: CNA Corporation, 2014), 3.

[22] *Ibid.,* 13.

[23] Review of social determinants and the health divide in the WHO European Region, 2021, 15.

mitigate ocean warming, acidification[24], deoxygenation[25], sea-level rise, the impacts of extreme weather events, and the protection of highly vulnerable ecosystems on a global scale.

Regarding their water management and flood mitigation strategy, Singaporean authorities have expressed their commitment to preserving and restoring mangrove forests[26] because mangroves play a crucial role in dispersing waves and trapping sediment, potentially offering a flexible form of coastal defense, while reducing erosion.[27] Why doesn't Bosnia and Herzegovina follow a similar approach to not only safeguard water and its resources but also preserve forests and land? And, even if it has, why isn't the country focusing on planting trees and vegetation suited for the upcoming climate changes? How is it addressing challenges like pests and illegal logging? Healthy and unspoiled marine and coastal ecosystems act as effective natural barriers against the repercussions of climate change. But what steps have been implemented to safeguard the sea and coastal regions? Talking about preserving plant and animal life is futile without the adoption of appropriate regulations, especially since climate change won't wait for our response. There's even more negligence when it comes to safeguarding biodiversity, including precious natural reserves like Hutovo Blato,[28] and it demands urgent attention and action.

RISKS OF VICTIMIZATION IN THE CONTEXT OF CLIMATE CHANGE

Health inequality violates the fundamental human right to health and is also inherently unjust. In light of European values and knowledge, Bosnia and

[24] This phenomenon is commonly referred to as "ocean acidification" or the "second CO2 problem", in addition to ocean warming.

[25] Deoxygenation is a chemical reaction involving the removal of oxygen atoms from a molecule. The term also refers to the removal of molecular oxygen (O2) from gases and solvents, a step in air-free technique and gas purifiers.

[26] Mangrove forests consist of various species of mangrove trees that are highly tolerant to saltwater, thriving in coastal areas affected by tides.

[27] Lecerf, M., Herr, D., Thomas, T., Elverum, C., Delrieu, E. and Picourt, L. (2021). Coastal and marine ecosystems as Nature-based Solutions in new or updated Nationally Determined Contributions, Ocean & Climate Platform, Conservation International, IUCN, GIZ, Rare, The Nature Conservancy, Wetlands International and WWF, 31. Available at: https://bvearmb.do/handle/123456789/2479?show=full.

[28] The nature park Hutovo Blato was established in 1995. It is located in southeastern Herzegovina, on the left bank of the Neretva River, within the municipalities of Čapljina and Stolac. Covering an area of 8,000 hectares, Hutovo Blato is considered one of the largest wintering grounds for birds in Europe.

Herzegovina should intensify its efforts to promote health and reduce health disparities. People-centered health systems are crucial for sustainability and a fair Europe. This vision is appropriately reflected in the key strategic goals of Health 2020, adopted in Malta at the Regional Committee meeting in September 2012. At the core of Health 2020 lies a simple yet vital idea: health, for the greater good, is indispensable for the well-being of individuals, social and economic progress, and the future of Europe. Health is a fundamental resource for the lives of individuals, families, and communities. Given this context, there is an urgent need to promote and protect health, especially for the most vulnerable segments of the population[29].

Preventable risk factors for the victimization of citizens in Bosnia and Herzegovina amidst future climate changes include the circumstances surrounding people's birth, upbringing, daily life, work environment, and the aging process. This is further compounded by existing disparities in power, wealth, and resources that shape these circumstances. Another equally significant risk factor contributing to the likelihood of recurrent and diverse victimization of citizens in Bosnia and Herzegovina within the context of future climate changes is the accessibility of human rights, with a focus on improving health (or the right to health and a healthy environment) and reducing inequalities or sanctioning any form of discrimination faced by citizens in accessing services or relief measures, support systems, and protection related to upcoming climate changes and natural disasters and resulting damages. The third and perhaps most crucial risk factor is the inadequate protection of water resources in Bosnia and Herzegovina, as well as the absence of the right to water as a fundamental human right in the Constitution of Bosnia and Herzegovina. Without water, there is no life, and thus, the absence of this right renders all other human rights inaccessible or unattainable for the citizens.

The reckless exploitation of our seas and compromised management have endangered both the health and prosperity of the Mediterranean for future generations. This not only puts the rich biodiversity of the region at risk but also jeopardizes the livelihoods of those dependent on and relying on a healthy, thriving planet. To date, countries worldwide, including the Mediterranean region, have failed to make significant progress in establishing a comprehensive network of marine protected areas (MPAs)[30] by 2020, as set

[29] See: Jakab, Z. (2021). *Review of social determinants and the health divide in the WHO European Region: final report*. New Delhi: World Health Organization, Regional Director for Europe. Available at: https://apps. who.int/iris/bitstream/handle/10665/...

[30] According to the definition of the International Union for Conservation of Nature (IUCN), marine protected areas (MPAs) are marine areas that have been set aside with the aim of long-term conservation of nature and related ecosystem services and cultural values.

out by the Convention on Biological Diversity (CBD).[31] Nevertheless, over the past few decades, the Mediterranean has faced significant threats to its ecological resilience, stemming from unsustainable fishing, tourism, plastic pollution, chemicals, and rapid coastal development. Additionally, the last 50 years witnessed a 41 % decline in the population of Mediterranean marine mammals, with approximately 80 % of fish stocks being overexploited. Furthermore, more than half (53 %) of sharks face the risk of extinction, and the Mediterranean seagrass *Posidonia oceanica* has experienced a decline of 34 %.[32]

Numerous environmental policies are steering Mediterranean countries towards safeguarding a diverse array of coastal and marine habitats, ensuring the resilience of natural systems to deliver interconnected ecosystem services. This includes:

– At the international level, the Convention on Biological Diversity and the UN 2030 agenda for sustainable development (Sustainable Development Goals or SDGs)[33];

– At the regional level, the maritime strategic framework and marine spatial planning fall under the European Directive on Special Protected Areas and Biodiversity(SPA/BD Protocol is the Mediterranean's main tool for implementing the 1992 Convention on Biological Diversity) and the regional convention of the UN for the protection of the marine environment and the coastal region of the Mediterranean (Barcelona Convention[34]).

Bosnia and Herzegovina, Cyprus, Greece, Israel, Libya, and Monaco were rated very poorly in terms of fulfilling their ratified obligations, scoring 50 % or less. The remaining 13 countries also had fairly poor results (below 83 %) for two main reasons: (1) they are yet to incorporate the updates made in 1995 into national legislation, especially the Protocol on Specially Protected Areas and Biological Diversity (SPA/BD), a key protocol of the Barcelona Convention dealing with the establishment of MPAs in territorial waters and

Strict marine reserves prohibit all access, with the exception of access for the purpose of scientific activity.

[31] The Convention was opened for signature at the World Summit in Rio de Janeiro on June 5, 1992, and entered into force on December 29, 1993. The US is the only UN member state that has not ratified this convention. It has two supplementary agreements, the Cartagena Protocol and the Nagoya Protocol.

[32] Gomei, M., Abdulla, A., Schröder, C., Yadav, S., Sánchez, A., Rodríguez, D., Abdel Malek, D. (2019). Towards 2020: how Mediterranean countries are performing to protect their sea, World Wide Fund For Nature, 7. Available at: https://www.semanticscholar.org/paper/Towards-2020.

[33] Adopted by the United Nations in 2015.

[34] Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention) was adopted on February 16, 1976 in Barcelona, and entered into force in 1978.

the open sea, or (2) they have failed to submit the sixth national report required by the CBD.[35]

Most other countries, with the exception of Albania, Croatia, Greece, and Malta, have made little to no effort to expand their designation of areas in the past ten years. Very few MPAs have also been designated in Egypt, Italy, Slovenia, and Turkey. Looking at the European Union member states, the majority of new MPAs in Croatia, Greece, and Spain (except for the Whale Corridor established in 2018) are Natura 2000[36] areas, established under binding legislation on birds and habitats.[37]

Algeria, Bosnia and Herzegovina, Cyprus, Egypt, Lebanon, Libya, Malta, Montenegro, Morocco, Syria, and Tunisia still do not have fully protected, official marine protected areas[38]. Despite the fact that all Mediterranean countries have adopted laws to protect the marine environment, designating MPAs and effectively managing them remains a significant challenge for most countries. Lobbying and economic interests opposing these protective measures remain too powerful, while the administrative capacities of state bodies fall short of effectively overseeing the MPA system. Additionally, decision-makers lack a long-term vision to address the biodiversity crisis.

Despite nearly two decades of global, regional, and national commitments, decision-makers in the Mediterranean are still not adequately engaged in protecting their marine environment. Twelve years ago, Mediterranean

[35] In particular, Bosnia and Herzegovina, Cyprus, Greece, Israel, Lebanon, Libya and Montenegro have yet to ratify the SPA/BD Protocol.

[36] Natura 2000 is an ecological network comprising areas crucial for preserving endangered species and habitats within the European Union. It is grounded in two directives that underpin the EU's nature protection policy, namely, the Habitats Directive and the Birds Directive. These directives safeguard approximately 1,200 animal and plant species, as well as 230 habitat types across over 20 % of the European Union's territory. The Natura 2000 network includes Special Areas of Conservation (SACs), designated under the Habitats Directive, and Special Protection Areas (SPAs), designated under the Birds Directive, currently spanning around 30,000 areas. The goal of Natura 2000 is to ensure the long-term survival and favorable conditions for the most valuable and endangered habitats and species.

[37] Lecerf, M., Herr, D., Thomas, T., Elverum, C., Delrieu, E., Picourt, L. (2021). Coastal and marine ecosystems as Nature-based Solutions in new or updated Nationally Determined Contributions, Ocean & Climate Platform, Conservation International, IUCN, GIZ, Rare, The Nature Conservancy, Wetlands International and WWF.15. Available at: https://ocean-climate.org/wp-content/ uploads/ 2021/..., 15.

[38] Gomei, M., Abdulla, A., Schröder, C., Yadav, S., Sánchez, A., Rodríguez, D., Abdel Malek, D. (2019). Towards 2020: how Mediterranean countries are performing to protect their sea, 22

countries signed the CBD Aichi Target 11,[39] committing to protect at least 10 % of their waters by establishing effective Marine Protected Areas (MPAs). However, since 2010, most countries have invested little to no effort in designating additional areas.[40].

As coastal regions become increasingly populated, more frequent or intense storms pose a threat to the residents, placing increased demands on emergency services. Simultaneous or widespread extreme weather events and/or forest fires, accompanied by mass evacuations and degraded critical infrastructure, could overwhelm local and state resources, calling for increased involvement and support from both the military and the private sector[41].

The safety implications of global climate change should serve as a catalyst for collaboration and change. However, instead of fostering cooperation, the impacts of climate change are increasing instability in vulnerable regions worldwide, acting as catalysts for conflicts. On a positive note, acknowledging these risks can lead to increased collaboration – thus, climate change can be seen as a driving force for cooperation and change[42].

Even for outcomes or projected scenarios with low probability, if the consequences are sufficiently high, resulting risks demand action. Therefore, assessments should not only focus on the contamination of hydropower potential but also on other natural resources. Other events measured more precisely, representing victimization factors due to climate change since 2007 include the following: the duration of fire seasons; the accelerated rise in sea levels; the ongoing collapse of Arctic sea[43] ice density and volume; the migration of plants, animals, and disease vectors to higher altitudes and latitudes; irregular and intensified precipitation and droughts, causing increased stress on freshwater systems.

Risk evaluations should not only measure over a specific time frame and forecast changes for the upcoming period (scenario) but also consider the broader impact of climate change on the environment. These assessments should also explore the possibility of adaptation (measures of assistance,

[39] This refers to the introduction to "other effective area-based conservation measures" within the framework of the Aichi Target 11 of Convention on Biological Diversity: Origin, interpretation and emerging ocean issues.

[40] Gomei, M., Abdulla, A., Schröder, C., Yadav, S., Sánchez, A., Rodríguez, D., Abdel Malek, D. (2019). Towards 2020: how Mediterranean countries are performing to protect their sea, 25

[41] CNA Military Advisory Board (MAB), 2014, 4.

[42] *Ibid*.

[43] Current ice trends strongly indicate an almost complete absence of ice. The Arctic summer appeared for the first time post-2021. Retrieved on September 12, 2023, from: https://www.cna.org/centers-and-divisions/ipr/mab

support, and protection) along with assessing vulnerability in terms of damages and losses. In regions prone to aridity, climate change is expected to heighten the frequency of droughts. This trend is anticipated to significantly reduce renewable surface and groundwater resources and escalate competition for water. Moreover, the predicted consequences of climate change are expected to adversely affect the quality of freshwater and drinking water due to various interacting factors. These include an increase in sediments, nutrients, and pollutants resulting from heavy rainfall loads, as well as an increased concentration of contaminants during periods of drought[44]. With a projected temperature increase of up to five degrees by 2030, Bosnia and Herzegovina will grapple with issues such as droughts, floods, landslides, and shortages of food and water.

Scientific data points to the ice cover losing more ice than it is being replenished, so researchers remain uncertain about its future. Oceans serve as the planet's largest carbon sinks, absorbing about a quarter of the carbon dioxide emitted into the atmosphere each year. As more carbon dioxide is absorbed, seawater becomes more acidic. This ocean acidification diminishes the capacity of seas and organisms with shells or skeletons made of calcium carbonate, like corals, krill, shellfish, and mollusks, to thrive, grow, and reproduce. This phenomenon impacts the entire aquatic food chain and could lead to disruptions in oceanic food supply.[45] Land loss and floods are causing population displacement, and rising sea levels would certainly have the same effect in the Neretva River basin, where the unprotected Hutovo Blato could be 'lost' if appropriate preventive measures are not taken.

The barriers to climate-resilient flood risk management in Bosnia and Herzegovina, as outlined by relevant ministries, manifest in deficiencies in the hydro-meteorological observation network; financial constraints; limitations in human resources; lack of technical capacities for risk identification, assessment, modeling, and prediction; weak coordination among institutions and management levels for risk prevention, reduction, and transfer; insufficient knowledge and capacities regarding ecosystem and non-structural climate resilience approaches; diminishing flood risk reduction strategies; lack of a strategic integrated approach to flood risk management; and inadequate access to assessment for identifying defense needs and conducting detailed risk and failure consequence assessments.[46]

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[44] CNA Military Advisory Board, 2014, 4.

[45] *Ibid.*

[46] See: Scaling up climate resilient flood risk management in Bosnia and Herzegovina, 2019: 1–15.

The anticipated impacts of climate change should be fully integrated into the national infrastructure protection plan and the overarching strategic national risk assessment plan. The strategic national risk assessment should factor in the forecasted impacts of climate change over the coming decades, ensuring resilience, with specific requirements related to these projections more precisely defined in the national infrastructure protection plan[47]. The impacts of climate change must be taken into account in all vulnerability assessments, foreseeing potential damages. Regarding maritime aspects, we must not overlook the implications of rising sea levels on the Neretva River basin, especially Buško Lake[48] (formerly Buško Blato). Thus, it is essential to plan appropriate protective measures and explore how to leverage the challenge of rising seas into a potential sustainable natural resource in the future (e.g., like Norway or England).

BOSNIA AND HERZEGOVINA AND THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

Bosnia and Herzegovina has not fully implemented the United Nations Convention on the Law of the Sea (UNCLOS)[49] nor adequately protected its marine expanse and biodiversity. On the other hand, Bosnia and Herzegovina is a maritime nation with territorial waters and other associated rights in accordance with its status under this convention. This particularly concerns the free and unrestricted access/connection of Bosnia and Herzegovina's territorial waters to international waters (open sea) for which the innocent passage regime does not apply. Additionally, the transit passage regime is not applied either; instead, the regime of free navigation and communication (the same as in the case of international waters) is applied for all types of vessels, aircraft overflight, and the laying of submarine cables.

It wasn't until 2017 that Bosnia and Herzegovina adopted its first declaration aiming to define the maritime and state borders of Bosnia and

[47] CNA Military Advisory Board, 2014, 5.

[48] Buško Lake or Buško Blato is a natural extension of the Livanjsko Polje. Situated in Bosnia and Herzegovina at an altitude of 716 m above sea level, this lake covers an area of 55.8 km^2, with a total volume of 782 million m^3. By area, this lake is the largest artificial lake in Europe. Buško Blato contains a wide variety and diversity of fish life.

[49] The convention was adopted by the Third United Nations Conference on the Law of the Sea (UNCLOS III) and was opened for signature, along with the Conference's Final Act, in Montego Bay, Jamaica, on December 10, 1982. It came into force on November 16, 1994. The convention establishes a legal framework for the oceans and seas, laying down rules governing all uses of the oceans and their resources.

Herzegovina with the Republic of Croatia.[50] In this declaration, the competent authorities of the Republic of Croatia, and by extension, the European Union, are urged to immediately cease any actions that may diminish or completely negate Bosnia and Herzegovina's sovereign rights at sea. This particularly referred to the announcement of commencing the construction of the Pelješac Bridge between the so-called "small sea" (an extension of the Neretva Channel southeast of the port of Ploče) and the Mali Ston Channel (the Bay of Mali Ston). Additionally, the competent authorities of the Republic of Croatia, that is, the European Union, are urged to promptly engage in bilateral discussions with Bosnia and Herzegovina to achieve bilateral solutions regarding maritime demarcation based on the principles of respecting Bosnia and Herzegovina's sovereign rights. There is still a lack of an appropriate legislative framework to protect the population and biodiversity from climate change impacts, such as rising sea levels, as European directives and recommendations in this domain have not been implemented.

EMERGENCY MEASURES FOR PREVENTING VICTIMIZATION BY CLIMATE CHANGE IN BOSNIA AND HERZEGOVINA

It is becoming increasingly evident that water, food, and energy are intricately intertwined. Water isn't just crucial for human survival but is also a vital component in agriculture and energy production. Producing food demands water for crop growth, as well as energy for planting, harvesting, and manufacturing nutrient-rich fertilizers. In some parts of the world, forests are burned to churn out wood charcoal, and crops are burned for biofuels instead of being used for food. In other regions, fuel is used for energy-intensive desalination to create fresh water. The primary waterways within national borders, coupled with the cultivation of food in moderate climates, provide sustenance for millions of people in challenging, arid agricultural regions, highlighting the growing importance of water security. The highest priority is for countries to ensure favorable and promising living conditions for every child right from the very beginning of their lives.

Preventive measures should be directed towards a few key areas: addressing the facts – analyzing the current situation and potential climate changes; conducting assessments, even for minor risk factors; adhering to the concept of complete responsibility through the development of victimological plans for assistance, support, and protection; and confronting potential

[50] The Declaration of the House of Representatives of the Parliamentary Assembly of Bosnia and Herzegovina dated September 13, 2017.

consequences through vulnerability assessments (considering both casualties and damages). Additionally, more lenient victimological measures involve the following: drafting appropriate legal and sub-legal regulations regarding the protection of water and other natural resources (such as land, forests, plants, animals, and people); developing victimological plans for assistance, support, and protection; providing victimology training for the population to help people navigate risky situations; securing reserves (water, food, and other resources), healthcare and compensation for damages to vulnerable citizens.

Certain health factors, such as poverty and poor education, can persist from one generation to the next and, for complex reasons, even intensify along the way.[51] Addressing this issue requires, at the very least, providing adequate social and health support for women, future mothers, and young families. Additionally, there should be significant strides in creating universal, high-quality, and accessible early education systems and child care. Both of these goals are vital for enhancing skills, individual empowerment, and ensuring a strong start, ultimately leading to improved health outcomes for the existing adult population in every country. It is particularly important to alleviate workplace stress and long-term unemployment through active labor market programs while addressing the root causes of social isolation.[52]

Considerations include:

Recommendation 1(a): Ensure conditions necessary for fostering quality parenthood and family development, promote gender equality, and provide adequate social and health protection.

Recommendation 1(b): Ensure universal, high-quality, and accessible access to early years, education systems, and child care. This also applies to employment, working conditions, and health inequality.

Recommendation 1(c): Eradicate exposure to unhealthy, insecure work conditions and fortify measures for securing healthy workplaces, employment opportunities, and quality work.

Recommendation 1(d): Introduce a cohesive and effective cross-sectoral action to address old age-related inequalities, preventing and managing the onset of chronic morbidity and enhancing survival and well-being across societal strata.

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[51] Chair, A.C. (2015). *Task Group on Sustainability and Community Head of Social Policy, New Economics Foundation, Intergenerational equity briefing Review of social determinants of health and the health divide in the WHO European Region*. New Delhi: World Health Organization, 4.

[52] Review of social determinants and the health divide in the WHO European Region: final report, 2021, 15. Available at: https://www.who.int/publications-detail-redirect/9789289000307.

Recommendation 2(a): Improve the level and distribution of social protection to meet the needs of health improvement and counteracting health disparities.

Recommendation 2(b): Ensure collaborative efforts are made to reduce inequalities in local health determinants – through joint creation and partnerships with those affected, civil society, and various civic partners.

Recommendation 3(a): Promote fairness through the effective use of taxes and transfers. Specifically, maintain the budget proportion allocated to health and social protection in all countries and increase it for those falling below the current European average.

Recommendation 3(b): Engage in long-term planning and safeguard the interests of future generations – by establishing connections between environmental, social, and economic factors and recognizing their centrality in all policies and practices.

Recommendation 4(a): Strengthen governance for social determinants of health and health equity. This requires greater coherence in actions at all governance levels (transnational, national, regional, and local) and across all sectors and stakeholders (public, private, and voluntary). Priorities include public health, prevention of poor health, and treatment.

Recommendation 4(b): Develop a comprehensive, cross-sectoral response to the long-term nature of disease prevention and treatment, ensuring health is approached fairly to achieve sustainable and equitable improvements in preventing and treating poor health and strengthening health equity.

Recommendation 4(c): Regularly report and provide public insight into health inequalities and their social determinants at all governance levels, including transnational, national, and local levels.[53]

CONCLUDING REMARKS

Each generation bears the duty to protect the environment and biodiversity, preventing any irreversible and irreparable harm to life on Earth. This guarantees the right of future generations to live in a safe, clean, healthy, and sustainable environment. It is incumbent upon each generation to ensure that natural resources are used and managed in an environmentally sustainable manner and that scientific and technological advancements in all areas do not harm or jeopardize life on Earth. Every generation is responsible for

[53] Review of social determinants and the health divide in the WHO European Region: final report, 2021, 15. Available at: https://www.who.int/publications-detail-redirect/9789289000307.

environmental protection and obligated to prevent harm to the environment and remediate ecological damage[54].

Bosnia and Herzegovina urgently needs to start developing victimological studies assessing environmental risks and their harmful effects. Furthermore, there is a pressing need for an evaluation of the population's health and the factors compromising health, along with legislative amendments to safeguard the rights, dignity, and overall well-being of individuals (including the right to water in the Constitution and the right to environmental protection in line with international documents). This should also involve an assessment of ecosystem stability and existing damages, with a particular focus on natural resources such as water, seas, forests, minerals, land, and biodiversity. By preventing and prosecuting violations of the right to a safe, clean, healthy, and sustainable environment and protecting the victims, the implementation of "integrated policies" at the national level would not only become efficient but also offer a holistic response to environmental threats and technological hazards. The idea of "moral responsibility" for wealthier nations and the call for "solidarity" with less affluent countries imply that addressing other social inequalities, such as gender equality, children's rights, and the right to education for the most vulnerable (victimological training for assistance, support, and protection of individuals at risk due to climate change), should be top priorities for underdeveloped and developing nations. This involves a commitment from the state of Bosnia and Herzegovina not only to align its legal framework with international and European legal norms and standards but also to pay special attention to the different treatment of particularly vulnerable groups within its society when implementing these provisions in its constitution and legislation. Nonetheless, Bosnia and Herzegovina has thus far missed numerous opportunities for improvement and failed to develop a unified strategy for managing risks associated with climate change. This could mean that the country may face future climate changes unprotected and unprepared.

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[54] Moutquin, S. (2021). Anchoring the right to a healthy environment: need for enhanced action by the Council of Europe, Committee on Social Affairs, Health and Sustainable Development, Draft recommendation adopted by the Committee with a large majority on 9 September, 1–17.

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