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The World on Fire: A Global Ecological Threat

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In July 2021 while the world was still trying to overcome the waves of the coronavirus pandemic sweeping across countries, Turkey was tackling the most dangerous wildfire it had ever witnessed. Since one of the main effects of forest fires is the aggravated worsening of air quality, its impact was multiplied at a time when the pandemic was widely affecting respiratory health. According to the situation report by OCHA, there were 270 wildfires that initially started over 53 provinces and have adversely affected forests, residential areas, wildlife, and human life in Istanbul, Turkey.¹ The terrifying photographs of an orange smoke-filled sky were plastered all over the internet and social media until the ecological threat got buried under the more recent situations impacting international security and politics. A similar situation in Greece was observed in August 2021 with local authorities battling about 56 active wildfires in Athens. Thousands of people have suffered injuries, loss of property, life or limb and have had to be evacuated to safer areas to escape the blaze of these wildfires².

The question is whether these fires can be attributed to the climate change crises and fall under the environmental issues to be considered on international forums. The noticeable link between climate change and human security issues has been severely lagging in recent literature. The central argument of this paper is that climate change-induced wildfires need to be explicitly recognized by states as a security threat. The first part of the paper will conceptualize the concept of securitization of climate change, as has been discussed by various scholars and experts in the field of security and environmental studies. The second part will highlight the types of wildfires that have taken place over the past decade in different countries and the approaches and countermeasures adopted to combat such an environmental emergency. The third part of the paper aims at analyzing the recommended policy changes, strategic and future proof countermeasures suggested by various stakeholders. For this paper, the terms wildfire and forest fire have been used interchangeably.

¹ OCHA Services. (2021). *Information Bulletin: Turkey Wildfires - 5.08.2021*. Turkish Red Crescent.

² The Guardian. (2021, August 6). Retrieved from Wildfires burn out of control in Greece and Turkey as thousands flee. Link: <https://www.theguardian.com/world/2021/aug/06/wildfires-out-of-control-greece-turkey-thousands-flee>.

Securitisation of climate change vis-à-vis human security

The drastic environmental changes across the world have been obvious to anyone paying attention. Climate change has been a topic of extensive debate amongst security scholars and climate security has been recognized as a security issue. However, there has been no implementation to combat the consequences. In simple terms, the question is whether climate change can be considered a security threat? The term “securitization” was coined by Ole Waever of the Copenhagen School. Securitization was described to make an issue at hand a security matter by the mere use of language or speech by political leaders. Scholars have noted NATO’s perception of climate change is as a non-traditional security threat multiplier of climate change. The main argument is establishing a link between the impact of climate change on national and international security by tackling it from the perspective of a security threat³. Where security is concerned, the entity under threat can be safeguarded through various institutional and organizational mechanisms⁴.

Climate change has made some irreversible changes to the natural world as we know it. It has led to various global human security issues such as international migration, lack of access to basic amenities, loss of life and the violation of the right of individuals to a healthy and safe environment. The current national and international platforms may have discussed these issues at length, however, very few were able to achieve any actual results to reverse the damages caused due to climate change. Applying the theory of securitization to climate change forces a multispectral approach to security to emerge wherein various state and non-state actors are actively involved in prevention or repair strategies. These actors or stakeholders are interdependent for the implementation of effective security measures. For instance, collective measures of international cooperation such as the UN International Strategy for Disaster Reduction (UNISDR) is considered an effective approach as it not only enables the interaction and cooperation between various

³ Causevic, A. (2017). Facing an Unpredictable Threat: Is NATO Ideally Placed to Manage Climate Change as a Non-Traditional Threat Multiplier? *Connections*, 16 (2), 59-80.

⁴ SAHU, A. (2017). "The Securitisation Of The Climate Change Issue: A MULTISECTORAL APPROACH TO SECURITY.". *World Affairs: The Journal of International Issues*, 21(4), 26-37.

stakeholders from different sectors (public and private) but could also possibly help reduce, if not completely reverse, the inevitable consequences of climate disruption⁵. Wildfires in the countries like Turkey cause severe human security risks as forests are a direct or indirect source of subsistence for the rural population. It provides, food, shelter, firewood, medicines etc., to these indigenous groups whose livelihoods are in these forests. Similarly, in 2015 schools had to be shut down across Southeast Asia with extreme health concerns caused by the toxic haze from the out-of-control forest fires in Indonesia. The education of 5 million students was impacted due to the closure of schools during the forest fires⁶. Therefore, the impact of climate change-induced forest fires need to be carefully examined keeping in mind the various facets of human security which are concerned with safeguarding individuals from non-traditional security threats and freedom to live.

Since climate change threatens millions of lives and livelihoods and causes poverty, displacement and other such global vulnerabilities, many scholars have identified it as a human security risk. Additionally, it is useful to note the concept of fire seasons which is a particular time of year when certain forests face fires due to natural causes. These seasons were an important part of how the natural world worked in the past decades however, with the steady rise in temperature and subsequent increase in the length of fire seasons primarily due to climate change, it is no longer considered natural. The benefits of securitizing climate change and urgent deliberation through its inclusion of key experts in policymaking agendas could enhance the policy response and action by various international and state actors. These actors have yet to acknowledge and prepare for the human security implications of environmental disasters caused by climate change⁷.

⁵ Goldammer, J. (2003, October). *Food and Agricultural Organization of the United Nations*. Retrieved from International cooperation in wildland fire management: <http://www.fao.org/3/y5507e/y5507e02.htm>

⁶ WWF and BCJ. (2020). *Fires, Forests and the Future: A Crisis Raging Out of Control?* Boston: WWF International

⁷ FRANCE), MINISTÈRE DE L'AMÉNAGEMENT DU TERRITOIRE ET DE L'ENVIRONNEMENT. (2001). *International Handbook on Forest Fire Protection Technical guide for the countries of the Mediterranean basin*. FAO

Causes and Impact of Wildfires

In a report by UN's the Intergovernmental Panel on Climate Change (IPCC), it is stated that the past 6 years have been the hottest on record. One of the after-effects of this rise has been wildfires. Countries like the USA, Greece, Turkey, Australia have witnessed the largest and the most destructive wildfires caused by the heatwave leading to the rise of various national and international human security issues. According to WHO, wildfires and volcanic activities have affected over 6.2 million people between 1997-2017 and 2400 attributable deaths because of suffocation, injuries, burns etc. Reports have stated that while wildfire risk depends on several factors such as temperature, soil moisture, presence of trees etc., each of these has some link to climate variability and climate change. Even if the starting cause of these fires are people, the rapid spread is caused due to warm and dry conditions⁸. The impact of a natural disaster of such scale and magnitude extends to state budgets, public health safety and the protection and preservation of the natural environment.

The long-term impact of wildfires includes a reduction in the fertility of the land, destruction of wildlife, stunted growth of trees and turning forest soil susceptible to erosion⁹. The Global Forest Watch emphasizes on the fires and climate loop which is a perpetual cycle caused by dry conditions, leading to the rise of temperature, causing fires and so on. It has been found that the total burned area in the USA has been increasing and was particularly bad in 2020 destroying almost 3.2 million acres of land in California¹⁰. Another angle to be noted is that excessive fire suppression is equally harmful to the proper functioning of the environment. Reports have indicated that there are instances wherein forest fires are caused deliberately and are part of the

⁸ Centre for Climate and Energy Solutions. (n.d.). *Wildfires and Climate Change*. Retrieved from <https://www.c2es.org/content/wildfires-and-climate-change/>

⁹ Mukhopadhyay., D. (2001). Forest Fires in Uttaranchal: Issues in Prevention and Control. *Economic and Political Weekly*, 36(37), 3510-3512.

¹⁰ Nancy Harris, T. M. (2020). *6 Graphics Explain the Climate Feedback Loop Fueling US Fires*. The Global Forest Watch

natural cycle such as in the case of the Indigenous cultural fire in Australia, which is used to maintain the diversity of vegetation and wildlife and store carbon in landscapes. Excessive suppression may cause the growth of weaker trees and high mortality of vegetation as in the case of Sweden¹¹. In terms of carbon emissions, forest fires in 2019 have contributed to about 1/5th of the total emissions globally¹².

Future Planning and Counter Measures

While there have been several meetings and conferences advocating for international cooperation for forest fire management, the success of these measures or tools in a practical space has been limited. The advancement of existing knowledge of the causes of wildfire, increased access to information and resources is pertinent to effective policymaking at the national and international level. For instance, the International Wildland Fire Conference held in Australia in 2003 highlighted the importance of international involvement in fire management. The FAO recommends a multifaceted and multi stakeholder approach to fire management. The comprehensive approach includes the following, Review and Analysis, Risk Reduction, Readiness, Response to fires, and Recovery¹³.

The Food and Agricultural Organization of the United Nations wing coordinates and works with the UNISDR, WHO, governments, international NGOs, and Regional Forest Commissions across the world to support, lead and create publications on Integrated Fire Management at all policy and implementation levels. Capacity-building measures at the national and international level should

¹¹ WWF and BCJ. (2020). *Fires, Forests and the Future: A Crisis Raging Out of Control?* Boston: WWF International

¹² Ibid.

¹³ Moore, P. v. (2016). International Relations for Reducing Wildfire Impacts – Some History and Some Thoughts. *Proceedings of the Fifth International Symposium on Fire Economics, Planning, and Policy: Ecosystem Services and Wildfires*.

be implemented in areas with large forest cover. Since forest fires result in tremendous economic, social, and environmental losses, forecasting such risks are the most effective measure taken by countries. Different countries also use various types of indexes to assess the likelihood of a forest fire, for example, Canada uses a Forest Fire Rating System which includes three moisture indices to estimate Fire Weather. A study conducted on Mount Kenya revealed that fire prevention is a lot more efficient than fire management. Field observations identified the need for better communication between local communities residing in the forest with local authorities with the equipment to manage forest fires using mobile, internet etc. The importance of coordination and cooperation between different stakeholders like the community, interest groups and authorities at the national level is emphasized. The use of satellite technology and other sophisticated forest fire detection techniques is important to prevent damage and effective wildfire management¹⁴. In terms of immediate measures, spatial planning is an effective way to break fires in prone areas. This technique requires artificially discontinuing forest cover with the intention of decreasing fire intensity and allowing for focused attack by fire crews¹⁵.

Furthermore, proper infrastructural measures such as access roads, establishment of track networks, creating artificial water resources zones, advanced fire suppression activities by trained personnel and land management plans could be effective ways to control wildfires at a local level. Reparation efforts and reversing the impact of fire on the natural environment after the fire has been brought under control also requires funding and focus. The mere suppression of fires is not enough. Regeneration activities to improve the conditions of the impacted flora and fauna including, soil, wildlife, microorganisms, and economic losses are important aspects to consider as well¹⁶. Scientists have also recommended sustainable land use and management practices to preserve forests for the future.

¹⁴ Claudio Poletti, G. D. (2019). Characterization of Forest Fires to Support Monitoring and Management of Mount Kenya Forest. *Mountain Research and Development*, 39(3), R1-R12.

¹⁵ (FRANCE), MINISTÈRE DE L'AMÉNAGEMENT DU TERRITOIRE ET DE L'ENVIRONNEMENT. (2001). *International Handbook on Forest Fire Protection Technical guide for the countries of the Mediterranean basin*.
FAO

¹⁶ Id.

Conclusion

It is best to understand climate change as a security problem rather than an environmental issue. The coronavirus pandemic has made matters worse with most governments diverting the funds for other purposes and forest fire management crews being off their duties. To combat the risks, recent literature suggests various technological models that could be used for example wireless sensor networks, satellites etc.¹⁷. Reinvesting in prevention measures is an important step that has been recommended.

It is important to note that since forest fires have been historically common, some of the counter or control measures adopted previously may have a detrimental impact on the ecosystem now and facilitate the harmful effects of climate change. For instance, the use of drip torch or prescribed burning techniques. And therefore, monitoring and further research to evaluate the cost and benefits that are more relevant to the current times is recommended. In conclusion, the securitization of climate change can be considered a fundamental step in efforts to combat harmful forest fires and their management. The sooner countries recognize it as a security threat and address the issue within their international and national agendas, the easier it would be for future generations to breathe.

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¹⁷ Josué Toledo-Castro, P. C.-G.-P.-G.-G.-C. (2018). Forest Fire Prevention, Detection, and Fighting Based on Fuzzy Logic and Wireless Sensor Networks. *Complexity*.

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