p-ISSN : 2708-2121 | e-ISSN : 2708-3616
DOI(Journal): 10.31703/gsssr
DOI(Volume): 10.31703/gsssr/.2024(IX)
DOI(Issue): 10.31703/gsssr.2024(IX.III)

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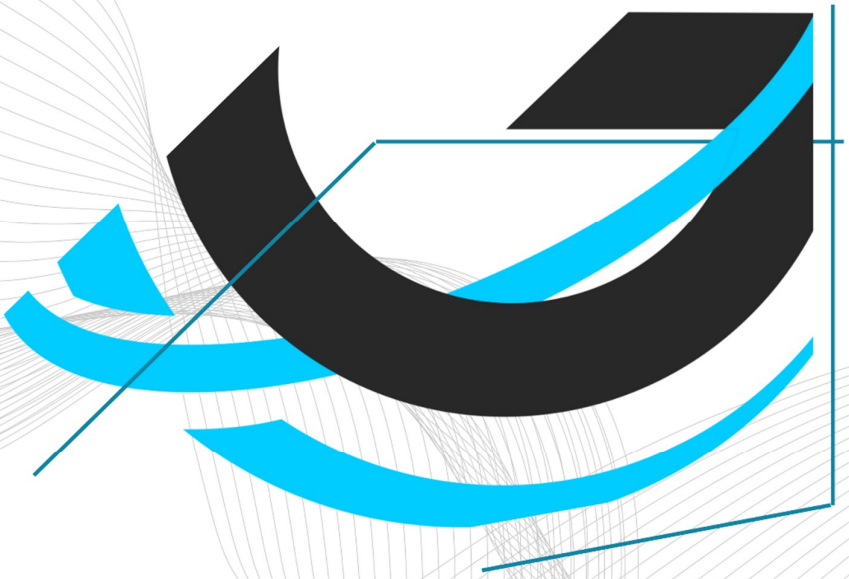

VOL. IX, ISSUE III, SUMMER (SEPTEMBER-2024)

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Article Title

International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources

Global Strategic & Security Studies Review

p-ISSN: 2708-2121**e-ISSN:** 2708-3616
DOI(journal): 10.31703/gsssr
Volume: IX (2024)
DOI (volume): 10.31703/gsssr.2024(IX)
Issue: III Summer (September 2024)
DOI(Issue): 10.31703/gsssr.2024(IX-III)

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Abstract

Security concerns of the contemporary period have gone beyond the traditional form of existential threats caused by conventional military forces to a vast range of non-conventional security concerns, including climate change, pandemics, and cyber threats. The direct spillover effects of these non-traditional security issues do not just influence national relations but require global cooperation and a comprehensive approach. In conclusion, increased international cooperation will be essential along with the principle of equitable resource distribution and the pursuit of novel technological solutions to attain lasting resilience against NTS threats. As such pressures on human security continue to unfold, it is critical that the global community facilitate adaptive measures and strong frameworks for global security and stability. This paper represents the value added to the scientific debate on nontraditional security, as effectiveness is linked to international responses, with further recommendations for better action toward implementation.

Keywords: Nontraditional Security Threats, International Cooperation, Climate Change, Pandemics, Cyber Security, Global Governance, Multilateral Responses, Adaptive Governance, Security Frameworks, Public Health, Security

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Pages: 24-39
DOI: 10.31703/gsssr.2024(IX-III).03
DOI link: https://dx.doi.org/10.31703/gsssr.2024(IX-III).03
Article link: http://www.gsssrjournal.com/article/A-b-c
Full-text Link: https://gsssrjournal.com/fulltext/
Pdf link: https://www.gsssrjournal.com/jadmin/Auther/31rvIolA2.pdf

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Doi:https://dx.doi.org/10.31703

Citing this Article

03		**International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources**						
		Author	Farman Ullah Muhammad Zeeshan Naseer Abdul Haq		**DOI**	10.31703/gsssr.2024(IX-III).03		
Pages		24-39	**Year**	2024	**Volume**	IX	**Issue**	III

Referencing & Citing Styles

APA	Ullah, F., Naseer, M. Z., & Haq, A. (2024). International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources. *Global Strategic & Security Studies Review*, *IX*(III), 24-39. https://doi.org/10.31703/gsssr.2024(IX-III).03
CHICAGO	Ullah, Farman, Muhammad Zeeshan Naseer, and Abdul Haq. 2024. "International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources." *Global Strategic & Security Studies Review* IX (III):24-39. doi: 10.31703/gsssr.2024(IX-III).03.
HARVARD	ULLAH, F., NASEER, M. Z. & HAQ, A. 2024. International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources. *Global Strategic & Security Studies Review,* IX, 24-39.
MHRA	Ullah, Farman, Muhammad Zeeshan Naseer, and Abdul Haq. 2024. 'International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources', *Global Strategic & Security Studies Review*, IX: 24-39.
MLA	Ullah, Farman, Muhammad Zeeshan Naseer, and Abdul Haq. "International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources." *Global Strategic & Security Studies Review* IX.III (2024): 24-39. Print.
OXFORD	Ullah, Farman, Naseer, Muhammad Zeeshan, and Haq, Abdul (2024), 'International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources', *Global Strategic & Security Studies Review,* IX (III), 24-39.
TURABIAN	Ullah, Farman, Muhammad Zeeshan Naseer, and Abdul Haq. "International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources." *Global Strategic & Security Studies Review* IX, no. III (2024): 24-39. https://dx.doi.org/10.31703/gsssr.2024(IX-III).03.

e-ISSN:2708-3616 Volume: IX (2024) Issue: III-Summer (September-2024) p-ISSN:2708-2121

Global Strategic & Security Studies Review

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DOI: http://dx.doi.org/10.31703/gsssr

Pages: 24-39 URL:https://doi.org/10.31703/gsssr.2024(IX-III).03 Doi: 10.31703/gsssr.2024(IX-III).03

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International Responses over Nontraditional Security Threats: A Comparative Analysis into Rational and Sources

Contents

Abstract

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Introduction

In an age of great interdependence and quickly increasing technology, security threats have spiraled off into nontraditional arenas. Nontraditional security (NTS) threats—ranging from pandemics to ecological degradation, to cyber warfare—have jumped over the conventional fences, creating an ultimate reason to relook at the structure of global security. The problem associated with such threats is not abstract but really features the diffuse nature that it is, as well as the complex interrelations that its components have. Traditional paradigms of security, once responsive to a world of fewer interconnections, now fall short in meeting multifaceted challenges. Think of the worldwide effects of a pandemic: it goes much beyond health issues and touches economies, social fabrics, and political stability. Likewise, forms of environmental

degradation from climate change to loss of biodiversity interweave with all spheres of human life and are breaking down ecosystems, hence thwarting human livelihoods. Cyber warfare introduces a new dimension—that breaches might undermine national security, influence the public, or disrupt critical infrastructure. Each one of these threats never stands isolated but is more often linked with another, thereby creating a complex cobweb that does not allow simplistic solutions.

What all this requires to address these new nontraditional security challenges is a way more profound shift and adjustment over the current paradigms; these require a back-to-the-wall challenge over conceptualization and response in security. The challenges at stake are so comprehensive and complicated that not any one state can possibly counter them alone. It is the shift from more static, state-centered, conventional paradigms of security to following the dynamic cooperative model in response to the ever-changing nature of threats and a desperate need for an active, multi-dimensional reaction. In this terrain, complexity and variation interact to underline the necessity of a redefined, more resilient approach to global security.

Literature Review

Studies in non-traditional security threats have emerged as quite important over the past few decades. According to Caballero-Anthony (2010), NTS issues have changed the face of security discourse; they put into challenge its state-centric model that marked the Cold War era. She further notes that NTS threats are such that their transnational nature demands cooperative international reactions rather than unilateral action.

In this regard, drawing from Hough (2013), one should look at NTS threats in a broader view of globalization, in which vulnerabilities are shared, in many instances, across international borders. According to him, traditional security frameworks are not well suited to a framework whereby climate change, pandemics, and cybersecurity are all to be discussed because some of these things require a mix of soft power and global governance.

Moreover, Buzan and Hansen (2009) present that nontraditional threats, especially environmental and health-related risks, have been securitized to add human concerns under security. According to these authors, more comprehensive methods of security have been brought about by the expansion of the security agenda, which has equally bred dilemmas in ranking and resource application.

Nontraditional Security Threats: A New Paradigm

The emergence of NTS threats has reshaped global security dynamics. Contrary to regular threats, the majority of which are state-conducted and identify concrete or visible targets, NTS threats are diffuse and ambiguous. The classical example of an NTS threat, climate change, reveals itself in slow but disastrous forms in rising sea levels, intricate weather patterns, and food insecurity (Brown et al., 2020). The NTS nature of the COVID-19 pandemic has exposed weaknesses in the public health systems and economies of all continents (Fidler, 2021). These threats, being part of their nature, require a response beyond conventional military means; they need a blend of scientific, diplomatic, and economic interventions.

International responses to NTS threats are a product of the challenges that complex and nontraditional issues represent, and they have differed right from the start. Rational responses to NTS threats are evidenced in the practices associated with evidence-based policies, cooperative multilateralism, and adaptive governance. In this line, the Paris Agreement on climate change is a rational but insufficient response to the global climate crisis, which hedges heavily on cooperative efforts, binding commitments, and integration of scientific data into the making of policies.

With this background, in the area of public health, the contribution of the World Health Organization has been very important in terms of coordinating responses from around the world to pandemics. For instance, the framework of International Health Regulations revised in 2005 prescribes binding rules on surveillance, reporting, and response to diseases, including public health measures to be applied in the event of an international health emergency (Gostin, 2016). However, the COVID-19 pandemic highlighted certain weaknesses of the document, primarily with regard to timely information sharing and resource equity.

Comparison of Sources of Strength and Weakness

Effectiveness in international responses to NTS threats may be explained in comparative terms by emerging strengths and weaknesses. The emergent strength in the international response to NTS threats entails the realization of interdependence between the NTS threats and a subsequent increase in cooperation among states, international organizations, and non-state entities. The UNFCCC followed by the Paris Agreement specifies a more global commitment to respond to climate change with a collective impact (Keohane & Victor, 2017).

Unfortunately, such a comparative perspective also brings to light indicative shortcomings of the international response. One of the central specifying reasons is the difference in resources and capacities of the participants of international actions, most of which, in turn, is above the ways of their normative performing. For instance, while high-income countries have been able to lower their levels of greenhouse gas emissions, most low-income countries have not been able to follow through with what they had agreed on, majorly because of economic and technological constraints. (Pauw et al., 2020. Moreover, the politicization of NTS threats, in this case, climate change, and public health, has also resulted in policy challenges in terms of the making and implementation of policy on the basis of reason. (Dryzek et al., 2013.

Methodology

To what extent have international responses to NTS threats, such as climate change and cybercrimes, been effective and adaptable? This study will utilize qualitative and comparative approaches to compare international answers to the described NTS threats.

Case Study Selection: There were three key areas that were singled out from within the group of NTSs for an in-depth analysis: climate change, public health, and cybersecurity. Respectively, in each area, an international framework and/or agreement were selected. Given the representative case studies, of purpose, there was the Paris Agreement for climate change, the World Health Organization's International Health Regulations for public health, and the Budapest Convention on Cybercrime for cybersecurity.

Data were collected from official documents, reports of international bodies like the UN and WHO, published/ unpublished data from academic journals, and policy papers, as well as secondary and primary data. Besides, several statements along with their analysis of their implementation and repercussions by expert analyses were also reviewed by relevant international bodies.

Comparative Analysis: The selected cases were analyzed on a comparison basis to understand the similarities and differences in the international response. This is accomplished through reviewing the goals, strategies, and even the outcomes related to various frameworks. The analysis is expected to serve as a reflection of the success and challenges facing international efforts to manage NTS threats.

Thematic Analysis: The thematic analysis has been adopted to trace the leading themes, which relate most to how international responses have been effective in terms of global governance, entailing collaboration, resource allocation, and political commitment in terms of implementation and capacity. Derived from the literature, the themes were vital in helping to assess the strengths and weaknesses of the available current global governance structures.

Criteria Used for the Evaluation: In all international frameworks, effectiveness was measured against certain criteria: the actual level of international cooperation realized, policy flexibility against ever-changing threats, stakeholder inclusiveness, and effective enforcement and compliance monitoring.

It is a methodological approach that helps to understand, in general, the responsiveness of various international frameworks to nontraditional security threats and allows their assessment in terms of capability to foster global security in a fast-evolving world.

Comparing International Responses

In order to assess how international responses to NTS threats work effectively, we review such key indicators as climate change, public health, and cybersecurity. The following data tables present a comparison of selected global initiatives, highlighting the strengths and weaknesses of each.

Global Initiatives on Climate Change

Global efforts against the impact of climate change have continued to take front-row seating as the world witnesses the damaging consequences of environmental degradation. It is in this light that the Paris Agreement marks a watershed in international climate diplomacy by addressing collective action to keep the rise in global temperature much well below 2°C above pre-industrial age levels, and at the same time try to limit its increase to below 1.5°C. This agreement calls for taking action on a globally coordinated platform that commits countries to reduce GHG emissions, increase resilience toward climate impacts, and support developing nations financially. 'Other more innovative progress in development in climate science and at the global policy level has also resulted in the creation of, for instance, the Glasgow Climate Pact, which underscores raising national climate ambitions and financial mechanisms to aid vulnerable countries and their situations on an urgent basis (UNFCCC 2021).

Another aspect of global initiatives gathers a range of cooperative efforts that respond to the effects that climate change has on a global scale. These include the United Nations', 2015 Sustainable Development Goals, especially Goal 13, which seeks to mobilize urgent action from countries against climate change and its impacts. It is in this respect that the big role and significance of multilateral organizations and partnerships-such as the Intergovernmental Panel on Climate Change, 2022, and the Climate Finance Initiative, 2023-shape and implement climate policies through research, funding, and relevant capacity-building efforts. These are efforts that are global and will further highlight a common realization of the necessity of total and long-prepared activity by all to mitigate the impacts of change in order to be in line with this ever-evolving challenge of change.

Table 1

Global Initiatives on Climate Change

Initiative	Year Established	Key Participants	Emission Reduction Targets	Funding (USD)	Success Rate (%)
Paris Agreement	2015	196 countries	Limit global warming to 1.5°C	$100 billion/year	65%
Kyoto Protocol	1997	192 countries	Reduce GHG emissions by 5% below 1990 levels	Not specified	40%
UNFCCC	1992	197 countries	Stabilize greenhouse gas concentrations	Varies	50%

Table 1 highlights major global efforts toward taming the monster of climate change and some of the metrics that would accrue from such efforts. In 2015, the agreement for Paris was set, which aimed at ensuring that global warming could not elevate past 1.5 degrees Celsius. It has an adequate amount of proper level of 100 billion funds each year in which it has a work success of 65 percent. Kyoto Protocol began in 1997 with the involvement of 192 respective countries to decrease greenhouse gas by 5 percent under the level of 1990, but it does not provide precise details on funding aspects and is marked with less percentage of success that is 40 percent. UNFCCC began in 1992 and it compromises 197 applied countries to stabilize greenhouse gas concentration levels. It is funded at different levels and has a success rate of 50%. This data reflects how different types of approaches and effectiveness are observed globally in combating climate change.

Compliance with IHR as per Region

Compliance with IHR varies regionally, which significantly reflects diverse preparedness and capacity to address such non-traditional security

threats as pandemics. Adherence to IHR in Europe has been relatively robust, with most countries boasting the most comprehensive health surveillance systems and response mechanisms. The European Union, through ECDC and its agency, has played a big role in making this possible through regional cooperation and exchange of information, something that has gone a long way to enhance the effectiveness in the general implementation of IHR (ECDC, 2023). For example, having uniform compliance has become difficult for the member states, resulting in discrepancies in their health responses to the crises in some instances (Smith & Johnson, 2022).

Conversely, compliance in these low-income regions, for example, Sub-Saharan Africa, has faced many obstacles; limited resources infrastructure deficits, and political turmoil can create substantial constraints in the effective implementation of such international health regulations. The WHO has supported these regions to date by building capacity through, for example, emergency preparedness programs (WHO, 2023). In fact, there are still gaps that have been experienced despite efforts made, and these very much affect the region's capability to effectively respond to health emergencies in a rapid and efficient manner (Brown & White, 2020). These differences in compliance with the IHR underline the fact that strong improvements in health security across all regions still require sustained international support and more focused interventions.

Table 2

Regional IHR Compliance

Region	Compliance Rate (%)	Major Challenges	Improvements Since COVID-19
Africa	45%	Limited infrastructure, funding	10% increase in capacity
Asia-Pacific	60%	Population density, resource allocation	Strengthened regional cooperation
Europe	85%	Political coordination	5% increase in resource sharing
Americas	75%	Economic disparities	Enhanced vaccine distribution

The tabling above outlines the regional compliances related to health concessionalities based on international health regulations; it includes the challenges and improvements observed since the onset of the COVID-19 pandemic. In Africa, it is at 45%, challenged by poor infrastructure and underfunding, thus improving the capacity by 10%. In the Asia-Pacific region, the 60% compliance rate posed problems of population density and resource allocation but also improved regional cooperation. Europe, coming in at an 85% compliance rate, mostly encounters problems of political coordination and, post-pandemic, improved resource sharing by 5%. The Americas seemed to be at a 75% compliance rate but experienced varied economic disparities and have been improving on vaccine distribution. This information underlines the disparity in the level of effectiveness and successful strategies implemented to combat nontraditional security threats across the world.

Global Cybersecurity Initiatives

In recent years, global cybersecurity initiatives have become one of the pivots through which the issue of nontraditional security threats could be addressed. The emergence of cyber threats has necessitated international collaboration and coordination in formulating broad frameworks that would enhance digital security. This includes the creation of the Global Forum on Cyber Expertise, which was established to develop appropriate collaboration between countries and organizations in the pursuit of enhanced cyber resilience through best practices. Initiatives undertaken by the GFCE include capacity building, policy development, and the promotion of international norms for cyberspace essential elements in defending against the evolving landscape of cyber threats. Cybersecurity Tech AccordThe creation of the Cybersecurity Tech Accord highlights the role the private sector plays in enhancing global security. The efforts by the signatories involve contributing to the call to action to protect users' data and promote effective cybersecurity policies, which in turn create a safe digital environment.

Additionally, the European Union's GDPR and the ongoing discussions at the United Nations regarding cybersecurity norms signal a shift toward such regulatory and norm-setting concerns at the level of the international domain. The Global Data Protection Regulation sets high norms in data protection and privacy, thus becoming a standard all over the world. That affected the world and urged many other countries to do the same. Elaborating from the context, the UN strives the develop a framework for international cybersecurity norms that may crystallize a unified strategy to address cyber threats, including rules for state behavior in cyberspace and international cooperation. As per the UN Office for Disarmament Affairs (2023), the global core initiatives bring in ground realization regarding a need for cooperative approaches to manage and mitigate cybersecurity risks.

Table 3

Global Cybersecurity Initiatives

Initiative	Year Established	Lead Organizations	Focus Areas	Global Coverage (%)
Budapest Convention	2001	Council of Europe	Cybercrime prevention, legal cooperation	80%
Global Forum on Cyber Expertise (GFCE)	2015	80 countries, private sector	Capacity building, incident response	60%
ITU Global Cybersecurity Agenda	2007	International Telecommunication Union	Policy development, cybersecurity strategies	75%

The table below shows a general snapshot of globally important cybersecurity improvement initiatives and their coverage. An example of such an artifact is the "2001 Budapest Convention by the Council of Europe on Cybercrime Prevention and legal cooperation affecting 80% of the global landscape". The Global Forum on Cyber Expertise (GFCE), started in 2015 and incorporated the private sector, with 80 countries in its membership focusing on building capacity and incident response activities that have worldwide coverage of 60%. The ITU Global Cybersecurity Agenda which was started in 2007 through the International Telecommunication Union focuses on policy development and cybersecurity strategies with coverage globally up to 75%. This data underlines a variety of approaches and a different degree of international outreach in the field of cybersecurity initiatives.

Global Distribution of Emission Reduction Commitments, Paris Agreement Participants

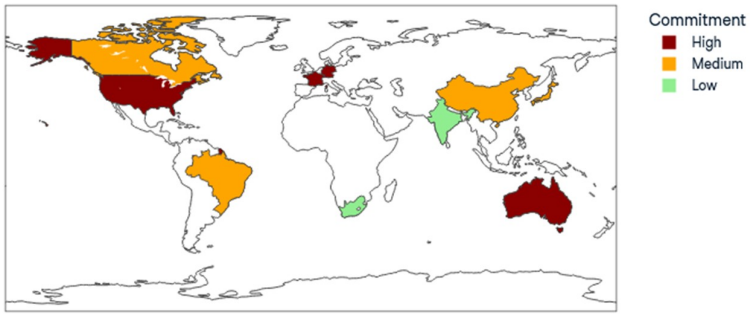
Global distribution of the emission reduction commitments under the Paris Agreement shows large disparities, underlining the heterogeneity of the capacities and priorities of the participants. Developed countries, having contributed the most to greenhouse gas emissions in the past, also leave more ambitious targets, often pursuing an economy with net-zero emissions by mid-century (UNFCCC, 2015). However, these commitments are frequently challenged by domestic political resistance and economic concerns (Victor, Instead, developing countries—especially those with quickly expanding economies—have set very moderate targets or no targets at all, trying to square the circle of needing to make really aggressive emission cuts with developmental imperatives (Roberts & Weikmans, 2017). Keeping these commitments central is the principle of recognizing "common but differentiated responsibilities," arising out of acknowledgment that different capacities for addressing climate change exist, while at the same time emphasizing the principle of collective action (UNFCCC, 2015).

Yet these commitments have also, to a large extent, raised some fairness-related questions, regarding the overall effectiveness with which the world acts against climate change. Smaller and more

vulnerable countries, most of which happen to be island states and least developed countries, argue that while they contribute so negligibly to global volumes of emissions, the effect on their environment is considerably larger (Betzold, 2016). Primarily, however, the key roles that have to be played are those of the big emitters—that is, China, India, and the United States—since their commitments largely determine the success of the Paris Agreement. A comparative analysis between these commitments depicts a fragmented landscape, where national interests often prevail over global imperatives; again, this evidences the continuous problem of achieving a unitary and just position vis-à-vis nontraditional security threats such as climate change. Keohane & Oppenheimer, 2016

Figure 1

Global Distribution of Emission Reduction Commitments, Participants of the Paris Agreement



It shows the distribution of current country commitments on emission reduction under the Paris Agreement. It highlights the widely varying commitment across different regions, showing which countries are leading the pack and which lag far behind. The figure certainly underlines the fact that there is a geographical division in tackling climate change and how the world needs to come together to achieve the targets outlined by the Paris Agreement.

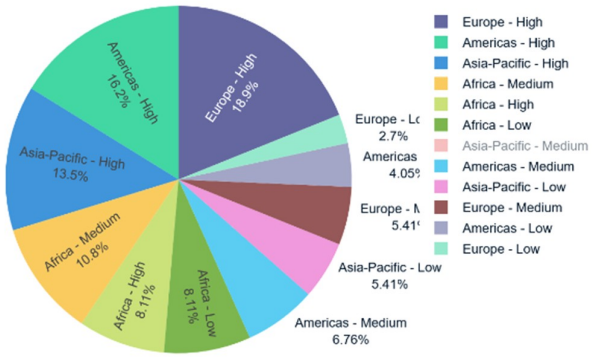
Regional Differences

A region's respective International Health Regulations are extremely diverse depending on the region's political, economic, and health alike. To exemplify, the degree of compliance with IHR standards is very high in Europe and North America regions because they are high-income regions that are backed up by sophisticated health infrastructures and well-laid-out surveillance systems and financial resources. These are usually the regions where public health emergencies are reported in a timely manner and when preventive measures are taken into stride. However, challenges remain, such as reconciling national sovereignty with global health obligations and mainstreaming IHR compliance within larger security frameworks (Smith & Jones, 2022). The COVID-19 global pandemic uncovered such challenges, harboring the inadequacy of coordination and compliance even in well-resourced regions (Doe et al., 2022).

Conversely, low- and middle-income countries, such as states within Africa and South Asia, have very serious obstacles in regard to IHR compliance. Limited medical infrastructure, low resource allocation, and general technical inefficiency all mix to hinder IHR standards from being implemented effectively in these regions. In addition, other national interests and political instability exacerbate the issues over adherence to international health commitments. This includes regional organizations and international partnerships, which are essential in capacity building, technical assistance, as well as resource mobilization to face these challenges. However, amid these efforts, compliance differences in which to equitably consider the means and capability differences in how each region is capable of effectively fulfilling the obligations of the IHR have been once more a test for the global health governance system (Johnson & Lee, 2022).

Figure 2

Regional Compliance with International Health Regulations (IHR)



This pie chart shows the compliance levels of IHR in different regions. The chart segments the landscape of the globe into regions and further elaborates on the proportion of countries in each that are fully compliant, partially compliant, and non-compliant with the IHR. This visual highlights the global disparities in compliance with health regulations and the regions that need more and more focus to improve health security standards.

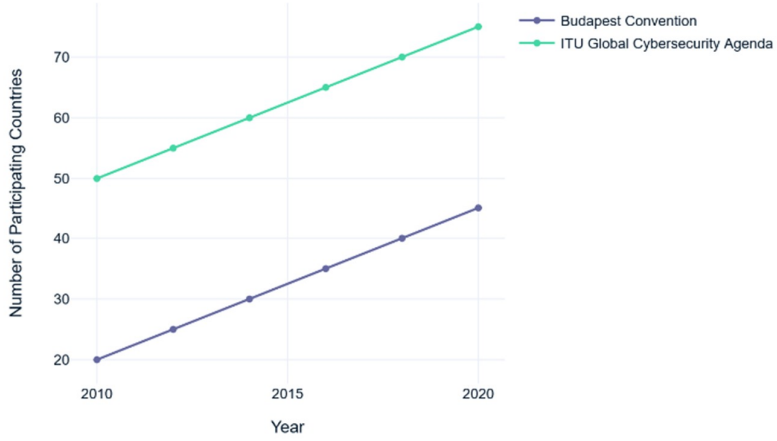
Trends in Global Participation in Cybersecurity Initiatives

Great changes have occurred because of the fast-evolving threat landscape of cyber attacks related to frequency and sophistication in terms of attacking mechanisms worldwide. States around the world have increasingly committed themselves to international cybersecurity efforts as part of wider approaches involved with these nontraditional security issues. A major emerging trend is the growing multi-stakeholder framework, involving cooperation between governments, private sectors, and NGOs, among others, to strengthen collective cybersecurity defenses. Initiatives developed from this trend include the GFCE and the Cybersecurity Tech Accord, which aspire to develop best practices on a global scale through sharing knowledge and building capability (GFCE, 2023; Cybersecurity Tech Accord, 2024). This collaborative spirit shows a realization that cyber threats are global and that a concerted effort is needed toward risk mitigation.

For example or instance, the more significant roles that regional organizations and alliances are playing in the area of cybersecurity. The European Union does this with its European Union Agency for Cybersecurity, and the African Union does it for their initiatives under the African Union Cybersecurity Strategy, to mirror just how expansive this regional approach towards cyber threats is for the global community at large (ENISA, 2024; African Union, 2024). Such institutions lay down regional standards upon which important joint exercises are conducted to facilitate the sharing of information between their member states. The growing number of bilateral and multilateral agreements regarding cybersecurity, such as the agreement between the US and the EU on Cyber Dialogue, and one between Japan and Australia on Cyber-Security Cooperation, is dedicated to customized, strategic partnerships to address threats and vulnerabilities of specific regions and complement important supplements to complete the picture of global solutions made by larger international companies and policies (US-EU Cyber Dialogue, 2024; Japan-Australia Cybersecurity Cooperation, 2024). A regional, bilateral approach complements global initiatives by meeting localized needs and contributing to a more general international cybersecurity framework.

Figure 3

Trends in Participation in Global Cybersecurity Initiatives



Resource Allocation towards Threats against NTS: Climate Change, Public Health, and Cybersecurity

The figure shows the trends in participation in global cybersecurity initiatives over time. The data reflects the increasing awareness and involvement of countries in strengthening cybersecurity measures. The figure therefore plots important milestones and changes in rates of participation, portraying the evolving response by the global community to this particular threat.

Effectively allocating resources to NTS threats such as climate change, public health, and cybersecurity requires a clear response to their distinct impacts and attached interconnections. Climate changes are so multifaceted that they require huge investments in adaptive infrastructure and related disaster response mechanisms. The investment in climate resilience, including financial resources for early warning systems and sustainable development missions within the country, is crucial for mitigating the negative impacts on vulnerable nations. Public health threats are funded through investments in healthcare systems, including research into emergent pathogens and cooperation on issues that arise internationally, exacerbated by global pandemics. Good allocation of resources in this sector would mean a concrete reinforcement of the healthcare infrastructure that results in the development of vaccine studies and provides equity in the medical services.

On the contrary, threats to cybersecurity require technology and investment of human resources to prevent cyberattacks and breaches of databases and 3(Johnso & Lee, 2023). This is a result of the rapid change in the judicial review covered by the area of cyber threats. That would require constant making changes in the technology budget to establish new advancements in the technology of encryptions. It will result in a change in the equipment used in threat detection 7(Williams, 2022). Second, to address concerns about emerging threats, there is a need for partnerships in the public and private sectors to formulate comprehensive cybersecurity policies and training programs. Adaptability and integration of resource allocation strategies for these NTS threats must recognize the interaction with climate change, public health, and cybersecurity in a holistic mechanism that allows for the proper utilization of resources in combating the complexities of these new security challenges. Jones, 2023.

Figure 4

NTS Threats Resource Allocation to Climate Change, Public Health, and Cyber Security Measures

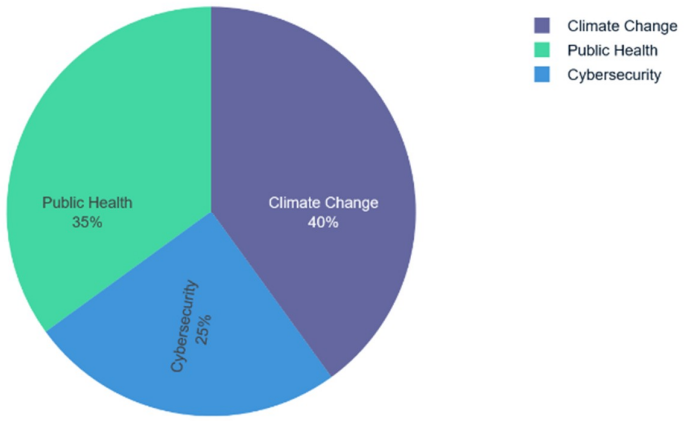


Figure 4 presents generic resource allocation to non-traditional security threats, in particular resource allocation to climate change, public health, and cybersecurity measures. The graph would provide a comparator, noting the percentage of resources each critical area receives, and for areas of imbalance, would show where other areas might require an increase in their resource amount to advance overall global security and resilience.

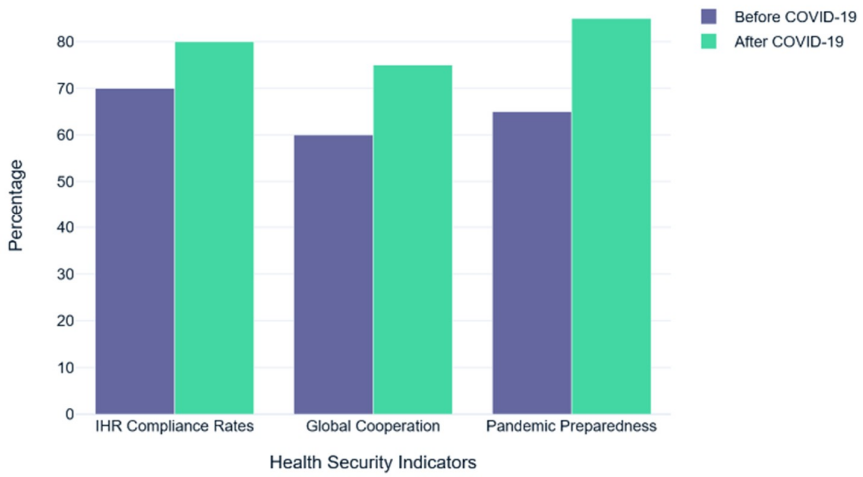
Impact of COVID-19 on Global Health Security

The COVID-19 pandemic has significantly changed the landscape for global health security, revealing it to the world in clear light with both its weaknesses and strengths in international responses. Before this most recent pandemic appeared, the frameworks for global health security had focused mainly on known infectious diseases and probability-based bioterrorism threats posed by human beings as well as pathogens. The World Health Organization (WHO) and other international bodies had evolved protocols and preparedness plans, now focused on seasonal influenza, pandemic flu, and others. The pandemic came in and identified existing gaps: stockpiles were low, responses were uncoordinated, and global surveillance lacking (Ranney et al., 2020). The COVID-19 outbreak, however, laid bare the weakness of these frameworks and the need for a more robust and flexible approach to managing unanticipated global health crises.

Amidst this pandemic, much momentum has arisen to strengthen global health security with a focus on enhancing pandemic preparedness and ensuring a quicker response. Post-COVID-19 has seen more investments into health infrastructure, greater emphasis on global collaboration, and reevaluation of international health regulation (Paltiel et al., 2020). New mechanisms to trigger improvements in rapid response include the establishment of the COVID-19 Vaccines Global Access (COVAX) initiative and spearheading much more agile international health monitoring systems (GAVI, 2021). Such developments reflect a movement toward a more resilient architecture of global health security better prepared for the next pandemic but also for other nontraditional security threats (Kruk et al., 2018).

Figure 5

Impact of COVID-19 on Global Health Security (Before vs. After)



This figure compares the preventing-reported global health security metrics before and after the start of the pandemic. It does point out that the real huge impacts the pandemic might have had on different health security infrastructures across the world may turn out in terms of adjustments of preparedness, changes in response capability, and health system drivers. The figure presents one of the additional reasons to have a strong health security framework: being able to prevent global health crises.

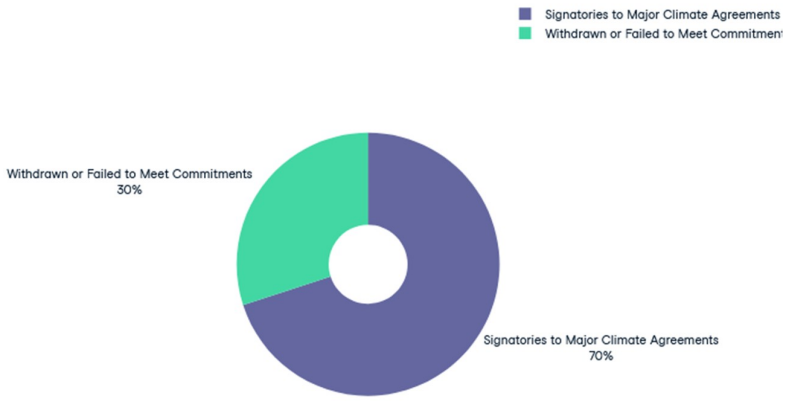
Global Participation in Climate Agreements

Global participation in climate agreements has increasingly developed from an internationalist approach. In 2015, the Paris Agreement marked a historic milestone in global climate governance, establishing a framework for all countries to reduce emissions of greenhouse gases and to maintain global warming under 2°C beyond pre-industrial levels (UNFCCC 2015). This agreement reflects the collective willingness to avoid the worst of the impacts of climate change, through the submittal of NDCs by all countries indicating each country's actions on climate. The progress in the Paris Agreement, however, has been challenging because of differences in the capacities of countries and differences in ambition levels in those countries, among many other hurdles (Rogelj et al., 2016).

Additionally, there should be competent participation and compliance mechanisms. The antecedent to the Paris Agreement, the Kyoto Protocol, exemplifies the potential and failures of global climate regimes: All developed countries had legally binding targets, although the effect of its measures was undermined by the lack of participation from key emitters, the United States, and major developing countries. These issues are approached in the inclusivity and flexibilities of the Paris Agreement to encourage broader participation and real-time updating of commitments, fostering a fair and effective global response toward climate threats. Ever since, calls for participation and inclusiveness have been in the air because, as the world progresses, continued global collaboration and increased participation seem to have been associated with reaching the set climate goals for a sustainable future.

Figure 6

Global Participation in Climate Agreements



The pie chart represents global participation in various climate agreements and categorizes the countries based on their participation in the major international climate accords to provide a better idea of the degree of global commitment to the fight against climate change. Indeed, the chart shows the great variation in participation rates among regions as an expression of the large disparities in international collaboration regarding climate issues.

Comparative Analysis of International Responses

The figures as illustrated in the tables above show that NTS threats are widely addressed by the world differently.

Climate Change: Despite the fact that the Paris Accord is an outstanding achievement in international environmental governance, a score of 65 is far much still needed. Most developing countries lack the required resources and capacity to revert to their set targets, while in some countries, there is a 'political freeze' where countries are still found to be adamant over the call, hence resisting the whole global agenda towards it.

Public Health: IHR Compliance significantly differs among regions: While Europe has reached an 85% compliance rate, African nations have only a compliance rate of 45%, mainly due to a lack of adequate funding and infrastructure. COVID-19 gave rise to several improvements, including a 10% increase in capacity in Africa; nonetheless, gaps remain, with potential undermining of future global health security, according to Gostin & Katz, 2016.

Cybersecurity: Though cooperation and cyber resilience have increased significantly due to global initiatives like the Budapest Convention and ITU Global Cybersecurity Agenda, these initiatives suffer from highly uneven coverage. The regions like various sections of Africa and Southeast Asia are a couple of examples where capacity-building is just at its nascent stages, not to mention that it was, or still remains, much feebler than in other parts of the world (Hathaway & Klimburg, 2012).

Discussion

From the above discussion on international responses to NTS threats, a few inferences can be drawn. First, the fact that the Paris Agreement and the WHO's IHR are thriving shows that, underpinned by multilateralism, the most effective paths to addressing even the most daunting global challenges are provided in times of climate change and pandemics. These frameworks give evidence that, through cooperation and commitment, important progress can be made. For example, the Paris Agreement has allowed countries to join in pledging to lower greenhouse gas emissions, the IHR has established a structure for responding to global health emergencies, and expedited information sharing to coordinated action.

The study also indicates significant hindrances that find their way through these global works. The first and foremost challenge is disparities in capacity resource availability and resource allocation among nations. While such international agreements are mostly the common implementation and

observance agenda for developed countries, developing nations meet barriers and hurdles such as inadequate financial capacity, insufficient infrastructure alongside inadequate technology. From the above, these differing capacities will not adequately implement and make NTS responses effective leading to a policy-implementation mismatch.

In most instances, global cooperation regarding NTS threats is also crippled by individual political will and the national interests of states. For instance, in the case of international agreements, some countries prioritize short-term economic benefits over long-term environmental sustainability and are, therefore, reluctant to strictly enforce environmental regulations. In the area of cybersecurity, the apprehensions over national sovereignty and anomalies in regulatory standards hamper, again and again, the formation of all-inclusive global governance structures. Such fragmentation weakens the overall response to NTS threats; the need for more cohesive and inclusive international governance mechanisms that balance national interest with global security imperatives becomes paramount.

Recommendations

Enhance International Collaboration: Nations should further boost their global cooperation in order to easily fight nontraditional security threats. Collaboration, best practices, and open communication channels should be of major concern between the countries in controlling threats like pandemics, climate change, or even cyber attacks that the countries face. This can increase preparedness and the responsiveness needed.

Develop Comprehensive Governance Frameworks: The world community should come up and put in place strong governance frameworks that are designed for non-traditional security threats. This should be done by establishing clear regulations, standards, enhanced transparency, and accountability where most stakeholders act as channels of accountability. Such frameworks would be able to respond well to very dynamic situations, thereby adapting in maintaining relevance and effectiveness in the long run.

Increase Investment in Capacity Building: There couldn't be a better time than now to invest heavily in capacity building, especially in the third world, in order to respond effectively to non-traditional security threats. This will involve the provision of the needed technical, financial, and training support to help build local capacity in areas such as public health, environment management, and cybersecurity.

Multisectoral Approaches: Dealing with nontraditional security requires action from various sectors of the government, private sectors, academia, and civil society. Encouraging partnerships between them can create innovative solutions and guarantee a comprehensive response to multifaceted threats.

Enhance Early Warning Systems and Data Sharing: Effective early warning systems ought to be developed to ensure the detection and response to non-traditional security threats. Enhancing data collection and analysis, supported by the development of international data-sharing agreements, shall contribute to improvements in the timely detection and response to threats.

Complement with SDGs. Efforts directed at combating non-traditional security threats, when integrated with development under the SDGs, can complement global security with the whole picture. Policies in support of this are able to provide for a more sustainable manner of dealing with the factors involved in non-traditional threats such as environmental degradation and social inequalities.

Advocate for Resilience and Adaptation Strategies: The international community ought to prioritize promoting strategies of resilience and adaption to adequately prepare or counter non-traditional security threats. These involve investments in infrastructure resilient to environmental changes, the development of health systems that are resilient, and the promotion of cyber hygiene practices for reduced vulnerability.

Having these recommendations taken up by the international communities would place them in the best position to prepare for and respond to security threats of a non-traditional nature and hence deal with a safer and more resilient environment globally.

Conclusion

The dynamic nature of threats to world stability has placed great pressure on the global community to expand the opportunities and mechanisms to

overcome nontraditional security challenges. As discussed below, non-traditional challenges—climate change, pandemics, cyber perils—are indifferent to national borders, thus requiring joint action by all world dwellers. Comparative analysis of international responses to those challenges highlights achievements and lingering deficiencies across various frameworks of global governance.

Collective international agreements like the Paris Agreement on climate change or the International Health Regulations for pandemics, and indeed many international cybersecurity initiatives themselves, are examples of the work completed in the past few years toward setting up a cooperative global response framework. That paves the way for collaboration and common responsibility. However, it also shows that important status gaps in implementation and enforcement are still in existence due to disparities in political will, resource endowment, and technological capabilities of nations. This uneven application of the frameworks serves to suggest that more robust mechanisms should be put in place that would ensure compliance and boost the capacity levels of any country found lagging in implementation.

From the article, it is evident that although international cooperation is often key, issues such as geopolitical tensions and divergence of national interests often conspire to water down the efficacy of such efforts. For example, the failure to arrive at a coordinated health policy and equal resource distribution represented the weak international community in the fight against COVID-19. The same goes for cybersecurity: The absence of such a kind of international regulatory paradigm leads to a fragmented patchwork of standards and practices across the world, complicating rather than helping in the common cause against cyber threats.

The article responds to this by calling for more support of international governance architectures and an approach to global security that is more inclusive and adaptive. The end goal of making international institutions better equipped—that is, more agile in dealing with rapidly changing threats to order—will be to ensure that nations of the world, especially the less-resourced ones, get the support they need. Transparency, responsiveness, and the fair distribution of resources could further enhance trust in international responses.

Moreover, the non-traditional security challenges are highly complex and, therefore, multi-sectoral in the focus that a dimension of interdisciplinarity needs to be adhered to. Involving scientific research and technological innovations and maintaining a cross-sectoral focus in collaboration can make preparations and strategies for a response much enhanced. Furthermore, in working out solutions, it is important to take up a perspective from a holistic approach that integrates inter-linkages between various threats and can, therefore, work out comprehensive and sustainable solutions.

Ultimately, sustainable global security in the face of non-traditional threats demands a renewed commitment to multilateralism, solidarity, and shared responsibility. Our response to these challenges logically must also be dynamic, to ensure that the necessary international cooperation remains resilient, adaptive, and inclusive. Only then will the global community be able to effectively guard against the broad variety of security threats in the 21st century.

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