METO Student Journal of WMD Disarmament, Security & Technology in the Middle East

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METO Student Journal of WMD Disarmament, Security & Technology in the Middle East

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The Middle East Treaty Organization (METO) is a coalition of civil society activists and practitioners seeking to rid the Middle East from all weapons of mass destruction as a gateway toward regional security and peace.
Vision | A peaceful, integrated and thriving Middle East built on human and environmental security.
Mission | Eradicate WMDs, broker peace and build security in the Middle East.

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Note from the Editor

The METO Student Journal of WMD Disarmament, Security and Technology in the Middle East is a compilation of the best papers submitted by students following METO's 10-session course that ran from 17 September to 17 October 2024. The course provided students with a thorough understanding of weapons of mass destruction proliferation through a regional and global scope and efforts to strengthen international non-proliferation regimes. The course also examined regional security issues and the implications of emerging technologies such as autonomous weapons and artificial intelligence on nuclear and other WMD risks. Throughout the course, students delved into various aspects related to the subject, engaged with guest expert lecturers, participated in discussions, collaborated with fellow students in a group project and explore recommended reading materials to deepen their understanding.

Our course had a broad geographic coverage with students coming from 24 different countries, with 35% from the Middle East & Africa. Our course showed gender-balanced representation with 55% women and gender-diverse participants.

The success of our course could not have been achieved without the dedication of our distinguished guest lecturers, who are all leading figures in the world of WMD disarmament, security and technology. We are grateful, humbled and thankful to the following for their contribution:

Ray Acheson, Director of Reaching Critical Will at Women's International League for Peace and Freedom (WILPF).
Dr Leonardo Bandarra, Director at METO and Postdoctoral Researcher at the University of Duisburg-Essen.
Sharon Dolev, Executive Director at METO.
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Paul Ingram, Director at METO and Research Affiliate at Cambridge University's Center for the Study of Existential Risk.
Dr Chen Kane, Project Lead for the Middle East WMDFZ Project at the United Nations Institute for Disarmament Research (UNIDIR).
Nasser bin Nasser, Senior Adviser to UNIDIR's Middle East WMD-Free Zone project and the founder of Infosynth, a geopolitical strategic advisory firm.

Tariq Rauf, Former Head of the Verification and Security Policy Coordination Office at the International Atomic Energy Agency (IAEA).
Alice Saltini, Policy Fellow at the European Leadership Network (ELN) and METO Course Alumna.
Aayushi Sharma, METO's Humanitarian Initiative Project Coordinator and METO Course Alumna.
Carlos Umaña, Co-president of the International Physicians for the Prevention of Nuclear Weapons.

We would like to also extend a special thanks to METO's program associate Eleonora Zucca for all her assistance in making sure the course proceeded smoothly and to the co-editors Dr. Leonardo Bandarra, Aayushi Sharma and Gabrielle Dyson for their thorough editing of the papers. We are also grateful for the ongoing support for our work from Rosa Luxembourg Foundation, in particular Mariana Fernandez for making this publication possible. Finally, many thanks to the wonderful students who participated and engaged enthusiastically in class and produced thoughtful papers and presentations on the need to advance disarmament and security in the Middle East and beyond. Also we need to mention that the views expressed in these papers do not necessarily reflect METO's position and remain the sole perspective of the students.

Emad Kiyaei
Lead Editor & Director at METO
METO Student Journal of WMD Disarmament, Security and Technology in the Middle East

Acronyms

ACRS: Arms Control and Regional Security
AI: Artificial Intelligence
API: Arab Peace Initiative
AUB: American University of Beirut
AWS: Autonomous Weapon Systems
BWC or BTWC: Biological (or Biological and Toxin) Weapons Convention
CANWFZ: Central Asian Nuclear-Weapon-Free Zone
CBM: confidence-building measures
CO2: Carbon Dioxide
CTBT: Comprehensive Nuclear Test Ban Treaty
CTR: Cooperative Threat Reduction (Program)
CW: chemical weapons
CWC: Chemical Weapons Convention
E3: Three European countries (France, Germany and the United Kingdom)
EU: European Union
GBV: gender-based violence
GCC: Gulf Cooperation Council
IAEA: International Atomic Energy Agency
ICJ: International Court of Justice
ICRC: International Committee of the Red Cross
IDP: Internally Displaced Persons
IHL: International Humanitarian Law
ISIS: Islamic State of Iraq and Syria (or Islamic State of Iraq and the Levant)
JCPOA: Joint Comprehensive Plan of Action, or Iran nuclear deal
ME: Middle East
MENA: Middle East and North Africa
METO: Middle East Treaty Organization
MSF: Médecins Sans Frontières
NPT: Nuclear Non-proliferation Treaty
NWFZ: Nuclear-Weapon-Free Zone
OHCHR: Office of the High Commissioner for Human Rights
OPCW: Organisation for the Prohibition of Chemical Weapons
OPT: Occupied Palestinian Territories

P5: Five Permanent Members of the United Nations Security Council
RCZ: Regional Cooperative Zone
TPNW: Treaty on the Prevention of Nuclear Weapons
UN: United Nations
UNDP: United Nations Development Programme
UNGA: United Nations General Assembly
UNGGE: United Nations Group of Governmental Experts on Lethal Autonomous Weapon Systems
UNICEF: United Nations International Children's Emergency Fund
UNIDIR: United Nations Institute for Disarmament Research
UNODA: United Nations Office for Disarmament Affairs
UNSC: United Nations Security Council
WHO: World Health Organization
WMD: Weapons of Mass Destruction
WMDFZ: Weapons of Mass Destruction Free Zone
WPS Agenda: Women, Peace and Security Agenda

Contributions

From among all the students in this course, these individuals were selected for publication based on the outstanding quality of their final policy briefs on advancing security, peace, and WMD disarmament in the Middle East. Topics ranged from diplomacy and regional security frameworks, to the risks of AI in weapons systems, civil society advocacy, environmental impacts of WMDs, and youth engagement in disarmament. The selected briefs demonstrated exceptional clarity, originality, and actionable recommendations, standing out for their depth of analysis and policy relevance. Following a rigorous review process, these papers were refined for publication in the METO Student Journal, reflecting the high academic and professional standard achieved by their authors.

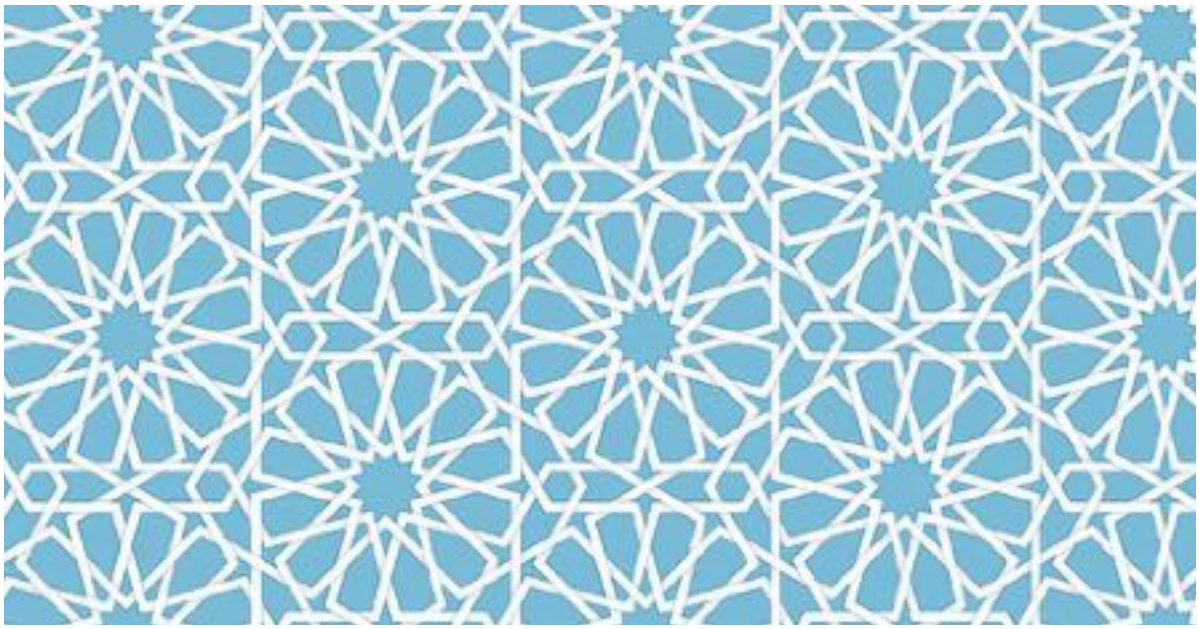
Camila Alderete Alvarez, Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL)
Hilda Ariastuti, Young METO Network
Nilormi Das, International Atomic Energy Agency (IAEA)
Mohamed ElSadek, Galala University
Meher Fatima, Unseen Conflicts
Rania Kerimbay, The Belgian Nuclear Research Centre (SCK CEN)
Kudakwashe Mapako, The African Center for Science and International Security (AFRICSIS)
Mina Rozei, Chemical Weapons Convention Coalition (CWCC)
Sabrina Shaikh, Nuclear and Radiochemistry Department at Hyderabad Sind National Collegiate University (HSNC)

Considerations for Regional Stability in the Middle East

Camila Alderete Alvarez

Abstract

The current state of affairs in the Middle East has revived the confidence in the Arab Peace Initiative (API) and in the leadership of Arab States to bring stability to the region.[1] Building on the frameworks of the Arab Peace Initiative and the United Nations Pact for the Future, the framework proposed here seeks to instrumentalize international law and international institutions to address the geopolitical challenges in the Middle East. The objective is to reimagine ways to leverage the existing tools and mechanisms to trigger a rapprochement process among regional actors that is rooted in the principles of responsibility, accountability, and justice.



The need for action is more urgent than ever, the latest developments could have irreparable consequences not only for the peoples of the region but for the same international system we have collectively established, grounded in the principles of the UN Charter and the shared commitment to justice, human rights, and the rule of law. A proposal to revive the 2002 Arab Peace Initiative (API) and instrumentalize the 2024 United Nations Pact for the Future is presented here to advance peace, security, and disarmament in the Middle East.

On the one hand, the API is a local initiative grounded on diplomacy, international law, and justice that proposes a "land for peace" framework addressing critical regional issues such as sovereignty and territorial disputes and has the Palestinian issue at its core.[2] It offers regional actors normalized diplomatic engagement, security assurances, and an opportunity for lasting peace.[3] Revitalization of the API is thus key to envisioning a comprehensive peace process that includes the realization of a zone free of weapons of mass destruction in the Middle East. Additionally, framed within the Arab League, it presents a unique opportunity for regional leadership to leverage collective power and coordinate policies towards regional reconciliation.

On the other hand, the Pact for the Future adopted at the Summit of the Future in 2024, is a comprehensive framework aimed at revitalizing multilateralism and strengthening global governance to address pressing global challenges.[4] Among its ambitious goals are 16 actions specifically dedicated to promoting international peace and security with key points to reform multilateralism that are relevant to the peace process in the Middle East such as addressing the root causes of conflict, promoting cooperation and understanding among States, and strengthening accountability and upholding the rule of law.[5]

Policy Challenges

The main issue that seeks to be addressed is the lack of trust and political will that, along with power politics and regime survival, have been obstructing any path to reconciliation among regional actors. Firstly, we need to address the issue of recognition, Israel's prerequisite to engage in good faith diplomatic relations with its neighbors, which has embedded an inherent asymmetry to any prospective resolution, framing Palestinian demands secondary to Israeli prerogatives.[6]

However, without getting into the question of Israel's legitimacy, the legality of the Zionist settler-colonial project in the Occupied Palestinian Territories (OPT) cannot be obscured, as

most recently determined by the International Court of Justice (ICJ) in its advisory opinion on the "Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem".[7] This authoritative ruling thus creates a legal argument for Israel and all States to take immediate actions to end all unlawful acts hindering the fundamental rights of Palestinians.[8] Additionally, the plethora of international agreements regarding human rights comprise a potential tool to redress grievances.[9]

Second, the lack of trust in States' defense and security endeavors,[10] as seen through the weak alignment with the international regime of arms control, disarmament, and nonproliferation of weapons of mass destruction feeds the security paradox with hyper-militarization which translates into a catastrophically fatal escalation of any conflict.[11] In this sense, the respect for the global commitments with regard to peace and security must be upheld and actively promoted in order to build confidence.[12] States must then commit themselves to the respect and full application of international treaties to curb the proliferation of weapons of mass destruction. However, this has not been an easy feat and requires incentivizing actors through existing avenues. States party to the biological, chemical and nuclear conventions must demand targeted actions from the international bodies that oversee implementation and compliance. Strengthening the arms control, disarmament, and nonproliferation architecture will yield positive impacts on the trust among States and should serve the purpose of leveling the playing field.[13]

Third, the complexity of the region is characterized by a multipolar system including superpower involvement, which often exacerbates tensions and triggers spill over into other conflicts.[14] The imbalance of power, the failure of diplomatic initiatives and the exacerbating conditions of conflict are generated and accelerated by the selfish involvement of other regional powers into the power politics of the Middle East. This requires addressing the geopolitical dynamics present in the region and ensure all states commit themselves to the process of collective security and disarmament in order to positively incur changes. In this regard, empowering international institutions to provide multilateral oversight is key for guaranteeing impartial monitoring and verification and lowering tensions.

Policy Recommendations

Launch an Arab-led peace process with international oversight, focusing on diplomatic rapprochement and accountability for human rights violations.

The developments in 2024 alone with active conflict among different regional actors demand strong condemnation and urgent remediation. However, it is essential to first address Israel's record of systematic violations of international law principles along with its refusal to engage in good faith diplomatic relations with the neighboring States to pave the way for a credible and just peace process. Arab leadership must leverage the momentum created by the outpourings of solidarity to coordinate diplomatic, political, economic and legal efforts to compel Israel to end its operations in Gaza; conclude an immediate ceasefire with the belligerent actors (Israel, Hamas, Hezbollah, Houthis, Iran) and committing international powers as well; provide immediate humanitarian relief to victims and survivors; and to trigger rapprochement talks among members of the Arab League, Iran and Israel.

These efforts should include supporting and advancing legal proceedings against violators of international law at the ICJ, the International Criminal Court as well as ad hoc or other relevant regional judicial bodies; arms embargo; sanctions on people, industries and products; diplomatic boycotts as well as divestment campaigns in science, academia, culture and sports; and they must be extended to the international powers complicit in the current escalation of conflict, specifically the United States of America, the United Kingdom, and several European Union member States. Moreover, the immediate convening of an international peace conference is needed to foster joint initiatives that can translate into collective action. By leveraging collective influence, Arab nations can also address pressing regional crises and assert a leadership role capable of rebalancing the region's geopolitical dynamics and challenging the existing dominance of Western powers.

Develop a multilateral process to review and enforce compliance with arms control and nonproliferation treaties in the region.

In order to build confidence among regional actors, arms control and disarmament must be promoted and enforced through multilateral efforts. This process should be human-centered, include a clear mandate to resolve WMD proliferation issues, and conclude on a legally binding declaration outlining concrete commitments and enforcement mechanisms. Coordination with UN bodies and engaging the international community are key, as well as the involvement of experts, national representatives, and civil society. The result is a forum to foster transparency, accountability, and trust for diplomacy and cooperation in turbulent times.

Engage civil society to catalyze societal transformation

Regional civil society actors can not only attest to the consequences of witnessing and surviving the worst attacks on humanity, but also to the power and resilience of communities, and the urge for systemic change. Composed of multifaceted and multidisciplinary networks of people, civil society actors empower collectives, fostering dialogue, advocacy, and innovation to challenge entrenched systems of power. As such, their effective participation in policymaking is essential for enacting change. A comprehensive peace process must include formal recognition of civil society actors, institutionalized participation measures such as consultative platforms and multi stakeholder dialogues, and capacity building and assistance such as training and financial sponsorship.

Moving Forward

This paper advocates for the revitalization of the Arab Peace Initiative to advance peace and security in the Middle East. With confidence in Arab leadership and the rule of law, the process proposed here seeks to remind stakeholders of the existing avenues to address the geopolitical challenges in the region. It puts an emphasis on the protection of fundamental rights and the need for justice as principles to guide a reconciliation process, it also highlights the importance of regional cooperation, multilateral oversight, and civil society engagement as essential pillars for creating a sustainable peace process. By leveraging existing frameworks like the Arab Peace Initiative and the UN Pact for the Future, and committing to arms control and disarmament, regional actors and international stakeholders can take concrete steps towards reducing tensions and promoting security. Ultimately, a just and accountable peace is not only achievable but necessary to break the cycle of conflict and ensure stability for future generations in the Middle East.

References

[1] Hamzawy, Amr, and Nathan J. Brown. Arab Peace Initiative II: How Arab Leadership Could Design a Peace Plan in Israel and Palestine. Carnegie Endowment for International Peace, Nov. 2023.

[2] Alghashian, Aziz. "A Revived Arab Peace Initiative from Saudi Arabia Could Save the Middle East." Cairo Review of Global Affairs, vol. 49, 2024.

[3] European Parliament. Text of Arab Peace Initiative Adopted at Beirut Summit, 28 Mar. 2002. https://www.europarl.europa.eu/meetdocs/2009_2014/documents/empa/dv/1_arab-initiative-beirut_/1_arab-initiative-beirut_en.pdf

[4] Patrick, Stewart, and Minh-Thu Pham. "The Good—and Bad—News About the UN's Summit of the Future." Emissary - Carnegie Endowment for International Peace, 19 Dec. 2024.

[5] United Nations. "United Nations Adopts Ground-Breaking Pact for the Future to Transform Global Governance." Press UN, 2 Oct. 2024. https://press.un.org/en/2024/ga12641.doc.htm

[6] Erakat, Noura. Justice for Some: Law and the Question of Palestine. Stanford University Press, 2019.

[7] International Court of Justice. "Legal Consequences Arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, Including East Jerusalem." ICJ Reports, 19 July 2024. https://www.icj-cij.org/sites/default/files/case-related/186/186-20240719-pre-01-00-en.pdf

[8] United Nations Office of the High Commissioner for Human Rights. Experts Hail ICJ Declaration on Illegality of Israel's Presence in the Occupied Palestinian Territory as "Historic". 30 July 2024. https://www.ohchr.org/en/press-releases/2024/07/experts-hail-icj-declaration-illegality-israels-presence-occupied

[9] Farsakh, Leila H. Rethinking Statehood in Palestine: Self-Determination and Decolonization Beyond Partition. Univ. of California Press, 2021.

[10] Sabet, Farzan. Narratives of the Middle East WMD-Free Zone: Drivers, Themes, and Historical Accounts. UNIDIR, 2023. http://dx.doi.org/10.37559/mewmdfz/2023/narratives

[11] Easby, Nadine. "WMDFZ: Obstacles and Solutions." METO Student Journal of WMD Disarmament and Security in the Middle East, no. 1, Feb. 2022. Middle East Treaty Organization.

[12] Evron, Yair. "Arms Control in the Middle East: Some Proposals and Their Confidence-building Roles." The Adelphi Papers, vol. 19, no. 149, Mar. 1979, pp. 30–39. doi:10.1080/05679327908448543

[13] Erästö, Tytti. "The Arms Control–Regional Security Nexus in the Middle East." Non-Proliferation and Disarmament Papers, no. 68, Apr. 2020. EU Non-Proliferation and Disarmament Consortium.

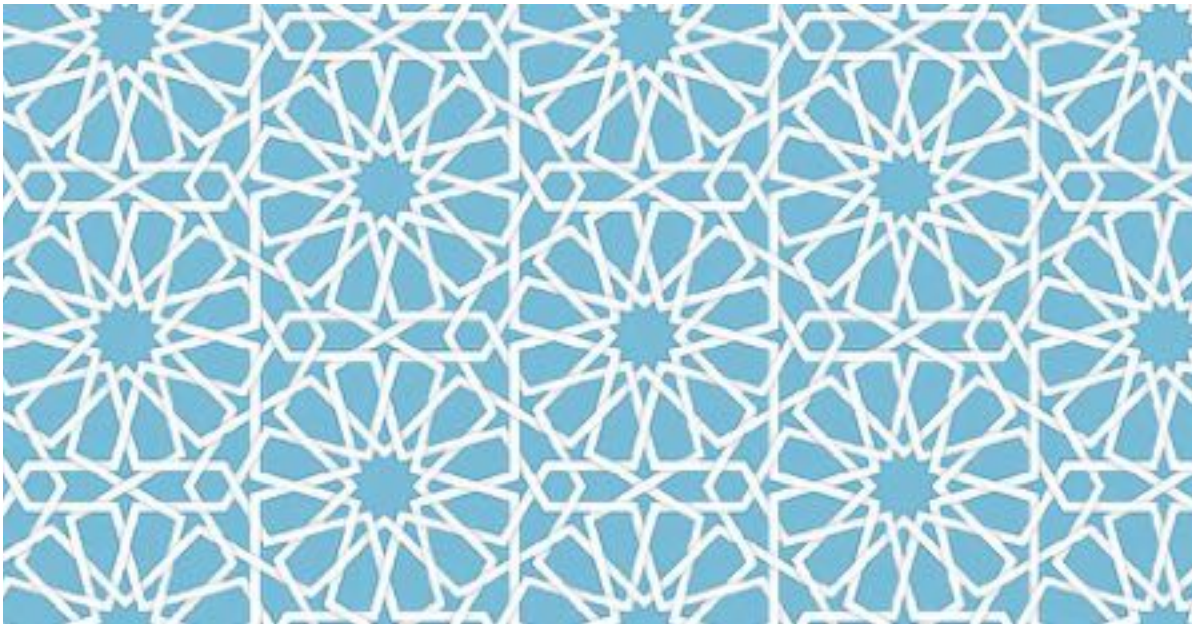
[14] Evron, Yair. "Arms Control in the Middle East: Some Proposals and Their Confidence-building Roles." The Adelphi Papers, vol. 19, no. 149, Mar. 1979, pp. 30–39. doi:10.1080/05679327908448543

WMD Proliferation and Geopolitical Tensions in the Middle East

Rania Kerimbay

Abstract

The proliferation of Weapons of Mass Destruction (WMD) in the Middle East poses significant threats to regional and global security. This policy brief tackles the geopolitical challenges driving WMD proliferation and proposes diplomatic strategies and regional cooperation to mitigate these risks. Drawing on the experiences of Kazakhstan and other nations in nuclear disarmament and arms control, the brief offers practical solutions for enhancing regional security. Key recommendations include establishing a robust diplomatic framework, developing a comprehensive regional security framework, and encouraging regional arms control agreements.



The Middle East has long been a hotspot for geopolitical tensions. The complex security dynamics of the region, historical conflicts, and external interventions have increased the risks of proliferation of WMDs. The major players, including Iran, Israel, and Saudi Arabia, have been central to this issue, each driven by unique strategic motivations and security concerns. This policy brief aims to address these challenges by proposing diplomatic strategies and regional cooperation, drawing on lessons from successful disarmament efforts in Kazakhstan and other nations.

Policy Challenges

The proliferation of WMD in the Middle East is driven by several geopolitical challenges. Regional rivalries, particularly between Iran and Saudi Arabia, escalate WMD proliferation as each state seeks to counterbalance the other. Foreign interventions and support for various regional actors further complicate the security landscape, often leading to an arms race. Additionally, the presence of nonstate actors and terrorist groups with potential access to WMDs adds another layer of complexity to the proliferation challenge.

To address these issues, it is valuable to consider the lessons learned from Kazakhstan's experience with nuclear disarmament.[1] The consequences of nuclear bomb tests conducted in Kazakhstan during the last century have left lasting health and environmental impacts, underscoring the urgent need for non-proliferation efforts. This example is relevant to the Middle East, as it demonstrates the potential for successful disarmament and non-proliferation strategies that can be adapted to the unique challenges of the region.[2]

Policy Recommendations

Establish a Robust Diplomatic Framework

Involving all regional stakeholders in regular dialogues, confidence-building measures, and transparency initiatives is crucial. Confidence-building measures are actions taken to reduce the fear of surprise attacks or the sudden escalation of conflict, promoting trust among nations. This approach can reduce mistrust and promote cooperation among Middle Eastern states. Diplomatic engagement should be prioritized to create a platform for continuous communication and negotiation.[3] For example, the Nunn-Lugar Cooperative Threat Reduction Program between the United States and former Soviet states, including Kazakhstan, successfully dismantled thousands of nuclear weapons and secured WMD materials through consistent diplomatic efforts.

Encourage Regional Disarmament Agreements

Promoting regional arms control agreements with verification mechanisms can limit the development and deployment of WMDs. These agreements should be supported by international organizations such as the United Nations and the International Atomic Energy Agency to ensure compliance and transparency. South Africa's voluntary disarmament in the early 1990s, where the country dismantled its nuclear weapons program and joined the NPT, serves as another model of successful disarmament and international cooperation.[4]

Develop a Comprehensive Regional Security Framework

Similarly to the Organization for Security and Co-operation in Europe (OSCE), a regional security framework can help address security concerns collectively and reduce the reliance on WMDs. This framework should include mechanisms for conflict resolution, arms control, and cooperative security measures. Kazakhstan's experience with the Nuclear Nonproliferation Treaty (NPT) and the Central Asian Nuclear Weapon-Free Zone (CANWFZ) demonstrates the effectiveness of regional agreements in promoting nonproliferation.5 The CANWFZ, established in 2009, prohibits the development, acquisition, and deployment of nuclear weapons in Central Asia and includes the five Central Asian republics.

Provide Economic Incentives

Offering economic incentives and development aid to countries willing to abandon WMD programs can create positive reinforcement for non-proliferation.[6] Economic cooperation and development projects can also help address underlying socio-economic issues that contribute to regional instability. The US provided financial aid and security assurances to Ukraine, Belarus, and Kazakhstan in the 1990s in exchange for their renunciation of nuclear weapons inherited from the Soviet Union. These incentives were crucial in ensuring their commitment to disarmament.

Raise Public Awareness and Education

Increasing public awareness about the dangers of WMDs and the benefits of disarmament can build domestic support for non-proliferation policies. Educational campaigns and public outreach programs can play a significant role in shaping public opinion and encouraging grassroots support for disarmament efforts. The global campaign for the Treaty on the Prohibition of Nuclear Weapons (TPNW), which entered into force in 2021, was bolstered by extensive public education and civil society engagement, highlighting the humanitarian impact of nuclear weapons and promoting a world free of nuclear arms.[7]

Moving Forward

Addressing the geopolitical challenges driving WMD proliferation in the Middle East requires a multifaceted approach that combines diplomatic strategies, regional cooperation, and lessons from successful disarmament cases like Kazakhstan and South Africa. By fostering a collaborative security environment and promoting non-proliferation, the region can move towards a more stable and secure future. The urgency of action cannot be overstated, as the risks associated with WMD proliferation continue to pose significant threats to regional and global security.

References

[1] United Nations Office for Disarmament Affairs. Central Asian Nuclear-Weapon-Free Zone (CANWFZ). United Nations. Accessed 12 Oct. 2024. https://www.un.org/disarmament/wmd/nuclear/nwfz/canwfz/

[2] Ibid

[3] United States Department of Defense. Cooperative Threat Reduction Program. U.S. Department of Defense. Accessed 13 Oct. 2024. https://www.defense.gov/Explore/Spotlight/Cooperative-Threat-Reduction-Program/

[4] Arms Control Association. Disarmament in South Africa. Arms Control Association. Accessed 18 Oct. 2024. https://www.armscontrol.org/factsheets/southafrica

[5] United Nations Office for Disarmament Affairs. Central Asian Nuclear-Weapon-Free Zone (CANWFZ). United Nations. Accessed 12 Oct. 2024. https://www.un.org/disarmament/wmd/nuclear/nwfz/canwfz/

[6] United Nations Office for Disarmament Affairs. Nuclear Non-Proliferation Treaty (NPT). United Nations. Accessed 19 Oct. 2024. https://www.un.org/disarmament/wmd/nuclear/npt/

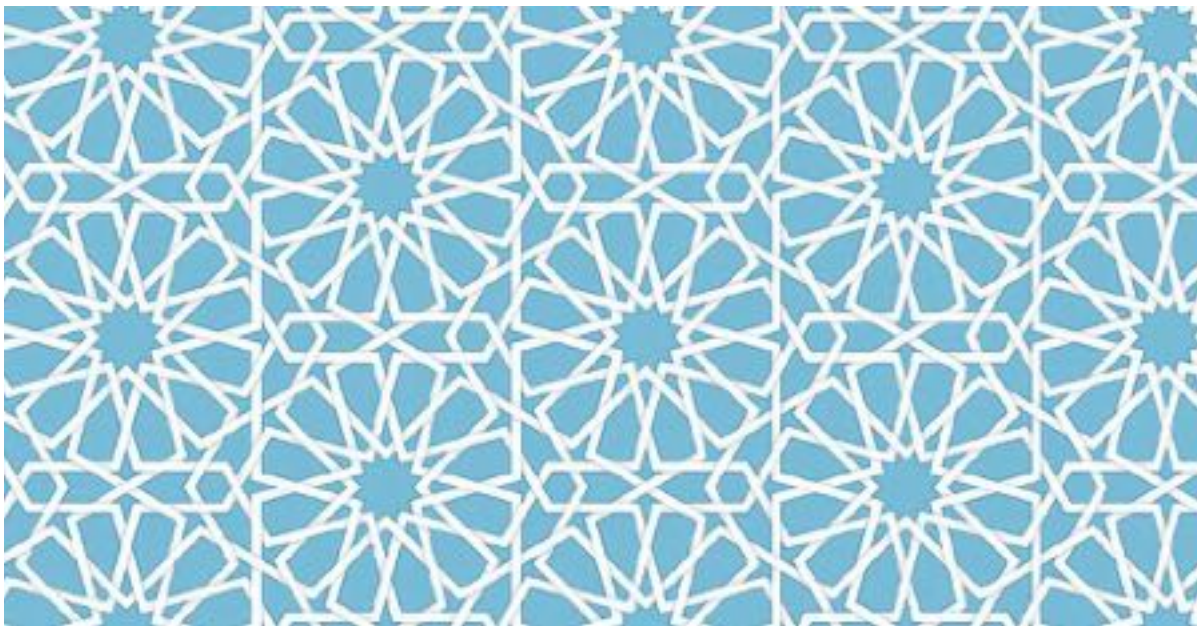
[7] International Campaign to Abolish Nuclear Weapons. Treaty on the Prohibition of Nuclear Weapons. ICAN. Accessed 20 Oct. 2024. https://www.icanw.org/the_treaty

Advancing Peace, Security, and Disarmament in the Middle East

Sabrina Shaikh

Abstract

The Middle East faces significant challenges, including geopolitical tensions, armed conflicts, and the threat of Weapons of Mass Destruction (WMD) proliferation. However, opportunities for peace exist through innovative diplomatic efforts, economic collaboration, and the use of advanced technology.[1] This policy brief outlines actionable strategies: creating regional economic cooperation zones, employing digital tools for arms control transparency, and linking environmental sustainability to peacebuilding. By fostering interdependence, trust, and development, these recommendations aim to reduce conflict risks and promote long-term stability in the region.[2]



The Middle East has long been a focal point of global security concerns due to its complex web of political rivalries, resource competition, and the presence of WMD capabilities. Persistent tensions and cycles of violence have undermined trust between nations, while socioeconomic disparities and environmental challenges further strain regional stability. At the same time, the region holds untapped potential for cooperation in trade, resource sharing, technology, and climate resilience. By advancing initiatives that combine peacebuilding with economic development and environmental sustainability, states can reframe relationships from zero-sum competition to mutually beneficial collaboration. This policy brief explores targeted, practical measures to foster trust, strengthen collective security, and reduce the risk of WMD proliferation while paving the way for long-term peace and prosperity.

Policy Recommendations

Regional Cooperative Zones (RCZs) for Economic Collaboration

Establishing cross-border economic zones focused on resource sharing, clean energy, and trade offers a strategic pathway to stimulate economic growth while reducing the risk of conflict. These zones create mutual dependencies that make regional cooperation more advantageous than rivalry, particularly in areas facing shared resource challenges.[3] Economic collaboration not only enhances development but also fosters trust and interconnectivity among nations. A notable example is the Gulf Cooperation Council (GCC) electricity grid, which links countries such as Saudi Arabia and Kuwait, lowering energy costs and improving supply reliability—demonstrating how shared infrastructure can successfully encourage regional unity.[4] To implement this approach, the action plan calls for engaging key stakeholders, including GCC nations and Egypt, in structured negotiations to define terms of cooperation. The involvement of neutral mediators like the United Nations can help ensure that agreements are fair, transparent, and durable, ultimately reinforcing peace through economic integration.[5]

Linking Peacebuilding with Socioeconomic Development

Promoting peace through joint infrastructure projects presents a practical and impactful approach to fostering regional cooperation and stability. By launching collaborative initiatives in areas such as renewable energy development and water management, nations can address pressing resource deficits while creating shared economic interests that incentivize dialogue over conflict.[6] This strategy is grounded in the recognition that integrated infrastructure efforts not only meet critical development needs but also serve as platforms for building trust and interdependence. A compelling example is the Red Sea–Dead Sea Water Conveyance Project, which brings together Jordan, Israel, and Palestine in a trilateral effort to address

water scarcity, demonstrating how vital resources can catalyze cooperation even in politically sensitive contexts.[7] The proposed action plan involves partnering with international organizations, such as the United Nations Development Programme (UNDP), to oversee project implementation and ensure transparency.[8] Additionally, negotiating equitable resource-sharing agreements would help guarantee mutual benefits and long-term sustainability, reinforcing peace through practical collaboration.[9] [10]

Empowering Youth and Civil Society in Peace Efforts

A key strategy for building lasting peace involves supporting youth-led initiatives, educational exchanges, and cross-border peace campaigns that foster dialogue and mutual understanding among younger generations. By engaging youth through education and technology, this approach aims to counter conflict-driven narratives and cultivate a culture of cooperation from an early age.[11] Programs such as Seeds of Peace, which brings together young people from regions affected by conflict, have shown significant potential for long-term impact by building relationships and empathy across divides.[12] To implement this vision, the action plan involves funding educational and cultural exchange programs through international NGOs and academic institutions, ensuring broad accessibility and diverse participation. Additionally, leveraging social media platforms to promote and amplify youth-led peace efforts can help expand their reach and influence, encouraging grassroots movements and digital solidarity among global youth communities. This bottom-up approach empowers the next generation to be agents of change in peacebuilding efforts.[13]

WMD-Free Subregions Linked to Socio-Environmental Incentives

A promising proposal to promote both global security and environmental protection involves the creation of weapons of mass destruction (WMD)-free zones in ecologically sensitive regions, coupled with targeted sustainability aid to participating nations. This initiative operates on the rationale that linking disarmament to tangible environmental and developmental benefits can serve as a powerful incentive for countries to reduce militarization.[14] By offering economic and ecological assistance in exchange for disarmament commitments, nations may be more willing to pursue peaceful policies. A strong precedent for this approach is the Treaty of Pelindaba, which established a nuclear-weapon-free zone across Africa while aligning with broader development objectives, showcasing how regional disarmament can support both peace and progress. The action plan would involve close collaboration with international donors and environmental organizations to fund sustainable development projects—such as water conservation, renewable energy infrastructure, and agricultural resilience—in exchange for verified disarmament steps. Pilot programs could be launched in high-stakes but environmentally crucial areas like the Sinai Peninsula or the Jordan Valley, where ecological preservation and regional stability are deeply intertwined. This dual-track approach addresses urgent global challenges while fostering trust and cooperation among nations.[15]

Moving Forward

The strategies outlined in this policy brief offer a comprehensive roadmap for advancing peace, stability, and security in the Middle East. By focusing on economic cooperation,

transparency, and youth engagement, the brief proposes practical, actionable measures that address shared regional challenges while fostering trust among nations. These strategies aim to mitigate the risks of WMD proliferation and create an environment conducive to dialogue and development. Implementing these policies would not only reduce tensions but also open avenues for economic growth, enhance regional security, and empower younger generations to envision a future free from conflict. Urgent collective action is required to transition from reactive, conflict-driven policies to proactive frameworks rooted in trust, collaboration, and mutual benefit. This policy brief emphasizes that the long-term prosperity and stability of the Middle East hinge on the adoption of these transformative measures, offering a realistic and hopeful pathway toward a peaceful region.

References

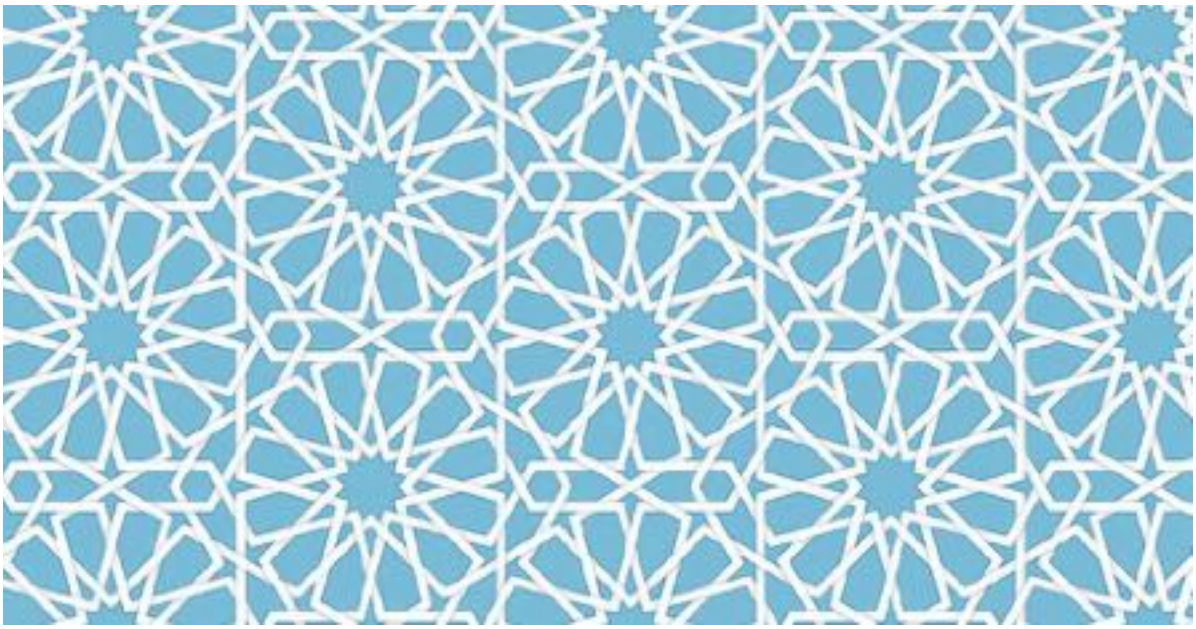
[1] United Nations Institute for Disarmament Research (UNIDIR). "Middle East Weapons of Mass Destruction-Free Zone Documents." UNIDIR. Accessed 1 Oct. 2024.
[2] Middle East Treaty Organization (METO). "Student Journal – Issue 1." METO Student Journal. Accessed 1 Oct. 2024.
[3] International Atomic Energy Agency. "Middle East Nuclear-Weapon-Free Zone: Status and Challenges." IAEA.
[4] Gulf Cooperation Council Interconnection Authority. "Energy Projects in the GCC."
[5] UN Office for Disarmament Affairs. "Regional Disarmament Models: Lessons from Tlatelolco." UNODA.
[6] UN Development Programme. 'Infrastructure and Peacebuilding in Conflict Zones'.
[7] Red Sea–Dead Sea Project. "Collaborative Water Management in the Middle East."
[8] IAEA. "Pilot Projects in Blockchain for Disarmament Verification." Accessed 1 Oct. 2024.
[9] Blockchain Alliance for Transparency in Arms Control. "Digital Governance Applications."
[10] Seeds of Peace. "Youth Leadership in Peacebuilding." Accessed 1 Oct. 2024.
[11] METO. "WMD-Free Zones and Sustainable Development." Accessed 1 Oct. 2024.
[12] ICAN. "Disarmament Lessons from Other Regions." Accessed 1 Oct. 2024.
[13] UNIDIR. "The Role of Economic Incentives in Regional Disarmament."
[14] Treaty of Pelindaba. "Nuclear-Weapon-Free Zones: A Model for the Middle East." UNODA. Accessed 1 Oct. 2024.
[15] The African Nuclear-Weapon-Free Zone Treaty - The Treaty of Pelindaba. "United Nations Platform for Nuclear-Weapon-Free Zones."

Empowering Advocacy for Middle East WMD Non-Proliferation

Nilormi Das

Abstract

This policy brief addresses two critical aspects of the non-proliferation of Weapons of Mass Destruction (WMD): empowering advocacy and activism and tackling geopolitical challenges in the Middle East. This brief outlines strategies to strengthen grassroots movements and diplomatic efforts aimed at mitigating the risks of WMD proliferation, contributing to both regional and global security.[1]



WMD proliferation is a significant global security concern. Advocacy and activism play pivotal roles in promoting WMD non-proliferation, influencing policy reform, and advancing international disarmament efforts.[2] [3] This brief proposes strategies to fortify advocacy initiatives globally and specifically in the Middle East, emphasizing the influence of grassroots movements.

The complex geopolitical landscape of the region intensifies WMD proliferation risks and continues to be a significant global security challenge. Long-standing regional conflicts, political instability, and existing WMD programs compound these threats. Effective advocacy and strategic actions are urgently needed to address these challenges and pave the way for a safer future.

The Middle East is a hotspot for geopolitical tensions. Regional tensions, rooted in historical conflicts, territorial disputes, and power rivalries, drive WMD proliferation in the Middle East. Countering these challenges is vital for securing both regional and global stability. This policy brief delves into the factors fuelling WMD proliferation and suggests cooperative diplomatic strategies to reduce these risks.

Policy Challenges

The proliferation of WMD in the Middle East is influenced by an intricate web of geopolitical dynamics. Historical conflicts, such as the Arab-Israeli conflict, and ongoing political rivalries between regional powers like Iran and Saudi Arabia, foster mistrust and insecurity, encouraging states to pursue WMDs as tools for deterrence and power projection.[4]

Additionally, the absence of effective regional security frameworks further intensifies proliferation risks. The challenge lies in developing strategies that address these geopolitical tensions while promoting regional cooperation and stability. Despite existing treaties and agreements, the risk of WMD use persists due to geopolitical tensions, technological advancements, and the presence of non-state actors.[5] Immediate and effective advocacy and activism are necessary to mitigate these risks and advance global non-proliferation goals.

Policy Recommendations

Strengthening Grassroots Movements

To strengthen grassroots movements for WMD non-proliferation, it is important to empower local organizations through comprehensive training and resource provision, which will bolster

their advocacy capabilities and subject-matter expertise. Actively involving youth by educating them about the risks and responsibilities associated with WMDs ensures that future leaders are prepared to champion non-proliferation causes.

Building networks between local and international actors enhances the reach and effectiveness of advocacy efforts by facilitating knowledge exchange and coordinated action. Raising public awareness through the strategic use of media and social platforms helps inform communities about the threats of WMDs and mobilizes public support for disarmament. Finally, engaging communities culturally through creative arts and cross-cultural projects can help build solidarity and nurture a shared commitment to a world free of weapons of mass destruction.

Strengthening Global Advocacy Networks

Developing global advocacy networks that connect activists from around the world is crucial for supporting disarmament initiatives.[6] These networks enable coordinated efforts, information sharing, and stronger collective action to promote arms reduction. Additionally, empowering grassroots organizations to monitor disarmament agreements and hold governments accountable ensures that commitments are upheld and transparency is maintained in the disarmament process.[7][8][9]

Diplomatic Strategies

Diplomatic strategies for advancing security and disarmament emphasize the importance of inclusive dialogues that bring together all regional stakeholders to openly discuss security concerns and build mutual trust. Such multilateral conversations create a platform for addressing differences and fostering cooperation.

Additionally, confidence-building measures play a key role by encouraging transparency through activities like joint military exercises and the sharing of information about military capabilities, which help to prevent misunderstandings and deter arms races. Together, these approaches contribute to a more stable and secure regional environment.

Moving Forward

The proliferation of WMD in the Middle East can be mitigated comprehensively by addressing geopolitical challenges and empowering advocacy. This dual approach will not only enhance regional security but also advance global peace and stability. To establish a WMD-free Middle East, the promotion of trust-building measures and the fortification of international disarmament frameworks are essential to reduce risks and foster stability.[10] To counter the escalating WMD threats in this volatile region, coordinated and sustained efforts are crucial.[11] To strengthen the movement for a WMD-free world, the global community can utilize the combined efforts of education, technology, and grassroots activism effectively. As the urgency of action is clear, the risks associated with WMD proliferation demand immediate and unified responses.

References

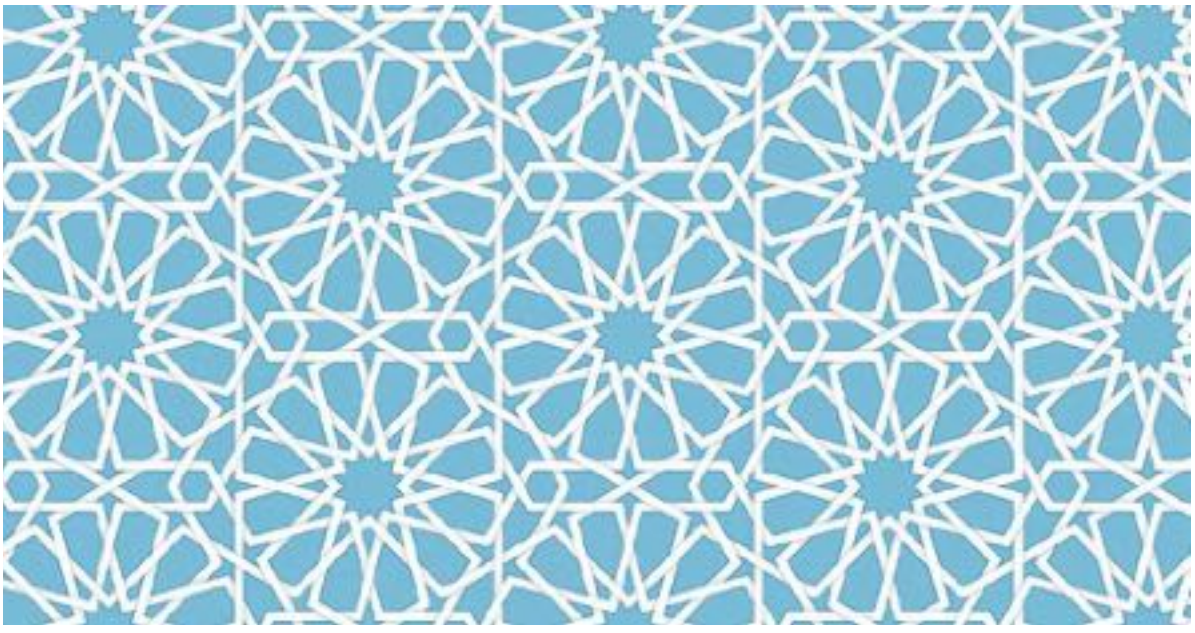
[1] Nuclear Threat Initiative (NTI). NTI's 2023 Annual Report: Securing the Future Highlights NTI's Global Impact. NTI, 2023. Accessed 30 Nov. 2024. https://www.nti.org/news/ntis-2023-annual-report-securing-the-future-highlights-ntis-global-impact/.
[2] "Chemical, Biological, Radiological & Nuclear (CBRN) Security Policy Working Group." Women of Color Advancing Peace, Security & Conflict Transformation (WCAPS). Accessed 30 Nov. 2024. https://www.wcaps.org/workinggroup/cbrn.
[3] United Nations Office for Disarmament Affairs. Disarmament Yearbook, Volume 48, 2023. United Nations, 2023. Accessed 30 Nov. 2024. https://front.un-arm.org/yb/en-yb-vol-48-2023.pdf.
[4] "Regional Security." EU Non-Proliferation Consortium. Accessed 30 Nov. 2024. https://www.nonproliferation.eu/thematics/regional-security/.
[5] James Martin Center for Nonproliferation Studies. WMD Capabilities Enabled by Additive Manufacturing. Middlebury Institute of International Studies at Monterey. Accessed 30 Nov. 2024. https://nonproliferation.org/wmd-capabilities-enabled-by-additive-manufacturing/.
[6] Global Zero. Accessed 30 Nov. 2024. https://globalzero.org.
[7] "Young Women in Nonproliferation Initiative." Nonproliferation.org. Accessed 30 Nov. 2024. https://www.nonproliferation.org/?s=Young+Women+in+Nonproliferation+Initiative+.
[8] "Projects." Youth Fusion. Accessed 30 Nov. 2024. https://www.youth-fussion.org/projects/.
[9] James Martin Center for Nonproliferation Studies. "Leadership." Women in Nonproliferation, Middlebury Institute of International Studies at Monterey. Accessed 30 Nov. 2024. https://nonproliferation.org/education/women-in-nonproliferation/leadership/.
[10] Nuclear Threat Initiative (NTI). NTI's 2023 Annual Report: Securing the Future Highlights NTI's Global Impact. NTI, 2023. Accessed 30 Nov. 2024. https://www.nti.org/news/ntis-2023-annual-report-securing-the-future-highlights-ntis-global-impact/.
[11] Arms Control Association. Accessed 30 Nov. 2024. https://www.armscontrol.org.

Managing the Risks of AI in Weapons Systems

Kudakwashe Mapako

Abstract

Weapon technologies and practices are evolving very rapidly, with military developers interested in the integration of artificial intelligence (AI) and related emerging technology with weapon systems, particularly weapons of mass destruction (WMD). The integration of AI with WMDs is not a relatively new discourse; issues around the responsibility bestowed upon AI and the appropriate level of delegation commenced a long time ago.[1] However, the risks associated with AI and emerging technologies have been more pronounced due to the extensive independent role that AI seeks to play in weapons of mass destruction systems.[2] This policy brief seeks to provide policies to manage the risks associated with integrating AI and other emerging technologies into weapons systems, particularly focusing on their potential intersection with WMDs. Briefly, it reflects on the implications of this development in the Middle East and Africa while also addressing the importance of global standards and risk mitigation strategies.



The rapid advancement of artificial intelligence (AI) and other emerging technologies is transforming the global security landscape, particularly in relation to weapons of mass destruction (WMD). The integration of such technologies into weapon systems introduces unprecedented risks, especially when autonomous decision-making intersects with the destructive capacity of WMDs. These risks are amplified by uncertainties in AI behavior, the erosion of human oversight, and the absence of universally agreed international standards. In regions already marked by deep geopolitical tensions, such as the Middle East and parts of Africa, the implications of AI integration into WMD are particularly acute. Against this backdrop, this policy brief examines the ethical, legal, and strategic challenges posed by these developments and offers recommendations for establishing robust global governance and risk mitigation frameworks.

Rationale for Action on the Problem

Proliferation of Unethical Means and Methods of Warfare

Research is ongoing into the impact emerging technologies, AI, and weapons systems integration could have on the proliferation of unethical means and methods of warfare. It is fundamental to note that WMDs are already condemned as weapons that violate the cardinal principles of international humanitarian law.[3] Adding AI into WMD systems proliferates an unethical, immoral, and irresponsible culture in armed conflict.[4]

The issue of accountability is central to International Humanitarian Law (IHL), regarding ensuring the application and enforcement of the law in an armed conflict. Relying on AI in weapons systems to carry out decisions shifts the burden to machines, which are undoubtedly not in a position to make accurate, reliable, deliberate, and sound decisions as human beings.[5] Not to mention stripping the human factor from a conflict environment and reducing the sacred value of life.

Level of Miscalculations and Unpredictability

The nature of Artificial Intelligence (AI) gives room for some level of unpredictability and miscalculation. AI is trained through a set of codes to create its own model of tasks and strategies to complete generative tasks.[6] It is difficult for humans to comprehend what such a system has gathered and to predict how it will react to input data different from that used during the system's training phase.[7] This leaves room for uncertainty for humans as AI has to carry out these tasks unilaterally. In the context of WMD, the level of risk is unprecedented, as no one can be certain of what AI and related emerging technologies can do with such a level of autonomy. Uncertainty layered with complexity heightens the risk.

Even with human engagement in the AI and WMD systems integration life cycle, relying on AI for strategic suggestions runs the risk of diminishing the importance of human-centered activities. In the context of nuclear weapons, this development alters the current deterrence phenomena by invalidating the usefulness of humans' assumptions about the adversary's intentions. The development and use of autonomous weapon systems undermine collective peace and security.

Lastly, when it comes to integrating AI with WMD systems, there is no consensus on the extent of human oversight. Specifically in nuclear weapons systems, the Permanent Members of the United Nations Security Council's view on humans and AI's role in decision-making within nuclear weapon systems varies across the board on several parts of the AI life cycle in nuclear weapons systems.[8] Lack of consistent understanding of the level of human control in AI and nuclear weapons systems reinforces the urgent need to establish global standards and risk mitigation strategies around this development.

Implications for the Middle East and Africa

The security landscape of the Middle East currently grapples with the issue of conditionality, which is pivotal to the multilateral WMD commitments of Egypt, Iran, and Israel.[9] This situation is exacerbated by concerns regarding the strategic and power imbalance stemming from Israel's existing nuclear weapon posture, Iran's hesitance to comply with International Atomic Energy Agency safeguards verification, and the ongoing conflict involving Israel, Iran, and respective armed groups.[10] Considering the security climate in the Middle East, the introduction of AI into WMD systems has the potential to heighten tension and escalate the arms race in the region for strategic reasons.[11]

While African states have not developed WMD since South Africa's nuclear weapons programme, there have been reported cases of the adoption of AI in military operations, particularly for surveillance and drone attacks on non-state actors in non-international armed conflicts.[12] As much as this development is appealing to states, the implications of AI integration into the military domain are severe. The AI utility heightens security risk and human rights violations, especially if they land in the hands of non-state actors.[13]

Policy Recommendations

Although the existing International Law architecture provides a normative and legal framework that regulates the means and methods of parties during warfare, there is a lacuna in the current legal regime to account for the unique characteristics of AWS.[14] To establish comprehensive global standards and risk mitigation strategies, the United Nations Group of Governmental Experts on Lethal Autonomous Weapon Systems (UNGGE) was formed.[15] The following policy options seek to reinforce the efforts of the UNGGE and other stakeholders.

Establishment of International Legal Standards

Establish legally binding obligations to regulate the whole AI integration with weapons of mass destruction life cycle. The normative and legal obligations will assist in creating uni-

versal standards to mitigate risk anchored in the principles of transparency, accountability, sustainability, and fairness, while offering the benefits of legal certainty and stability.

Inclusive Diplomacy

Engage in inclusive diplomacy at multilateral fora unpacking the technology-based risks with a holistic outlook of AI in weapons of mass destruction systems and accounting for the existing discriminatory structures within the WMD multilateral architecture. Democratize the dialogue on AI integration into WMD systems to encourage regional approaches to mitigate the risk and set equitable global standards, considering developing states' susceptibility to security risks vis-à-vis their capacity deficit. Allow the participation of diverse stakeholders, particularly leading technology companies and civil society organizations, to be part of the dialogue within the multilateral fora.

Transparent Channels

While pursuing robust global standards and mitigation strategies, investing in personnel and multilateral channels that specialize in and oversee AI risk management is pivotal in creating the necessary transparent channels.[16] Timely risk communication and keeping up with AI–WMD integration developments is needed to galvanize confidence-building measures among states. States can leverage the First Committee of the United Nations General Assembly to debate, engage in collective dialogue, and propose a call to action on AI and weapon systems.

Moving Forward

The proliferation of AI and emerging technologies in weapons of mass destruction is a cause of great concern. An equally, if not greater, global response to these peace and security developments is needed. Considering the rapid AI development in the military domain vis-à-vis its security implications in weapon systems, an urgent global response is imperative—particularly enhancing global cooperation and immediate action to establish international standards to mitigate security risk.

References

[1] BOULANIN, Vincent, editor. "Artificial Intelligence: A Primer." The Impact of Artificial Intelligence on Strategic Stability and Nuclear Risk: Volume I Euro-Atlantic Perspectives, Stockholm International Peace Research Institute, 2019, pp. 13–25. JSTOR. Accessed 6 Oct. 2024. http://www.jstor.org/stable/resrep24525.8.

[2] What You Need to Know about Autonomous Weapons. International Committee of the Red Cross. Accessed 6 Oct. 2024. https://www.icrc.org/en/document/what-you-need-know-about-autonomous-weapons.

[3] States Must Address Concerns Raised by Autonomous Weapons. International Committee of the Red Cross. 18 June 2020. Accessed 7 Oct. 2024. https://www.icrc.org/en/document/states-autonomous-weapons; Chengeta, Thompson. "Autonomous Weapon Systems and the Inadequacies of Existing Law: The Case for a New Treaty." Journal of Law & Cyber Warfare, vol. 8, no. 2, 2022, pp. 105–39. JSTOR. Accessed 7 Oct. 2024. https://www.jstor.org/stable/48736861.

[4] Ibid., pp. 37–38.

[5] Chengeta, Thompson. "Measuring Autonomous Weapon Systems Against International Humanitarian Law Rules." Journal of Law & Cyber Warfare, vol. 5, no. 1, 2016, pp. 66–146. JSTOR. Accessed 6 Oct. 2024. http://www.jstor.org/stable/26441266.

[6] Sarkin, Jeremy Julian, and Saba Sotoudehfar. "Artificial Intelligence and Arms Races in the Middle East: The Evolution of Technology and Its Implications for Regional and International Security." Defense & Security Analysis, vol. 40, no. 1, Jan. 2024, pp. 97–119.

[7] Supra note 2, p. 20.

[8] BOULANIN, Vincent, editor. "Promises and Perils of Artificial Intelligence for Strategic Stability and Nuclear Risk Management: Euro-Atlantic Perspectives." The Impact of Artificial Intelligence on Strategic Stability and Nuclear Risk: Volume I Euro-Atlantic Perspectives, Stockholm International Peace Research Institute, 2019, p. 135. JSTOR. Accessed 6 Oct. 2024. http://www.jstor.org/stable/resrep24525.21.

[9] Weapons Powered by Artificial Intelligence Need to Be Regulated. World Economic Forum. Accessed 7 Oct. 2024. https://www.weforum.org/agenda/2021/06/the-accelerating-development-of-weapons-powered-by-artificial-risk-is-a-risk-to-humanity/.

[10] Price, Matthew, et al. "The Machine Beneath: Implications of Artificial Intelligence in Strategic Decision Making." PRISM, vol. 7, no. 4, 2018, pp. 92–105. JSTOR. Accessed 6 Oct. 2024. https://www.jstor.org/stable/26542709.

[11] "A Cornered Iran May Need to Build a Nuclear Bomb." Newsweek. 9 Oct. 2024. https://www.newsweek.com/iran-nuclear-weapons-israel-attack-1966488.

[12] AI and Nuclear Command, Control and Communications: P5 Perspectives. European Leadership Network. Accessed 9 Oct. 2024. https://europeanleadershipnetwork.org/report/ai-and-nuclear-command-control-and-communications-p5-perspectives/.

[13] West, Josh, et al. "Autonomous Nuclear Weapons Systems: Ethics, International Law and Future Stability." The 2021 UK PONI Papers, edited by Ana Alecsandru, Royal United Services Institute (RUSI), 2021, pp. 35–39. JSTOR. Accessed 6 Oct. 2024. http://www.jstor.org/stable/resrep54983.8.

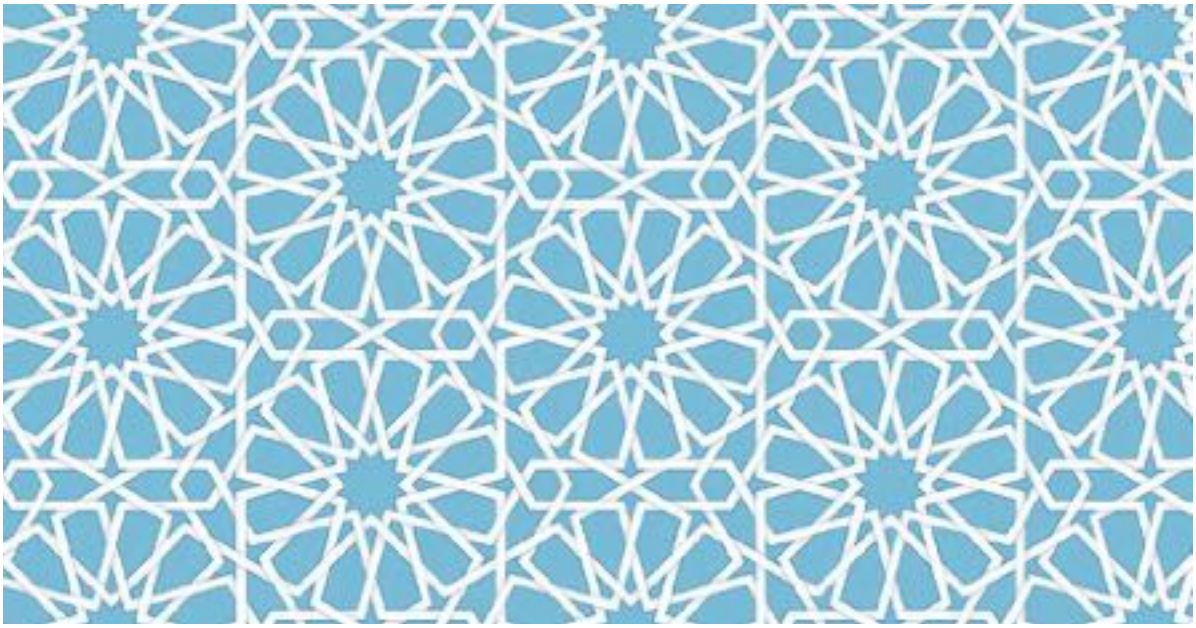
[14] Group of Governmental Experts – UNODA. United Nations Office for Disarmament Affairs. Accessed 7 Oct. 2024. https://disarmament.unoda.org/group-of-governmental-experts/.
[15] Allen, Nathaniel. "Artificial Intelligence Creeps on to the African Battlefield." Brookings. Accessed 18 Nov. 2024. https://www.brookings.edu/articles/artificial-intelligence-creeps-on-to-the-african-battlefield/.
[16] Fahmy, Nabil. "Nuclear Non-Proliferation and Disarmament in the Middle East." Journal for Peace and Nuclear Disarmament, 2022. Accessed 1 Nov. 2024.

Instrumentalising Decolonisation for Disarmament

Meher Fatima

Abstract

The devastating consequences of the Hiroshima and Nagasaki bombings in 1945 marked the beginning of the Nuclear Age. Despite expectations that such events would lead to global disarmament, they instead triggered a superpower rivalry, leading to the proliferation of nuclear weapons. At the same time, Afro-Asian solidarity emerged in the post-colonial era, opposing nuclear weapons as instruments of power imbalance imposed by former colonial powers. The concept of Nuclear Weapons Free Zones (NWFZs) evolved as a result, but the pursuit of nuclear arsenals by countries like India, Pakistan, China, and others challenged the decolonisation narrative.[1] Academic institutions are pivotal spaces for the evolution of narratives and discourses on disarmament and decolonization. The focus of this policy brief is to explore how the discourse of decolonisation can be repurposed to engage youth in Weapons of Mass Destruction (WMD) disarmament efforts and shape future disarmament policies through education, activism, and participation in global discussions.[2]



With the diversification of Weapons of Mass Destruction (WMDs), the discourse surrounding disarmament has also evolved. It is crucial that academic institutions incorporate frameworks such as decolonisation, particularly for Global South nations, into this discourse to address WMD challenges. The Global South, encompassing nations that experienced colonisation, has a unique perspective on WMDs, viewing them as legacies of global power imbalances. However, there is significant potential in engaging youth to challenge these structures and advocate for disarmament.

Policy Challenges

Decolonisation and Global South's Understanding of Nuclear Weapons

Nuclear weapons have been regarded as both an equalizer and a threat, allowing states to deter aggression but also increasing existential risks to humanity. The logic of Mutually Assured Destruction (MAD) underlines this paradox: while nuclear weapons promise security, they simultaneously amplify the potential for global catastrophe. Historically, post-colonial nations from the Global South have resisted non-proliferation efforts, viewing them as discriminatory. It is, however, important to note that not all countries in Global South pursued Nuclear Armament actively. In fact, the Nuclear States from the Global South did not manage to gain following. South Africa's denouncement of its nuclear weapons is a case-in-point. Efforts by the Global North to maintain nuclear superiority while restricting similar capabilities in developing nations have drawn widespread criticism, with nuclear weapons often seen as symbols of sovereignty. It is important to establish this broad narrative to understand the core of the problem in the Middle East.

Nuclear Disarmament in the Middle-East and Discourse of Decolonization

The core issue in the Middle East regarding nuclear weapons is the selective and colonialist nature of the global discourse. Israel is widely believed to be the only country in the region with nuclear capabilities, although it maintains a policy of opacity about its nuclear programme. In contrast, Iran's nuclear ambitions have attracted significant international scrutiny, particularly due to fears that it may be developing weapons of mass destruction (WMDs), specifically nuclear weapons. The uncertainty surrounding the nuclear capacities of both Israel and Iran has amplified regional tensions, especially with incidents such as the alleged Israeli attacks on Iran's nuclear infrastructure, highlighting the precarious dynamics of the region. While the West has persistently criticized Iran's nuclear programme, it has been notably silent on Israel's nuclear capabilities. This discrepancy has led to speculation that the discourse surrounding nuclear disarmament is not only selective but also rooted in colonialist

thinking. A parallel can be drawn with the Western reaction to India and Pakistan's nuclear arsenals. From the outset, the nuclear policies of both countries were subject to intense scrutiny, with the West being accused of practicing 'Nuclear Apartheid'.3 This approach reflects a colonial-era mindset that sees non-Western nations as 'irresponsible' and thus unworthy of nuclear weapons.[4]

The debate on nuclear disarmament, therefore, is fraught with political complexities. The colonial undertones of the discourse make it even more difficult to address the issue effectively, both academically and politically. This is particularly true in the Middle East, where Israel's nuclear capabilities have exacerbated regional tensions, especially with Iran, which, while advancing its nuclear technology, has not yet weaponised it. To shift the focus from nuclear acquisition to disarmament, the narrative surrounding nuclearisation needs to be reframed. One way to achieve this is through a decolonisation lens, a process in which youth can play a vital role. By engaging in youth-driven initiatives, the focus can move from nuclear proliferation towards regional stability and disarmament. This could be achieved by framing nuclear weapons as symbols of colonialism, thereby undermining their legitimacy. Introducing educational programmes in universities and forums that encourage youth participation in non-proliferation discussions could help reshape the debate on nuclear issues, steering it away from power dynamics rooted in the past.

Policy Recommendations

Repurposing the narrative of decolonisation provides a powerful framework for WMD disarmament. Academic institutions should embrace the discourse of decolonisation, not only as a tool for addressing historical injustices but as a pathway towards peace and security. The following recommendations outline ways to engage youth in disarmament efforts:

Youth-Led Advocacy and Movements

Governments and international organisations should support youth-led movements advocating for disarmament. Initiatives such as youth conferences, debate forums, and United Nations programmes can offer platforms for younger generations to contribute to global non-proliferation discussions. These movements can galvanise momentum for disarmament by applying pressure on governments and international bodies. By framing nuclear disarmament as part of the decolonisation struggle, students can be encouraged to view WMDs as part of a broader quest for global equality and justice.

Incorporate Technology and Social Media

Youth are adept at using social media and technology to drive movements. The creation of online educational platforms and social media-led global campaigns would allow youth to connect, share ideas, and coordinate efforts for disarmament. The Middle East Treaty Organisation's summer and winter courses on similar subjects can be cited as a case in point.

Promote Regional Youth Networks

Regional initiatives should focus on building youth networks dedicated to WMD disarma-

ment. In conflict-ridden regions like the Middle East, fostering dialogue among youth from different countries can help build trust and collaboration. These networks can provide a forum for addressing regional complexities and promoting peace over proliferation. Providing necessary platforms to the young leaders from the region to participate in high-level non-proliferation and disarmament discussions can be a step forward. Their voices are crucial in challenging the existing power dynamics around nuclear weapons. Programmes like UN Youth Delegate schemes should be expanded to ensure broader representation from post-colonial nations.

Moving Forward

The perennial nature of crisis and violence in the region underlines the importance of addressing the institutional and structural factors regarding the issue of WMD disarmament. Amid the grim situation across the region, with multiple fronts of war being active and tremendous civilian casualties across the region due to ongoing conflicts. Instrumentalizing the discourse of decolonisation to engage youth in WMD disarmament offers a fresh approach to one of the most pressing issues of our time. By involving younger generations in education, advocacy, and global discussions, disarmament can be reframed not just as a strategic necessity but as a moral imperative for creating a more equitable and secure world. Through youth participation, the Global South, especially in the Middle East can lead the charge in reshaping global power structures, denouncing nuclear weapons, and advocating for peace.

References

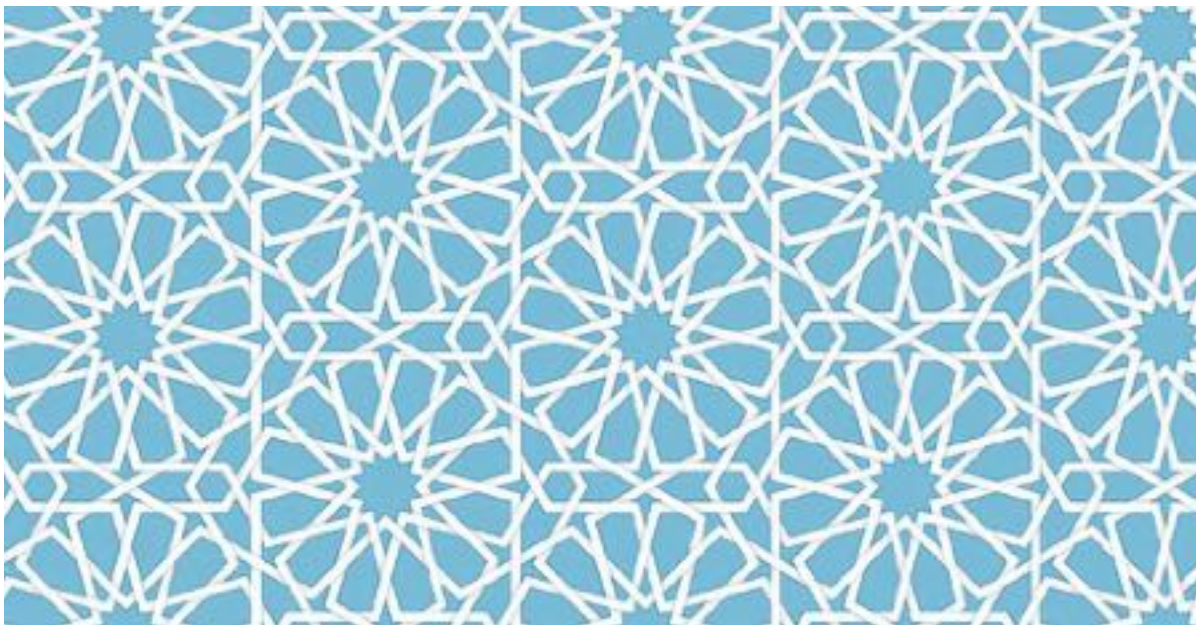
[1] Nuclear-Weapon-Free Zones (NWFZ) At a Glance | Arms Control Association. https://www.armscontrol.org/factsheets/nuclear-weapon-free-zones-nwfz-glance. Accessed 18 Oct. 2024.
[2] The Nuclear Nonproliferation Treaty (NPT) at a Glance | Arms Control Association. https://www.armscontrol.org/factsheets/nuclear-nonproliferation-treaty-npt-glance. Accessed 12 Oct. 2024.
[3] Singh, Jaswant. "Against Nuclear Apartheid." Foreign Affairs, vol. 77, no. 5, 1998, pp. 41–52. JSTOR, https://doi.org/10.2307/20049049. See also: Biswas, Shampa. "Nuclear apartheid" as political position: race as a postcolonial resource?. Alternatives 26.4 (2001): 485-522.
[4] Gusterson, Hugh. 'Nuclear Weapons and the Other in the Western Imagination'. Cultural Anthropology, vol. 14, no. 1, 1999, pp. 111–43. JSTOR, https://www.jstor.org/stable/656531. See also: Kapur, Ashok. "The nuclear spread: A third world view." Third World Quarterly 2.1 (1980): 59-75.

Humanitarian and Environmental Consequences of WMD

Mina Rozei

Abstract

Weapons of mass destruction (WMDs) - nuclear, chemical, and biological weapons - have been widely used in the Middle East and North Africa (MENA) region (hereby defined as the 22 members of the Arab League, Iran, and Israel) throughout the 20th and 21st centuries and have done serious damage to human and environmental health.[1] There is a history of chemical weapons usage in the MENA region, specifically in Iran, Iraq, Yemen, and Syria and the communities in the Algerian Sahara have been severely impacted by the French nuclear testing. WMDs pose a unique threat compared to conventional arms due to the scale of their destructiveness, including the long-term damage they cause to human, animal, and environmental health. Achieving a WMD Free Zone (WMDFZ) in the region requires addressing this damage by centering victims and survivors and a series of educational, public health, and environmental clean-up efforts.



Accounts of WMD victims and survivors in the MENA region are generally discussed as isolated cases, as victims of a specific political moment, whether it is the Algerian Tuareg community living near French nuclear test sites, Kurdish and Iranian victims of the chemical campaign by Saddam Hussein, or potential targets of widespread interest in developing biological weapons by state and non-state actors. However, understanding WMD-affected communities in the region together through what they have in common not only brings the pattern of WMD use in the region to light, but also strengthens the cause of justice and disarmament.

The humanitarian consequences of WMD usage in the MENA region encompass the short and long-term physical and psychosocial health impacts of weapons use in conflict, as well as the environmental effects that these weapons have on the air, soil, water, and food chain. The problem of WMDs in this region permeates every aspect of life and, therefore, requires a holistic response.

The hibakusha, Japanese survivors of the atomic bombing of Hiroshima and Nagasaki, are a valuable model for addressing the humanitarian consequences of WMD use in the MENA region.[2] While the activism of each hibakusha is unique, together they present a united community of survivors. The MENA region has victims and survivors of nuclear tests and chemical attacks and an incentive not to see biological weapons proliferate in a region in which decades of war have created a high rate of antimicrobial resistance in patients.[3] This means that civil society in the region can fight together for humanitarian and environmental justice for their communities with the voices of survivors at the forefront.[4]

Policy Challenges

Despite the many cases of WMD use in the MENA region, the public and governments are not adequately informed about the topic. The humanitarian and environmental damage caused by these weapons has been silently killing affected communities for decades with little awareness about their suffering. Their voices must be heard not only to achieve justice for the victims and survivors, but also as a necessary component of creating a WMDFZ.

As a parallel case, the Japanese hibakusha have played a vitally powerful yet underappreciated role in reducing the likelihood of further use of nuclear weapons, with their activism directly contributing to the creation of the TPNW.5 The same approach should be utilized in the MENA region for several reasons: (1) to engage with and honor the suffering of WMD victims

and survivors by centering their experiences and perspectives; (2) to educate the public about the consequences of WMD use; and (3) to advocate for disarmament at the governmental and diplomatic levels.

Policy Recommendations

Policy recommendations for a WMDFZ will differ depending on the specific type of weapon; however, the consequences of all types of WMDs overlap in the grave destruction they cause to the health of humans and the environment. In general, all WMDs negatively impact human physical and psychological health as well as the earth itself, and all of them release waste that stays in bodies and the environment for generations. With this in mind, recommendations should take a long-term view.

Education

The first step to be addressed is to strengthen the public's awareness of the consequences of WMDs. Civil society should lead a campaign to educate the general public, diplomats, and governments about past instances of WMD use in the MENA region and focus on the long-term damage that victims continue to suffer. This campaign should highlight the ways in which all affected communities suffer similar consequences in order to show that WMD victims and survivors are united, which makes the case for the necessity of a WMDFZ.

Educational outreach should take place on different fronts, including a public information campaign that would create awareness of affected communities so that they are known internationally rather than erased from history; a compilation of written and/or recorded interviews with WMD survivors from the region; the inclusion of survivors in meetings from the local to international level; increased collaboration with WMD survivors from other regions to increase international exposure to this issue; a targeted campaign that links the environmental damage done by WMDs to climate activism; and a targeted campaign aimed at fostering youth understanding and engagement. WMD victims in the region can learn a lot from the hibakusha's initiatives and can work with them to learn strategies to educate for peace.[6] Initiatives such as the Kurdistan Memory Programme and Tehran Peace Museum seek to collect testimonies from victims and their families and educate the public about chemical attacks during the Iran-Iraq War - this could be expanded to create an archive of WMD victims throughout the MENA region.

Health services

International organizations such as the ICRC, MSF, and WHO should partner with WMD survivor NGOs (non-governmental organizations) to lead a public health campaign to provide health services to affected communities throughout the region. Documentation of the necessary healthcare should be provided by local NGOs with survivor communities in key decision-making roles. A mental health campaign should also be part of the services with an emphasis on trauma-informed therapy and community-building programs. Different communities that have been affected by WMDs in the region could also host meetings or join together in various settings to share experiences and gain a sense of strengthened community with

other survivors. Partnering with universities such as AUB (American University of Beirut) that do research on conflict medicine in the region would connect survivors with medical personnel and bring their condition to the attention of the global health community.

Environmental clean-up

A campaign for environmental clean-up of WMD-affected communities should be implemented by international actors. Investigations and support by the IAEA, UNODA, and OPCW would ensure international cooperation and adhere to expert verification, and should then be followed by a multi-stakeholder effort to clean up an affected environment. A concerted, unified effort should be made by regional governments, international organizations, and relevant civil society stakeholders to conduct scientific studies on the effects of WMDs on the environment and create plans for clean-up programs. Funding for these efforts could be considered a form of reparations from the perpetrator to the affected community, while management should be overseen by the community itself to ensure that it respects and maintains local land stewardship. Finally, successful techniques should be shared among different survivor communities in the region. Joining with climate activists and initiatives throughout the region would strengthen the coalition and bring the issue of WMD victims to climate activists worldwide.

Moving Forward

Survivors of WMD attacks often say that their demands are simple: an acknowledgment of the wrongs committed and a commitment to redress them. The creation of a WMDFZ in the MENA region cannot be achieved without acknowledging and aiding the communities that have already been affected by these weapons. Genuine efforts to mitigate the humanitarian and environmental damage that has been done to these communities would bring healing to these communities and would sensitize the general public to the necessity of a WMDFZ so that such suffering is not repeated.

References

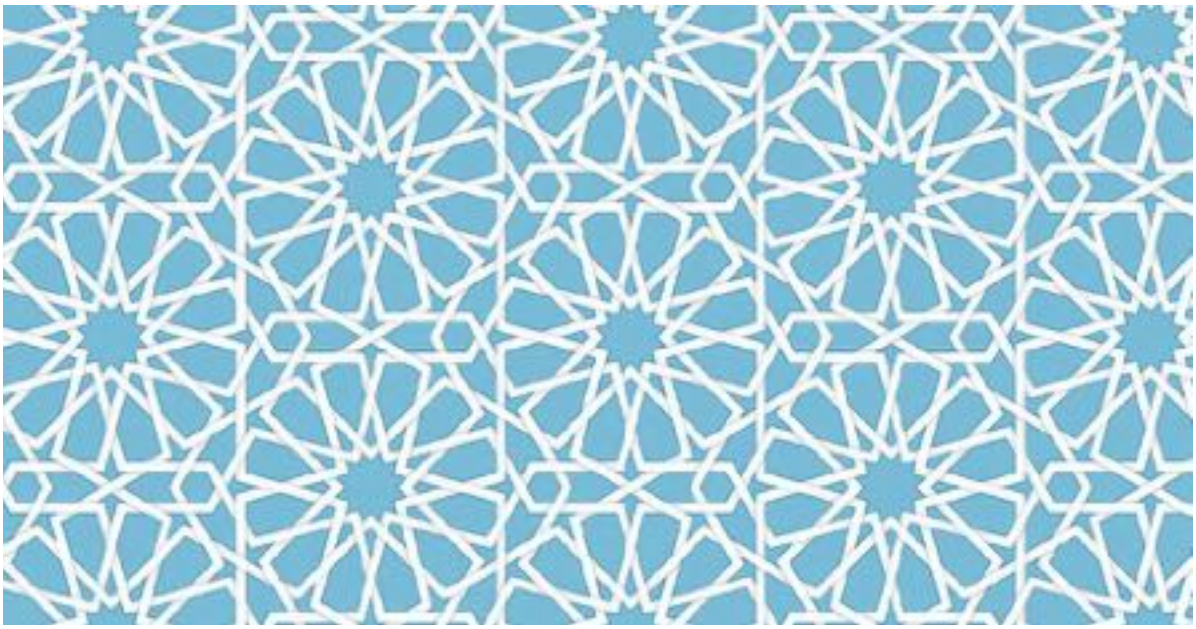
[1] Kiyaei, Emad. "Introduction: The Path Forward to a WMD Free Zone in the Middle East." Journal for Peace and Nuclear Disarmament 5.1 (2022): 1-8.
[2] Griener, George E., Pierre Thompson, and Elizabeth Weinberg. "Disarming Hearts and Minds." Peace Review 32.3 (2020): 303-312.
[3] Dewachi, Omar. "War Biology as Aftermath of Empire." PoLAR: Political and Legal Anthropology Review, 20 September 2023, https://polarjournal.org/2023/09/20/war-biology-as-aftermath-of-empire/. Accessed 24 October 2024.
[4] Dolev, Sharon, and Leonardo Bandarra. "Towards an Achievable WMDFZ Treaty for the Middle East: Insights from Civil Society." Journal for Peace and Nuclear Disarmament 5.1 (2022): 9-27.
[5] Chin, Lili, Geetha Govindasamy, and Md Nasrudin Md Akhir. "Japanese Non-State Actors' Under-Recognised Contributions to the International Anti-Nuclear Weapons Movement." All Azimuth: A Journal of Foreign Policy and Peace 11.2 (2022): 193-210.
[6] Griener, George E., Pierre Thompson, and Elizabeth Weinberg.

Environmental Impact of WMD Use in the Middle East

Mohamed Z. El-Sadek

Abstract

This paper examines the severe environmental consequences of Weapons of Mass Destruction (WMD) use in the Middle East, where conflicts and instability amplify the risks to ecosystems, agriculture, and public health. Drawing on historical cases such as the Yemen Civil War, the 1988 Halabja attack, and recent chemical incidents in Syria and Iraq, it highlights the long-lasting contamination of air, water, and soil caused by chemical, biological, and nuclear weapons. The study calls for advanced environmental monitoring, the creation of a regional recovery fund, and restoration initiatives supported by international cooperation, drawing lessons from successful global examples. It concludes that coordinated action among governments, international organizations, and local communities is essential to mitigate long-term environmental damage and ensure regional sustainability.



The escalating conflicts in the Middle East have intensified the threat of Weapons of Mass Destruction (WMD), leading to severe environmental degradation and humanitarian crises. The region has long been a hotspot for geopolitical tensions and armed conflicts, and the use of WMDs poses unique threats to both human life and the environment. Chemical, biological, and nuclear weapons contaminate air, water, and soil, adversely affecting ecosystems, agriculture, and public health. Addressing the environmental impact of WMDs is crucial for the long-term sustainability and stability of the Middle East.

Policy Challenges

Conflicts in the Middle East have severely damaged the environment. Attacks in Gaza have resulted in massive debris, polluting the environment, damaging infrastructure and worsening the food crisis.[1] Military emissions greatly impact the climate crisis. In the first two months of the Gaza war, over 281,000 metric tonnes of CO_2 were emitted—exceeding the annual carbon footprint of more than 20 climate-vulnerable nations, mainly due to Israel's military actions.[2] Gaza faces catastrophic environmental damage, and rebuilding will further increase CO_2 emissions.[3]

Historical incidents involving weapons of mass destruction highlight the severe ecological impacts of warfare in the Middle East. Chemical weapons were reportedly used during the Yemen Civil War (1963–1967), causing significant human and environmental harm.[4] The 1988 Halabja chemical attack in Iraq resulted in widespread casualties and long-term contamination.[5] Between 2014 and 2017, chemical weapons were used multiple times in Iraq and Syria, raising international concerns over their impacts.[6] The 2017 Khan Shaykhun sarin gas attack underscores the ongoing threat of chemical warfare in the region, causing extensive environmental degradation beyond immediate human casualties.

Policy Recommendations

Environmental Monitoring Initiatives

Implementing advanced environmental monitoring systems is essential.[7] Deploying real-time sensors for air, water, and soil quality in vulnerable areas can promptly detect radiation, chemical, and biological hazards.[8] Satellite imagery and drones enhance monitoring by providing continuous assessments of hazardous zones.[9] Community engagement is vital; developing user-friendly mobile applications enables citizens to report environmental damage, contributing valuable data to centralized systems.[10] Establishing international data-sharing standards

improves cross-border collaboration, helping to prevent further environmental deterioration.[11]

Establishing a Regional Environmental Recovery Fund

Another critical initiative is the establishment of a Regional Environmental Recovery Fund. Proposed by regional governments in collaboration with international organizations and NGOs, this fund would be dedicated to environmental recovery efforts, addressing both immediate and long-term environmental needs.[12] Funding sources would include contributions from regional governments, international bodies like the United Nations Environment Programme (UNEP), and environmental NGOs.[13] [14] Transparent governance structures involving all stakeholders would ensure efficient and accountable allocation of resources, which is essential for maintaining public trust and maximizing impact.[15] [16] The fund would finance critical cleanup operations, habitat restoration initiatives, and community resilience projects aimed at aiding affected populations, strengthening local capacities for disaster recovery, and fostering long-term environmental resilience.[17] [18] [19]

Prioritizing Environmental Restoration Initiatives

Examples from other regions strengthen these recommendations. Following the 1991 Gulf War, Kuwait restored ecosystems impacted by oil spills through remediation and international cooperation.[20] Similarly, Vietnam's collaboration with international partners on Agent Orange cleanup shows the value of coordinated recovery.[21] [22]

Strengthening Recommendations with Global Examples

Strengthening these recommendations with examples from other regions enhances their relevance. After the 1991 Gulf War, Kuwait invested heavily in environmental remediation, restoring ecosystems damaged by oil spills through soil and water purification and reestablishing native plant species with international support.[23] Likewise, collaborative efforts between Vietnam and international partners, including the United States, have focused on remediating areas affected by Agent Orange, highlighting the power of coordinated efforts in tackling toxic contamination and supporting ecosystem recovery.[24] [25]

Moving Forward

The use of WMDs in the Middle East presents profound environmental and humanitarian challenges that transcend immediate impacts. By implementing advanced environmental monitoring systems, establishing a Regional Environmental Recovery Fund, and prioritizing restoration initiatives with international support, the region can address the long-term consequences of WMD use. Collaborative efforts among governments, international organizations, and local communities are essential to ensure a healthier and more secure environment for future generations.

References

[1] Veronica Neifakh. "War's Hidden Casualties: The Environment Suffers Severe Damage in the Middle East." The Media Line. 11 Nov. 2024. Accessed 10 Aug. 2025. https://themedialine.org/life-lines/wars-hidden-casualties-the-environment-suffers-severe-damage-in-the-middle-east

[2] Nina Lakhani. "Emissions from Israel's War in Gaza Have 'Immense' Effect on Climate Catastrophe." The Guardian. 10 Jan. 2024. Accessed 10 Aug. 2025. https://www.theguardian.com/world/2024/jan/09/emissions-gaza-israel-hamas-war-climate-change

[3] Ibid.

[4] W. Andrew Terrill. "The Chemical Warfare Legacy of the Yemen Civil War." Middle East Journal. Vol. 61, no. 1, 2007, pp. 32–46.

[5] M. Shareef. "The Anfal Campaign Against the Kurds." Middle Eastern Studies. Vol. 46, no. 5, 2010, pp. 655–670.

[6] Ricardo Pita and José L. Domingo. "The Use of Chemical Weapons in Syria and Iraq." Toxicology Letters. Vol. 301, 2019, pp. 9–14.

[7] United Nations Environment Programme. Environmental Monitoring and Assessment Report. UNEP. 2019.

[8] X. Zhang, Y. Li, and L. Wang. "Advances in Environmental Monitoring and Assessment: A 21st-Century Perspective." Environmental Monitoring and Assessment. Vol. 190, no. 5, 2018, p. 314.

[9] K. Anderson and K. J. Gaston. "Lightweight Unmanned Aerial Vehicles Will Revolutionize Spatial Ecology." Frontiers in Ecology and the Environment. Vol. 11, no. 3, 2013, pp. 138–146.

[10] G. Newman, et al. "The Future of Citizen Science: Emerging Technologies and Shifting Paradigms." Frontiers in Ecology and the Environment. Vol. 10, no. 6, 2012, pp. 298–304.

[11] M. A. Parsons, et al. "A Conceptual Framework for Managing Very Diverse Data for Complex, Interdisciplinary Science." Journal of Information Science. Vol. 42, no. 1, 2016, pp. 76–85.

[12] D. Edwards, et al. "International Collaboration for Environmental Recovery." Global Environmental Politics. Vol. 16, no. 4, 2016, pp. 45–60.

[13] United Nations Environment Programme. Environmental Monitoring and Assessment Report. UNEP. 2019.

[14] World Bank. Mobilizing Financial Resources for Environmental Recovery: Case Studies and Strategies. The World Bank Group. 2021.

[15] D. Edwards, et al. "International Collaboration for Environmental Recovery." Global Environmental Politics. Vol. 16, no. 4, 2016, pp. 45–60.

[16] Q. Li and X. Chen. "Transparent Governance Structures in Environmental Funds: Lessons from Global Practices." Environmental Policy and Governance. Vol. 28, no. 2, 2018, pp. 112–124.

[17] D. Edwards, et al. "International Collaboration for Environmental Recovery." Global Environmental Politics. Vol. 16, no. 4, 2016, pp. 45–60.

[18] J. Smith, L. Brown, and M. Lee. "Building Resilience in Post-Disaster Ecosystems: Funding and Policy Mechanisms." Environmental Resilience Journal. Vol. 14, no. 4, 2017, pp. 234–247.

[19] United Nations Environment Programme. Environmental Monitoring and Assessment Re-

port. UNEP. 2019.

[20] F. El-Baz. "The Aftermath of the Gulf War: Environmental and Ecological Impact." Environmental Conservation. Vol. 19, no. 4, 1992, pp. 321–330.

[21] N. Phuong, D. Tung, and L. Khiem. "Agent Orange and Environmental Recovery: Vietnam's Journey." Journal of Environmental Management. Vol. 180, 2016, pp. 256–263.

[22] A. H. Westing. Herbicides in War: The Long-Term Ecological and Human Consequences. Stockholm International Peace Research Institute. 1984.

[23] F. El-Baz. "The Aftermath of the Gulf War: Environmental and Ecological Impact." Environmental Conservation. Vol. 19, no. 4, 1992, pp. 321–330.

[24] A. H. Westing. Herbicides in War: The Long-Term Ecological and Human Consequences. Stockholm International Peace Research Institute. 1984.

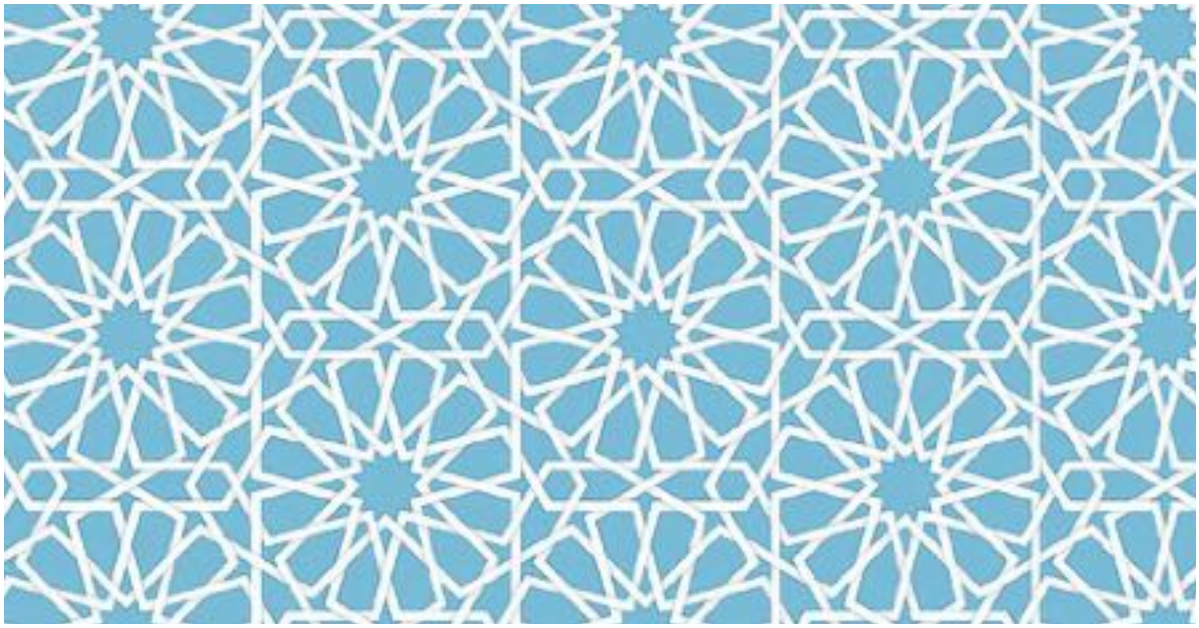
[25] N. Phuong, D. Tung, and L. Khiem. "Agent Orange and Environmental Recovery: Vietnam's Journey." Journal of Environmental Management. Vol. 180, 2016, pp. 256–263.

Psychological and Humanitarian Impact of WMD

Hilda Ariastuti

Abstract

Weapons of mass destruction (WMD) have significantly influenced and shaped geopolitics and global security throughout history. Its effects have caused widespread devastation, particularly in the Middle East. Most notably during the chemical attack in Halabja, Iraq. This article emphasizes the urgent need for international disarmament and nonproliferation, raising awareness about the humanitarian and psychological consequences of WMDs by examining two specific policy recommendations: (1) psycho-social support programs and (2) proactive strategies for crisis prevention and preparedness related to weapons of mass destruction.



In the Middle East, the use of weapons of mass destruction (WMDs) had significant effects on conflict and security. While chemical weapons have been used in the region, the threat of nuclear weapons is more alarming due to the potential danger of catastrophic escalation. Israel's established nuclear capabilities and Iran's advancing nuclear program add dangerous dimensions to regional tensions, making nuclear weapons a major high-risk factor. The consequences of WMD use—whether nuclear, chemical, or biological—are severe, can lead to serious ecological damage, humanitarian crises characterized by mass migration, public health deterioration, resource scarcity, food insecurity, increased crime, heightened fear, instability and loss of life and property, which affect not only current populations but also future generations. The psychological impacts are profound and long-lasting.[1] The legacy of these weapons underscores the dangers they continue to pose.[2] The harms are significant and widespread. WMDs could cause mass casualties or large-scale loss of life and long-term health problems for survivors, including injury and suffering (victims often suffer from severe injuries and psychological trauma). The threat of WMDs could create a pervasive atmosphere of fear, anxiety, tension, and insecurity.

Policy Challenges

The Kurdish population in Iraq endured significant human rights violations and widespread atrocities, notably highlighted by the Anfal genocide campaign, which included the chemical attack on Halabja, a Kurdish city near the Iranian border.[3] This attack is regarded as the most infamous and impactful massacre. The Halabja chemical attack on March 16, 1988, was conducted by the Ba'athist Party in Iraq during the Iraqi-Kurdish conflict, which occurred at the end of the Iran-Iraq war, considered one of the most brutal assaults on civilians. The use of mustard gas, tabun, and sarin led to the deaths of approximately 5,000 people, primarily civilians, including women and children.

This incident illustrated the horrors of chemical warfare and its devastating effects on civilian populations. The Halabja chemical attack resulted in severe physical and mental health issues, including respiratory problems, long-term neurological disorders like seizures and confusion, eye damage or blindness, skin burns from mustard gas, and birth defects. Many survivors and their descendants continue to struggle with psychological disorders, including anxiety disorders, depression, and post-traumatic stress disorder (PTSD). Underscoring the widespread mental health challenges that arise or emerge after exposure to chemical weapons. This tragedy serves as a powerful reminder of the catastrophic consequences of weapons of mass destruction and emphasizes the urgent need for heightened vigilance to prevent the use and proliferation of WMDs and similar threats.[4]

Policy Recommendations

Psychosocial Support Program

The humanitarian consequences of the use of WMDs have been the subject of research and analysis for many academic practitioners examining human behavior before, during, and after such incidents. Recently, the World Health Organization and the International Federation of the Red Cross (IFRC) have proposed guidelines for providing psychological support as part of preparedness and response efforts and services following incidents involving weapons of mass destruction.[5] Psychosocial support could be an ideal policy recommendation for creating a community-based approach to psychological support programs for the affected population.

The primary distinction between psychological support and psychosocial support is that psychological support focuses more on an individual's mental health and well-being. In contrast, psychosocial support integrates mental health with social aspects to enhance overall well-being. Prewitt Diaz et al. (2023) emphasized that psycho-social support is crucial and plays a key role in long-term rehabilitation for survivors, as proactive community interventions are essential. Community volunteers or helpers also play an important role in providing and delivering services. Psychosocial support should be provided to the entire community and should be considered a long-term commitment, alongside emotional support. During rehabilitation and reconstruction, the most appropriate and recommended multidisciplinary model is psychosocial support.[6]

Petra G. H. Aarts defines psycho-social support as a community-based intervention that aims to restore social cohesion and infrastructure, as well as promote the independence and dignity of individuals and groups, including the improvement of dynamic relationships between psychological and social aspects that interact and influence each other continuously. Psychosocial describes the relationship between a person's social condition and their mental health condition. Psychosocial support builds resilience in survivors of WMDs and affected communities, helping to prevent further pathological developments and social disruptions.[7]

At a deeper level, psychosocial support should be based on psychological first aid possessed by communities, volunteers, and humanitarian workers who are directly involved in accompanying victims and survivors of WMDs. Psychological first aid is needed as immediate intervention during or after an incident involving WMDs. Karl Slaikeu defines psychological first aid as an immediate intervention given to a victim or survivor who is experiencing trauma or crisis by peers, volunteers, humanitarian workers, healthcare workers, and community members, to alleviate fear, anxiety, insecurity, and tensions, to ensure that psychological needs are met for the victims or survivors. Furthermore, victims and survivors would feel supported, acknowledged, valued, and validated.[8]

Slaikeu identified psychological first aid as a set of skills required by all stakeholders to reduce stress and negative health behaviors that may exacerbate fear, arousal, and the need for further utilization of health services. This immediate and direct intervention will foster resilience

at both the individual and community levels. This methodology requires a significant number of humanitarian workers or volunteers, community members, and schools to be trained in psychological first aid, or PFA.[9]

Psychological first aid provides practical methods and immediate interventions to preserve or maintain five key elements: social connectedness, calmness, safety, efficacy, and hope.[10] Building mutual trust and encouraging protective health behaviors within the community through empathetic listening, comprehensible, and clear communication is essential. The combined impacts of war and trauma of WMDs are also predominant in anticipating and evaluating. For example, victims of physical or sexual violence in war may have a heightened fear response to exposure to WMDs.[11]

Victims or survivors of the Halabja chemical attack, besides suffering from severe physical and mental health problems due to chemical weapons, also experienced sexual violence during the conflict. Therefore, the level of complexity and severity of trauma due to WMD exposure has different stages. The psychological impacts experienced by victims and survivors of the Halabja chemical attack include anxiety disorders, depression, and post-traumatic stress disorder (PTSD). It is crucial to provide psychosocial support programs that are implemented as concrete policies, along with actionable recommendations.

Instances of effective humanitarian initiatives or psychosocial programs following chemical attacks in the Middle East:
(1) The chemical attack in Halabja, Iraq, in 1988 had devastating immediate effects. It caused long-term and severe psychological trauma among survivors, including post-traumatic stress disorder (PTSD) and other mental health issues in the affected population.[12] In response to such crises, the International Organization for Migration (IOM) has developed Mental Health and Psychosocial Support (MHPSS) programs to assist displaced and crisis-affected populations. These programs offer services such as psychological first aid, counseling, and awareness-raising activities aimed at addressing trauma and promoting mental health and well-being. The IOM-initiated MHPSS program includes training health workers to provide long-term care, establishment of peer support groups, capacity-building for health workers, direct psychosocial support, and community-based counseling programs.[13] In terms of impact, survivors reported feeling less isolated and able to cope with the aftermath of the attack due to increased resilience and improved emotional well-being.[14]

(2) Multiple sarin gas attacks in Syria after 2013 have caused severe psychological trauma, especially among children. In response, UNICEF and WHO have collaborated to provide psychosocial support as part of a broader humanitarian response effort. UNICEF and WHO have been involved in training local health workers, local volunteers, and teachers in Psychological First Aid (PFA) to address immediate psychological needs in various contexts. Safe spaces have been established to help children express emotions through art and play therapy. Survivors have received reassurance, safety, and practical support, such as family reunification and access to shelter, guidance on managing stress, and recognizing early signs of trauma. UNICEF has developed a program called Mobile Mental Health Units to reach affected areas.

Information from local health workers has been shared through communities about available services to help survivors transition from immediate assistance to longer-term assistance.[15]

For instance, UNICEF has developed training manuals that include contextualized examples, practical cases, child-friendly spaces for safe interaction and emotional recovery, and useful steps to provide a wide range of psychological and psychosocial support. In terms of impact, survivors reported a sense of relief and stability after the attack, improved emotional recovery among survivors, especially children and families, enabling them to engage in longer-term psychosocial programs by reducing anxiety and improving coping mechanisms among children and families.[16]

Proactive Strategies for Crisis Prevention and Preparedness Related to WMD

The Treaty on the Prohibition of Nuclear Weapons (TPNW) was adopted in 2017 but came into force in 2021, marking a shift towards a humanitarian perspective that highlights the severe consequences and impacts of the use of nuclear weapons. TPNW specifically addresses the threat posed by nuclear weapons, which distinguishes it from the specific issue in this brief, while the particular issue focuses more on chemical attack in Halabja, Iraq—TPNW seeks to eliminate the risk of nuclear weapons by prohibiting their development, testing, and use. This distinction is essential, as the humanitarian and security concerns surrounding nuclear weapons are fundamentally different and more far-reaching, given their potential for catastrophic global consequences. The change in this paradigm reoriented the disarmament discourse to focus on the disastrous humanitarian effects rather than military or security concerns.[17] Given the current geopolitical landscape, characterized by ongoing conflicts and constant risk or threat of nuclear escalation, there's a demand for improved crisis prevention and preparedness strategies.[18]

The TPNW represents a significant step towards addressing these issues, underscoring the humanitarian and environmental imperatives of nuclear disarmament. Nonetheless, opposition from nuclear-armed nations highlights the complex geopolitical dynamics. It emphasizes the need for sustainable dialogue or platforms for ongoing conversation on disarmament, collaboration, and cooperation to advance peace and disarmament in the Middle East. Public awareness campaigns are essential tools in reducing the risks posed by nuclear and chemical weapons. Promoting the TPNW through public awareness campaigns that highlight its humanitarian and environmental consequences encourages informed advocacy and empowers communities to push for policy change. They also play a critical role in ensuring that governments and international organizations remain accountable to their commitments to provide adequate assistance to individuals affected by the use or testing of nuclear weapons, and to take necessary and appropriate measures for the remediation of the environment in areas under its jurisdiction or control contaminated as result of activities related to the testing or use of nuclear weapons.[19]

Extensive public awareness campaigns can influence governments' attitudes toward TPNW by driving policy changes through increased public pressure. These initiatives should focus and prioritize psychosocial support for affected populations, robust diplomatic efforts to re-

duce or mitigate devastating impacts and consequences of WMDs, public education focused on conflict resolution, peacebuilding, and the importance of arms control and disarmament, strengthening international agreements, addressing underlying security concerns, supporting non-governmental initiatives, building transparency and encouraging regional security frameworks as a concise outline of steps for nuclear and chemical weapons risk reduction.[20] These and other resources offered by IFRC, ICRC, International Medical Corps, and other nongovernmental organizations could act as the backbone or foundation of a WMD disaster preparedness strategy and potentially could establish the basis of a WMD disaster preparedness plan.[21]

Moving Forward

The use of WMDs has a significant impact on humanity and mental health, leading to long-term psychological trauma and disorders such as PTSD. This article examines explicitly the 1988 chemical attack in Halabja, Iraq. Two key policy recommendations are proposed: First, implementing psychosocial support programs as community-based psychological support, the distinction between psychological support and psychosocial support is that psychological support focuses more on the individual's mental health and well-being, while psychosocial support combines mental health and social aspects to improve overall well-being. Psychological first aid serves as an immediate response and direct intervention during or after WMD incidents. Psychosocial support program aimed at enhancing assistance to victims or survivors, community members, volunteers, humanitarian workers, health workers with the capacity to respond to trauma with appropriate actions, and awareness of the negative impact of WMD incidents on mental health. Second, proactive steps for prevention and crisis preparedness related to WMDs underline the need for ongoing dialogue or a platform for disarmament in the Middle East and for raising public awareness of the dangers and consequences that WMD could pose.[22]

References

[1] Roberts, Bayard, Nino Makhashvili, J. David Javakhishvili, Tim Harpham, Boris Drožđek, Vikram Patel, Martin McKee, and Mark Murrey. "Mental health care utilisation among internally displaced persons in Ukraine: results from a nation-wide survey." Epidemiology and Psychiatric Sciences 28, no. 1 (2019): 100–111. https://doi.org/10.1017/S2045796017000385

[2] Ahmed, Dastan R., and Muthana Al Diab Al Azzawi. "The current global threat of weapons of mass destruction to humanity and public health." Discover Public Health 21, no. 37 (2024): 2. https://link.springer.com/article/10.1186/s12982-024-00161-6

[3] Ahmed, Dastan R. "From Holocaust to Anfal: The impact of genocide and cross-generational trauma on the mental health of Kurds." International Journal of Social Psychiatry 70, no. 3 (2024): 5. https://doi.org/10.1177/00207640231210107

[4] Ibid.

[5] Prewitt Diaz, Joseph O., et al. "Psychological support in events of mass destruction: challenges and lessons." Economic and Political Weekly 39, no. 21 (2004): 2121.

[6] Ibid.

[7] Ibid.

[8] Slaikeu, Karl A. Crisis intervention: a handbook for practice and research. Boston: Allyn and Bacon, 1984. https://sk.sagepub.com/books/crisis-intervention. Accessed 30 Oct. 2024.

[9] Ibid.

[10] Hobfoll, Stevan E., et al. "Five essential elements of immediate and mid–term mass trauma intervention: empirical evidence." Psychiatry: Interpersonal and Biological Processes 70, no. 4 (2007): 301. https://doi.org/10.1521/psyc.2007.70.4.283

[11] Morganstein, Joshua C., et al. "The neuropsychiatric aftermath of exposure to weapons of mass destruction: applying historical lessons to protect health during the war in Ukraine." Psychological Medicine 53, no. 11 (2022): 5354.

[12] Dworkin, Jordan, et al. "The long-term psychosocial impact of a surprise chemical weapons attack on civilians in Halabja, Iraqi Kurdistan." The Journal of Nervous and Mental Disease 196, no. 10 (2008): 772–775. https://pubmed.ncbi.nlm.nih.gov/18852622

[13] International Organization for Migration. Mental health and psychosocial support programme: activities overview report. 2024. https://iraq.iom.int/sites/g/files/tmzbdl1316/files/documents/2024-06/mental-health-and-psychosocial-support-programme-mhpss.pdf. Accessed 20 Jan. 2025.

[14] Ibid.

[15] UNICEF. "Horror upon horror: gas attacks are killing Syria's children." UNICEF in action, 2017. https://www.unicefusa.org/stories/horror-upon-horror-gas-attacks-are-killing-syrias-children. Accessed 20 Jan. 2025.

[16] Ibid.

[17] Ahmed, Dastan R., and Muthana Al Diab Al Azzawi. "The current global threat of weapons of mass destruction to humanity and public health." Discover Public Health 21, no. 37 (2024): 2. https://link.springer.com/article/10.1186/s12982-024-00161-6

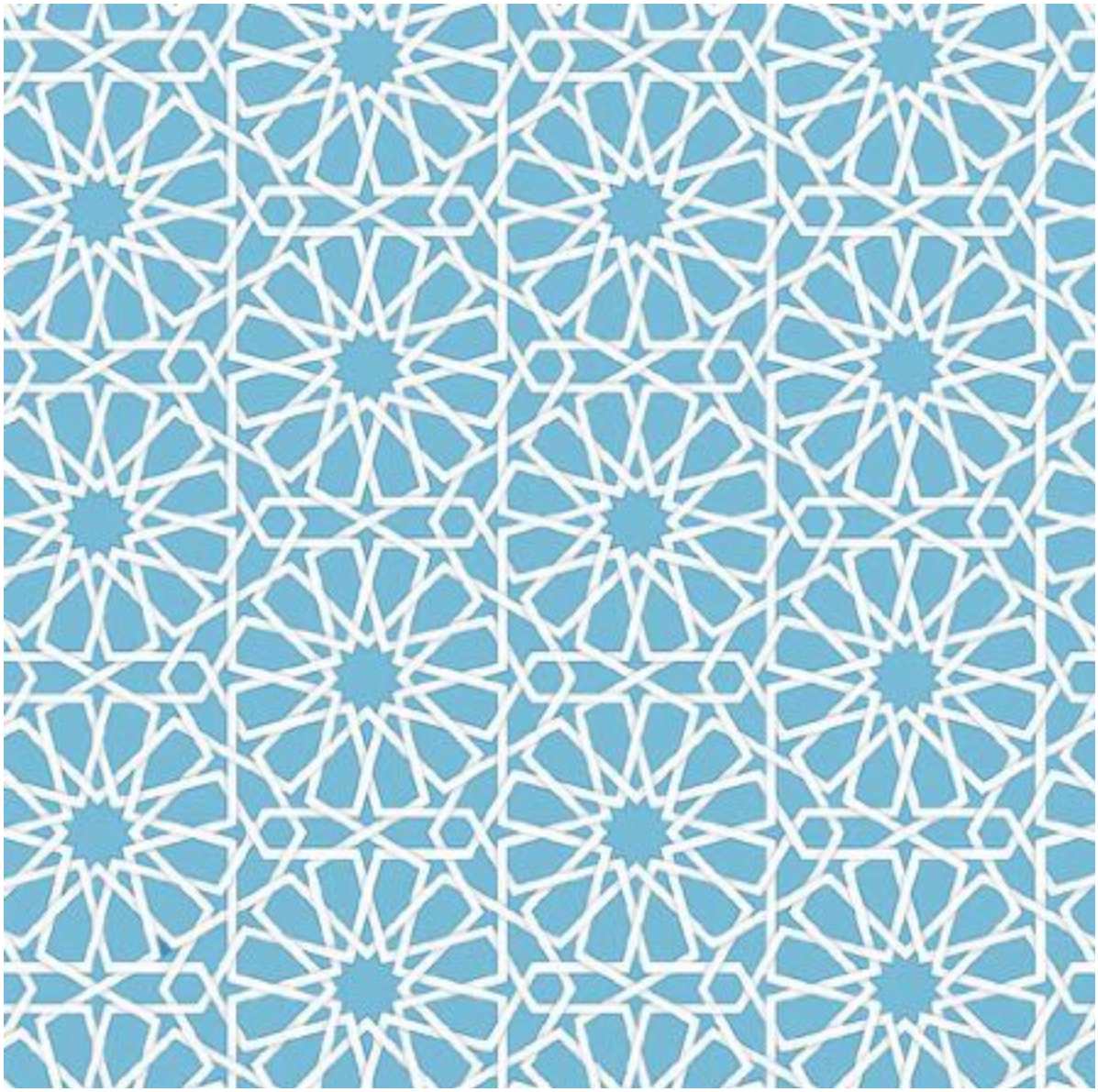
[18] Ibid.

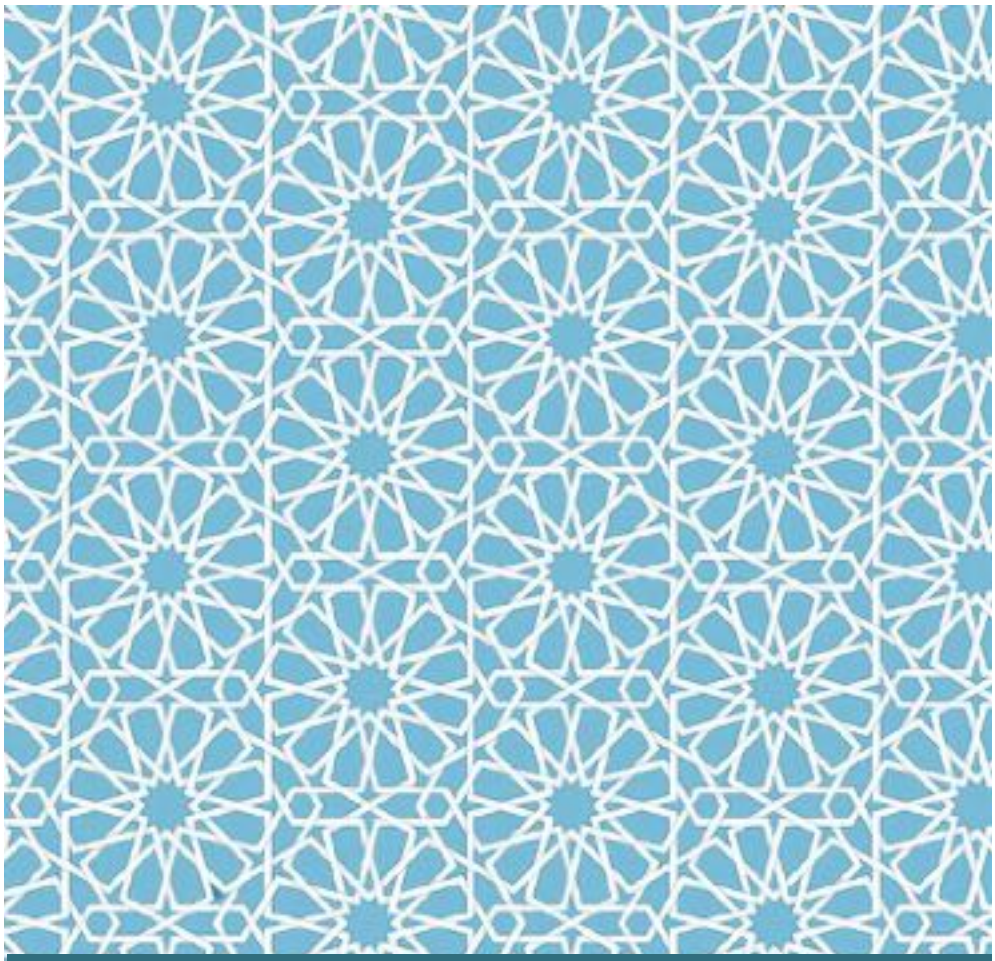
[19] United Nations Office for Disarmament Affairs. "Treaty on the Prohibition of Nuclear Weapons – UNODA." https://disarmament.unoda.org/wmd/nuclear/tpnw/. Accessed 20 Jan. 2025.

[20] Ahmed, Dastan R., and Muthana Al Diab Al Azzawi. "The current global threat of weapons of mass destruction to humanity and public health." Discover Public Health 21, no. 37 (2024): 2. https://link.springer.com/article/10.1186/s12982-024-00161-6

[21] Morganstein, Joshua C., et al. "The neuropsychiatric aftermath of exposure to weapons of mass destruction: applying historical lessons to protect health during the war in Ukraine." Psychological Medicine 53, no. 11 (2022): 5354.

[22] Slaikeu, Karl A. Crisis intervention: a handbook for practice and research. Boston: Allyn and Bacon, 1984. https://sk.sagepub.com/books/crisis-intervention. Accessed 30 Oct. 2024.





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