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Private Military Companies and the Climate-Security Nexus: A New Actor in Resource Conflicts?

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Introduction

The convergence of climate change and global security is one of the most pressing challenges of the 21st century. Climate change is intensifying, it acts as a threat multiplier by exacerbating existing vulnerabilities and creating new pathways to conflict. The intersection of climate change, security, and armed conflict represents a complex and increasingly urgent field in global affairs, highlighting new dimensions for both traditional and non-traditional actors. Among these actors, Private Military Companies (PMCs) have emerged as influential players in conflicts driven or exacerbated by the climate-security nexus, especially over scarce natural resources. It is a critical but often overlooked dimension in the climate security nexus. Understanding how PMCs operate within this nexus is essential for comprehensively addressing resource conflicts in the 21st century.

The Climate-Security Nexus: A Framework for Conflict

The climate-security nexus describes the complex interplay where climate change impacts. For example, droughts, floods, and extreme weather events directly or indirectly contribute to insecurity and conflict. This relationship is not simple, rather, climate change acts as a catalyst, intensifying existing social, political, and economic tensions.

Here are some major pathways of conflicts caused by climate change:

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Resource Scarcity: Climate change directly affects the availability of vital resources like water and arable land.[2] Diminishing water sources, desertification, and soil degradation lead to competition among communities, sectors, and states. For instance, in regions like the Sahel, climate-induced droughts have exacerbated long-standing conflicts between nomadic herders and settled farmers over dwindling grazing lands and water access. In Nigeria, the conflict between farmers and herders has posed severe security challenges and has claimed far more lives than the Boko Haram insurgency. The conflict has threatened the country's security, undermined national stability and unity, killed and displaced hundreds of thousands of people, and increased ethnic, regional, and religious polarization.[3]

Forced Migration and Displacement: Environmental changes can make certain areas uninhabitable, forcing populations to migrate. This mass displacement often leads to tensions with host communities, straining resources and social services. The resulting instability creates fertile ground for armed groups to exploit and for conflicts to erupt. The IPCC's Sixth Assessment Report underscores that such displacements are increasingly likely in low-lying coastal areas, the Sahel, and small island states, where adaptation capacity is weakest.[4] When large groups are uprooted, the strain on host communities can be profound—competition over water, housing, employment, and basic services often inflames existing social cleavages. Drought, flooding, and shrinkage of Lake Chad, partly due to climate change—have displaced around 3 million people and left 11 million in need of humanitarian aid, intensifying conflict and migration.[5] Refugee influxes in the

[2] "Climate Change Adaptation and Security | McKinsey." n.d. Www.mckinsey.com. https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/climate-change-adaptation-and-security-two-sides-of-the-same-coin.

[3] "Climate Change and Farmers-Herders Conflict in Nigeria." 2021. New Security Beat. November 15, 2021. https://www.newsecuritybeat.org/2021/11/climate-change-farmers-herders-conflict-nigeria/.

[4] IPCC. 2022. "Chapter 7: Health, Wellbeing and the Changing Structure of Communities." Www.ipcc.ch. 2022. https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-7/.

[5] KABUKURU, WANJOHI. 2023. "Report: Climate Change Fueling Conflict in Lake Chad Basin." AP NEWS. January 19, 2023. https://apnews.com/article/niamey-climate-and-environment-f17edcd6e0dbe3e6a5411b7de7911537.

Horn of Africa and the Lake Chad Basin illustrate how climate-exacerbated mobility can interact with governance deficits to fuel localized tensions. In these contexts, armed groups like Boko Haram and ISWAP often step into governance vacuums, recruiting from marginalized displaced populations and leveraging grievances against the state or host communities.[6]

People cross a branch of Lake Chad in N'Bougoua, Chad, which was attacked by Islamist group Boko Haram on 12 February 2015. Source: AFP

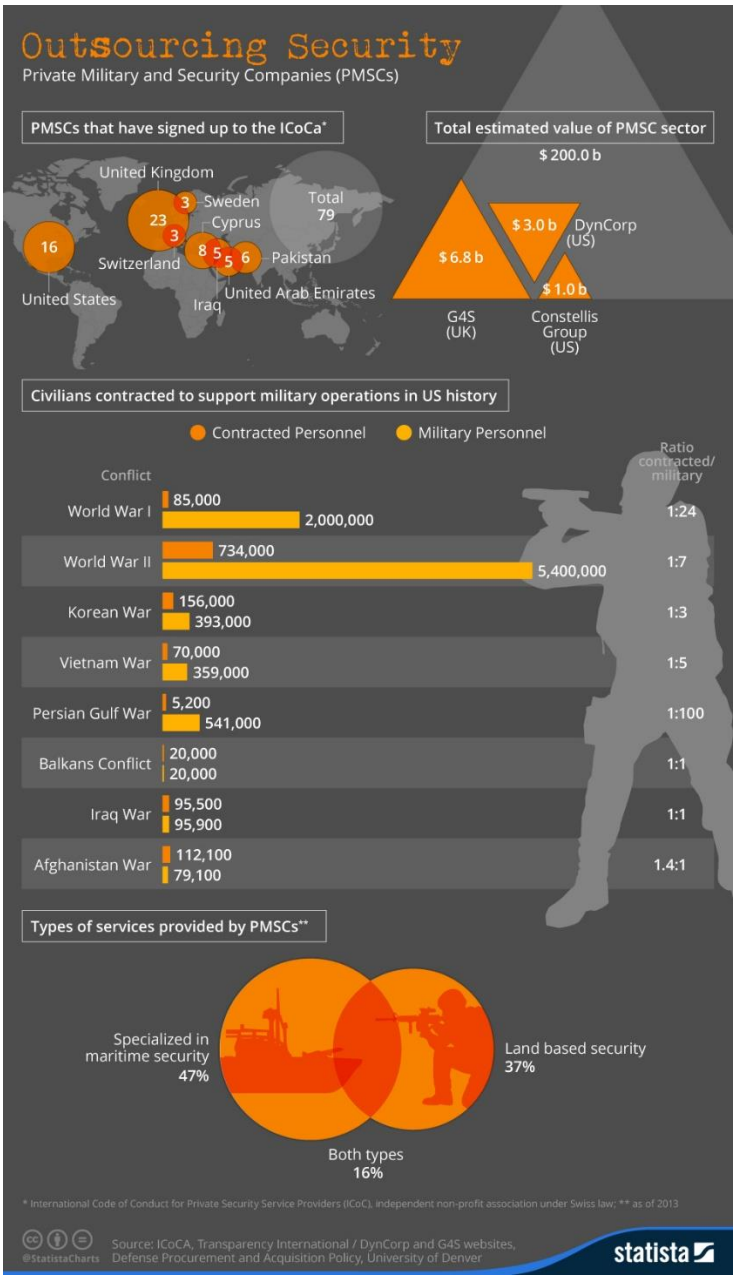
Defining Private Military Companies

There is no single legal definition of a "private military company." The UN Mercenary Convention (1989; in force since 2001) targets mercenarism narrowly defined.[7] Many states never ratified it

[6] "Climate-Fueled Violence and Displacement in the Lake Chad Basin: Focus on Chad and Cameroon - Refugees International." 2023. Refugees International. April 27, 2023. https://www.refugeesinternational.org/reports-briefs/climate-fueled-violence-and-displacement-in-the-lake-chad-basin-focus-on-chad-and-cameroon.

[7] "International Convention against the Recruitment, Use, Financing and Training of Mercenaries." 2024. OHCHR. 2024. https://www.ohchr.org/en/instruments-mechanisms/instruments/international-convention-against-recruitment-use-financing-and?utm_source=chatgpt.com.

and most PMSCs are structured to fall outside its strict criteria (e.g., by operating under state contracts). As a result, PMCS are in a gray zone, not unlawful on their face, but variably regulated.



To clarify responsibilities, the 2008 Montreux Document reaffirmed how existing international humanitarian and human rights law apply to PMSCs and set out good practices for contracting, oversight, and accountability.[8] It is not legally binding but widely referenced by states and

[8] "The Montreux Document on Private Military and Security Companies." n.d. Montreux Document Forum. https://www.montreuxdocument.org/about/montreux-document.html.

organizations. Complementing it, the International Code of Conduct (ICoC) and its Geneva-based ICoCA governance mechanism aim to translate rights commitments into auditable corporate practices.[9] Lastly, industry management standards (ISO 18788; ANSI/ASIS PSC.1) offer security-operations management systems that embed risk assessment, incident reporting, and human-rights considerations into company processes. Taken together, these instruments constitute a soft-law architecture which is useful but dependent on uptake by clients and regulators.

The Rise of Private Military Companies in Resource Conflicts

Private Military Companies have evolved substantially from their origins as mere providers of security and logistical support to becoming active combatants and strategic actors in conflict zones. PMCs operate in various roles including front-line combat, intelligence gathering, training, and security services for critical infrastructure and resource sites. PMCs bring a unique dimension to resource conflicts intensified by the climate-security nexus. Frequently, these companies work on behalf of states, multinational corporations, or non-state armed actors to secure resource-rich territories that are often located in fragile, conflict-prone environments.[10] Their presence contributes to the militarization of such regions, sometimes leading to a more sustained and complex conflict environment.

[9] "International Code of Conduct for Private Security Service Providers." n.d. Www.eda.admin.ch. https://www.eda.admin.ch/eda/en/home/foreign-policy/international-law/international-humanitarian-law/private-military-security-companies/international-code-conduct.html.

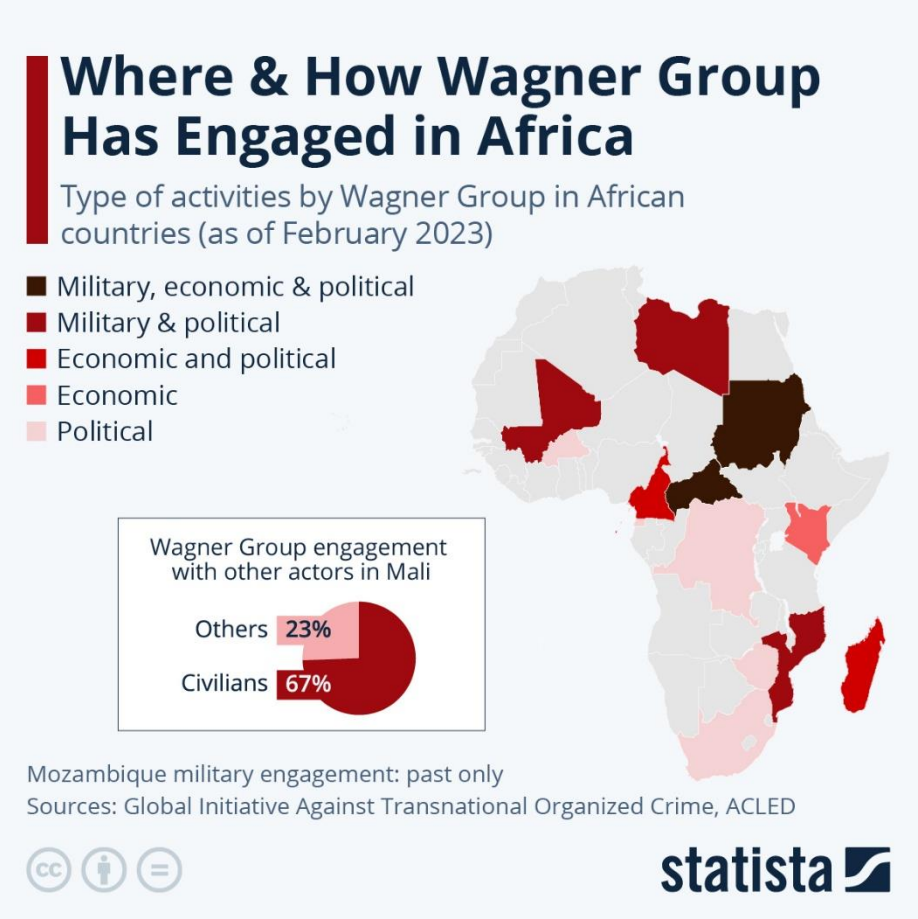
[10] "4. Private Military and Security Companies in Armed Conflict | SIPRI." n.d. Www.sipri.org. https://www.sipri.org/yearbook/2023/04.

Image: Laws101

Private Military Companies (PMCs) have become pivotal actors in contemporary resource conflicts, particularly in regions marked by political instability, weak governance, and abundant natural resources. For Example, in many nations in Africa, lucrative mineral and energy resources are often at the heart of protracted conflicts.

The Wagner Group, a Russian state-funded PMC, has become the most well-known and controversial example of a PMC actively engaging in resource conflicts across multiple African nations and beyond. Originating during the Russia-Ukraine conflict, Wagner has expanded its operations to countries such as the Central African Republic (CAR), Mali, Libya, and Sudan, where it operates at the intersection of military support and resource control. Wagner's military presence in fragile states consolidates the power of sitting governments while undermining opposition and rebel groups. Although touted as security providers, their role in securing resource interests has been linked to deepening state capture and neo-colonialist dynamics, disempowering local communities and fostering further instability. Their involvement has contributed both to

heightened violence and the fragmentation of regional security environments, as observed in the CAR, Mali, and Sudan.[11]



Source: Statista

One of the earliest examples of a PMC deeply involved in resource conflicts was Executive Outcomes in the 1990s. Operating in Angola's civil war, Executive Outcomes was contracted by the government to fight against UNITA rebels, who themselves financed their rebellion through illicit diamond sales. Executive Outcomes was granted lucrative access to oil and diamond

[11]"ΕΛΙΑΜΕΠ | the Wagner Group's Influence in the Global South: Implications for Security and Governance." 2024. Eliamep.gr. 2024. https://www.eliamep.gr/en/the-wagner-groups-influence-in-the-global-south-implications-for-security-and-governance/.

operations and integrated deeply into local political and economic systems, helping to tilt the conflict in favor of the government while seeking to maximize their own economic gains.

PMCs, Militarization, and Environmental Impact

While PMCs may be contracted to protect resource infrastructure or stabilize volatile areas, their activities can also contribute to the militarization of humanitarian and environmental spaces. Private Military Companies and militarized operations have significant and often underappreciated environmental consequences, particularly within conflict zones and resource-rich areas. Their role in escalating militarization intersects with climate change and environmental degradation, creating a loop that further threatens ecological and human security. Military and PMC activities contribute to environmental harm in multiple ways. The construction and operation of military installations, bases, and training grounds consume large tracts of land, causing habitat destruction, soil erosion, and loss of biodiversity. Heavy machinery used by PMCs and militaries—like tanks and armored vehicles—compacts and degrades soil, disrupting local ecosystems. Conflict zones where PMCs operate often see chemical pollution due to improper disposal or conflict debris containing toxic substances such as PCBs, explosives residues (RDX, TNT), and heavy metals.[12] Burn pits and waste dumps from military bases expose both military personnel and civilians to hazardous substances, posing long-term health and environmental risks. These toxic remnants of war can persist long after fighting ends, complicating post-conflict recovery.

The 2003 Iraq War saw the most significant use of PMSCs to date. While exact figures are difficult to come by, it is said that during the 1991 Gulf War the ratio of troops to contractors was approximately ten to one, in 2007 during the Iraq War, the ratio was roughly one to one.[13] In 2008,

[12] "Holding Private Military Contractors to Account for Toxic Remnants of War - CEOBS." 2014. CEOBS. June 5, 2014. https://ceobs.org/holding-private-military-contractors-to-account-for-toxic-remnants-of-war/#easy-footnote-bottom-1-936.

[13] Avant, Deborah D., and Renée de Nevers. 2011. "Military Contractors & the American Way of War." Daedalus 140 (3): 88–99. https://doi.org/10.1162/daed_a_00100.

it was estimated that 11 million pounds of hazardous waste remained in Iraq.[14] Its improper disposal could present a major public health and environmental problem.

During the Iraq and Afghanistan wars, the vast majority of military logistical and support services were outsourced to PMSCs, including responsibility for waste disposal. The diligence of PMSC practice can therefore have a significant impact on environmental, civilian and combatant health. Worryingly, there have been a number of reports of malpractice.

Two U.S. private security contractors investigate the site where a military armored bus was damaged by a roadside bomb on the highway near Baghdad International Airport in Baghdad, Iraq in 2004. Sourrce: AP Photo

[14] Botti, David. 2008. "The Challange of Making Iraq and Afghanistan Battlefields 'Green.'" Newsweek. October 3, 2008. https://www.newsweek.com/challange-making-iraq-and-afghanistan-battlefields-green-223158.

The most well-known have been the misuse of burn pits as a means of waste disposal on US bases in Iraq and Afghanistan. As their name suggests, burn pits are pits in which waste is burned, a practice that can create high levels of air pollution as a result of the incomplete combustion that occurs. Burn pits are meant to only be used during military operations when no other means of waste disposal are possible, they are not recommended as a long-term waste management solution. However, a US Government Accountability Office investigation found that burn pits had instead been used throughout the eight year Iraq conflict because of their 'expedience', and prohibited items such as plastic were regularly burnt.[15] Aside from plastics, there have been reports of hazardous waste such as batteries, oil products, medical waste and even human body parts being disposed of in burn pits.

Militarization—including PMC operations—is energy-intensive and carbon-heavy. The military sector worldwide is estimated to contribute approximately 5.5% of total global greenhouse gas emissions, outpacing emissions from civilian aviation.[16] This is a significant source considering the scale of global emissions. In recent decades, the expanding role of PMCs has complicated environmental governance. Unlike national militaries, PMCs are often less regulated and operate with limited transparency, making it difficult to monitor and mitigate their environmental impacts. This regulatory gap poses challenges for enforcing environmentally sustainable practices in conflict and post-conflict zones.

Implications for Governance and Conflict Resolution

The role of PMCs in resource conflicts influenced by climate change has profound implications for governance and conflict resolution. The privatization of security challenges traditional state-centric approaches to peace and stability, as states increasingly rely on PMCs that may not be bound by the same legal and ethical frameworks as national forces.

One of the principal governance concerns with PMCs is their lack of accountability. PMCs operate across borders, often under opaque contracts with limited legal oversight. Unlike state militaries,

[15] https://www.gao.gov/assets/gao-11-63.pdf
[16] Parkinson, Stuart, and Linsey Cottrell. 2022. "Estimating the Military's Global Greenhouse Gas Emissions." https://ceobs.org/wp-content/uploads/2022/11/SGRCEOBS-Estimating_Global_MIlitary_GHG_Emissions_Nov22_rev.pdf.

PMCs are not directly accountable to the public or governed by clear international laws tailored to their roles. This opacity has resulted in serious human rights violations that go unpunished, creating a culture of impunity. For example, the Nisour Square massacre by Blackwater (now Academi) in Iraq highlights difficulties in prosecuting PMC personnel for abuses.[17] Jurisdictional ambiguities, immunity clauses in contracts, and weak enforcement frameworks enable PMCs to evade responsibility, undermining the rule of law in fragile states or conflict zones.

The privatization of military and security functions fragments the traditional monopoly of violence held by states, raising questions about sovereignty and governance efficacy. PMCs owe allegiance primarily to clients rather than national constituencies, and their profit motives may conflict with public security objectives. Oversight gaps mean that PMCs can sometimes operate independent of military command structures, hindering operational coordination and strategic coherence. This disrupts governance continuity during peace operations or state building efforts and complicates military accountability and control.[18]

The involvement of PMCs in governance and conflict resolution is double-edged; while providing essential security services, their operation outside traditional legal and ethical frameworks undermines state sovereignty, human rights protections, and durable peacebuilding. Addressing these challenges demands comprehensive and enforceable regulation, increased transparency, and integration of PMCs within international humanitarian law frameworks.

Policy and Strategic Recommendations

Addressing the nexus of private military companies and the climate-security nexus in resource conflicts requires integrated approaches.

[17] Khatri, Anushka. 2024. “Private Military Companies: Human Rights Accountability - Defence Research and Studies.” Defence Research and Studies. August 4, 2024. https://dras.in/private-military-companies-human-rights-accountability/.

[18] Hamdan, Muhammad. 2024. “The Shadow Army: Private Military Companies and Their Impact on Modern Defense Policy.” Modern Diplomacy. October 21, 2024. https://moderndiplomacy.eu/2024/10/21/the-shadow-army-private-military-companies-and-their-impact-on-modern-defense-policy/.

1. **Strengthening Regulation and Legal Frameworks:** Strengthening international legal frameworks to regulate PMCs is critical. Transparency in contracts, operations, and accountability mechanisms must be enhanced to mitigate abuses and destabilizing activities. States must establish or strengthen licensing regimes to regulate the registration, operation, and monitoring of PMCs. Licensing conditions should require transparency in contracts, prohibit direct involvement in offensive combat roles, and mandate compliance with human rights standards.
2. **Integrating Climate and Security Policies:** States and international organizations should explicitly incorporate climate risk assessments in security strategies. Security provisions by PMCs in resource-rich or climate-vulnerable regions should be guided by comprehensive environmental impact and climate risk assessments, ensuring minimized ecological harm.
3. **Promote Sustainable Security Practices:** The defense and security sectors, including PMCs, must adopt greener operational practices. PMCs and military actors should be encouraged to adopt environmentally friendly operational standards, including reduced carbon footprints, sustainable logistics, and waste management practices. This is essential to breaking the loop where security responses contribute to climate challenges.
4. **Supporting Local Governance and Peacebuilding:** Efforts must focus on the root drivers of resource conflicts, including equitable resource management and local community empowerment, reducing reliance on coercive security measures provided by PMCs. International actors should support national governments in building robust, accountable security and governance institutions, reducing dependence on PMCs.

Conclusion

The role of PMCs in the climate-security nexus is likely to grow in the coming years. As climate change intensifies resource scarcity, the demand for security services to protect those resources will only increase. As climate shocks intensify over the coming decade, the choice will not be between using PMSCs or not, but how to structure their involvement. The complexity of private military involvement in climate-induced resource conflicts requires integrated, multilayered policy responses. Strengthening legal and regulatory measures, improving accountability, embedding

environmental considerations, promoting community-centered security, and fostering international collaboration represent cohesive pathways toward mitigating the destabilizing impacts of PMCs. Strategically, aligning PMC deployment with peacebuilding, environmental sustainability, and transparent governance will maximize their benefits while minimizing their potential to exacerbate conflict and environmental degradation.