CROSSROADS

practical, cross-sectional, modular, authoritative guidance on security sector reform & governance

Series 10:
SSR and wider challenges

Module 10.2

SSR and Climate Change

Integrity. Accountability. *Genuine* security.

United Nations action on security sector reform and governance

"I have seen first-hand how civilians were maltreated by troops and police. People's properties were not properly protected. It was an issue of lack of accountability on the side of the troops, a lack of oversight bodies and authorities that should be giving direction to the armed forces. Above all we did not respect the civilians amongst which we work. (…) **This is why the military and other security institutions must see security sector reform as in fact in their own interest**. Because it helps them put in place rules and proper control arrangements, (that) demonstrate to the civilian public that indeed they are responsive to them, and accountable to them – **they're there to provide the security that is required by the people."**

Kellie Conteh, Minister of Defence, Sierra Leone

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With CROSSROADS, the United Nations produces a set of user-friendly, action-oriented practical guidance notes that cover the full spectrum of security sector reform & governance (SSR&G).

On each topic, CROSSROADS modules provide policymakers and practitioners with foundational understanding, with current good practices from around the world, and with step-by-step options for action.

These modules reflect the UN's collective, evolving knowledge on an essential concern when building peace: how to make security institutions function so that they serve the greater good. CROSSROADS enables the Organization to support nationally owned work on SSR&G coherently and authoritatively – thus contributing to saving lives and improving livelihoods.

1. Introduction

Drawing from the Paris Agreement and within the framework of security sector reform and governance (SSR&G), this note outlines four priorities for the strengthening of national security sectors and their institutions, such that they are best able to 'serve in the storm': provide effective and accountable security during the climate crisis.

These four priorities that national security sectors must consider when engaging on the climate crisis are the concepts of mitigation, adaptation, response and cooperation (MARC).

This CRO**SSR**OADS module will benefit practitioners and policymakers engaged in strengthening national security institutions to address climate change and its effects, as well as those involved in both climate security and security sector reform & governance (SSR&G) more generally.

It will also benefit practitioners and policymakers involved in monitoring and reporting on their respective country's obligations under the Paris Agreement, as well as those concerned with assisting developing country Parties to implement the Agreement.

This module will also benefit practitioners involved in implementing the Sendai Framework for disaster risk reduction (DRR) and the Sustainable Development Goals.

What is a MARC approach?

In the Paris Agreement on climate change, governments agreed that tackling climate change should include comprehensive actions in several fields. We call these 'MARC' areas: mitigation, adaptation, response, and cooperation. A MARC approach effectively fulfils a State's legal and moral obligations under international climate law, as well as under international human rights law, and toward the successful realization of our Sustainable Development Goals.

See also our four detailed CROSSROADS modules respectively on mitigation, adaption, response and cooperation (forthcoming).

2. Why is this important?

We are in an existential climate crisis. As the United Nations Secretary-General reminded the world in 2022: "**we are in the fight of our lives. And we are losing". "Our planet is fast approaching tipping points that will make climate chaos irreversible. We are on a highway to climate hell with our foot still on the accelerator" and, "we are out of road – and almost out of time**". [1]

Every increment of warming results in rapidly escalating hazards. More intense heatwaves, heavier rainfall and other weather extremes further increase risks for human health and ecosystems. In every region, people are dying from extreme heat. Climate-driven food and water insecurity is expected to increase with increased warming. When the risks combine with other adverse events, such as pandemics or conflicts, they become even more difficult to manage.

National security sectors have begun to respond to the climate crisis. However, especially in developing and conflict-affected contexts, strengthening national security sectors to best 'serve in the storm' is considered a major SSR&G gap area.[2]

The response of national security sectors to the climate crisis should be guided by the historic Paris Agreement.[3] It sets long-term goals to guide all nations, in line with their 'common but differentiated responsibilities and respective capabilities'. Many of these have implications for national security institutions.

Specifically, national security sectors should:

- **Mitigate** and prevent their own negative impact on climate change, as well as the negative impacts of others.
- **Adapt** to 'climate-constrained' environments, such that they can continue to deliver effective and accountable security, to both the State and its peoples, regardless of what the climate 'throws at them'.
- **Respond**, reactively and proactively, to climate crises, as well as climate change-related insecurity, violence, conflict, and criminality.
- **Cooperate**, urgently, both internally and internationally.

In essence, **national security sectors must swiftly 'MARC' climate change, with substantial changes of their own**, before they are, in the words of the Secretary-General, out of road and time.

3. What we've learnt

Around the world, from the most developed to the least developed nations, national security sectors have begun to respond to the climate crisis. Based on the Paris Agreement, their efforts to 'serve in the storm' can also be grouped into the four broad MARC categories.

Among the world's biggest consumers of fuel, defence forces account for 5.5% of global greenhouse gas emissions, according to a 2022 estimate.[4]

MITIGATION: mitigate their own negative impact on climate change, as well as the negative impact of others.

- **National security sectors are huge polluters** and, therefore, contribute significantly to global greenhouse gas (GHG) emissions.
- The amount of **defence greenhouse gas emissions**[5] is related to the size of its country's military, the level of defence spending, the size of its military technology industry (including weapons and ammunition manufacture) and its involvement in armed conflicts.[6]

- **Especially defence forces have a large negative impact on climate, biodiversity and the environment** through trainings, wargames, weapon testing and the production of waste.[7] Nuclear weapons, from manufacture, testing to waste, have had massive environmental impacts[8] and remain one of the greatest existential threats to all life – and the climate – on earth.[9]
- **The security sector has a mixed record in terms of its impact on environmental conservation, as well as on the prevention of environmental and climate-related crime.**[10] [11] This record can be improved when efforts by security institutions are integrated in those of civilian institutions and subjected to civilian oversight.[12] Moreover, research indicates that, generally, police need to strengthen their capacities for environmental crime investigation.[13]
- **Some countries have begun to reduce the climate footprint of their national security institutions.** For example, in some national climate strategies, national police have already committed to achieving carbon neutrality and zero GHG emissions within clear timeframes.[14] National militaries appear to be taking far less action to reduce their respective climate footprints.[15] In fact, military forces are often the largest GHG emitters nationally and, collectively, globally.[16]
- **External actors are beginning to scrutinize – and exert pressure on – national efforts to reduce the GHG emissions of their national security sectors.** In 2021, a joint call was endorsed by 225 organizations and set out a list of commitments needed by governments to address the GHG emissions of their defence institutions.[17]
- Unfortunately, national security sectors **are often absent in national and**

international climate mitigation (and adaptation) frameworks, such as the Nationally Determined Contributions [18] (NDCs) and the National Adaptation Plans (NAPs).[19]

- **Reporting on defence sector emissions is voluntary under the Paris Agreement**, with the exception of mainly OECD countries.[20] The **reported data is too often of low quality, selective, and highly inconsistent** between countries. That hampers accurate comparisons, which in turn could better enable analysis of global and regional trends.[21] Data accuracy would be enhanced by assessing the combined GHG emissions of military, military technology industry and supply chains. For example, once weapons and ammunition are exported, manufacture-related emissions are counted in the carbon footprint of the importing countries.[22]
- **The impact of armed conflicts on GHG emissions (both during conflict[23] and in post-war reconstruction)**, which is often associated with significant spikes in deforestation and excessive use of natural resources,[24] **is equally lacking from the current global reporting system**.
- Typically, **executive institutions**[25] with security mandates appear to **lead on climate mitigation initiatives** within the security sector nationally, while **the legislative branch of government plays more of a supporting role, in particular** through the exercise of budgetary functions and by endorsing climate investments in the defence sector whenever launched by the executive.[26] However, they can do more through the exercise of their legislative and oversight functions, for example by first creating compliance mechanisms with mandatory mitigation goals in the security sector and second overseeing them.

ADAPTATION: adapt to 'climate-constrained' environments.

- **Climate change transforms the operating environment of the security sector and the nature of missions and activities.** Changing temperatures and sea levels, as well as extreme weather events, often destroy or disrupt security assets, infrastructure, and equipment and endanger their capabilities and operational readiness.[27] This destruction or disruption in turn can have serious environmental and humanitarian impacts.
- In some cases, climate change will ause, or exacerbate, vulnerability in some groups and/or communities. These vulnerabilities may or may not require the intervention of security institutions. Regardless, security institutions might need to adapt their services and the way in which they deliver them, in order to best serve those affected by climate change, and to truly provide people-centered security.

An increase in the salinity of oceans and seas will affect military submarine operations. More frequent and prolonged floods can for instance flood navy facilities and expose military bases along coastal basins.[28] Heatwaves can keep helicopters and fighter aircraft on the ground.[29] Extreme (cold or hot) weather conditions also impact the mental and physical health of security providers, requiring the adaptation of their equipment, more training and support.[30]

The effects of wildfires, floods, extreme heat can also negatively affect national ammunition stockpiles, leading to their instability and increasing the risk of unplanned explosions at munition sites which in turn can have environmental and humanitarian impacts when such explosions occur.

Climate change increasingly has implications on police practices as well.[31] Police officers will be confronted with additional organizational stressors, enhancing mental and physical health risks. Research in India confirms that "poor acclimatization, lack of rest periods and food breaks, and clothing type are examples of additional factors that contribute to police heat stress (Raval et al., 2008)."[32]

- **Climate adaptation of the security sector is a multi-layered process, including various levels of decision-making**,[33] which realigns tools, know-how and resources of security provision, management, and oversight to a constantly changing climate and security environment. It ensures the capacity of security forces to operate under adverse climate conditions and respond to climate-related security risks. It builds upon climate intelligence, including research on climate security, "green" and more resilient technologies, and the creation of anticipatory capacity through climate risk analysis.[34]
- **The capacity of each national security sector to adapt is a matter of: (1) impact assessments; (2) available resources; and (3) political will to act.** While many countries have largely acknowledged climate change as a security threat, there are immense nuances in the degree of awareness, resources, and willingness to initiate adaptation policies within their respective security sectors.[35]
- **Like around mitigation, in the area of adaptation, executive bodies dealing with security typically take the lead in the security sector, while parliaments** (with few exceptions [36] [37]) **seem to be too little or not at all involved with security sector adaptation**. An initial analysis of NAPs – which are developed under the lead of executive authorities, especially by Ministries of the Environment - shows that security-related climate impacts are well represented in the language and assessments of most NAPs, especially of those countries highly affected by conflicts and climate impacts.[38] The extent to which **other formal oversight bodies** (ombuds institutions, human rights commissions, or audit bodies) have begun reflecting on their roles on climate

adaptation of the security sector requires further investigation. On the contrary, informal oversight actors, such as civil society organizations, human rights organizations, think tanks and the media often initiate and drive climate adaptation debates.

RESPONSE: respond, reactively and proactively, to climate crises, as well as climate change-related insecurity, violence, conflict, and criminality, in a manner sensitive to the effects of climate change on the people they serve.

- **Security providers will increasingly become first responders to many climate change-related crises and challenges**. These can be categorized into three broad areas: 1) natural and person-made disasters (for example: serving in climate-related disaster and humanitarian relief responses; managing cross-border migration); 2) climate change-related insecurity, violence and conflict (for example: responding to conflicts over water and other precious resources;[39] mitigating and containing inter-communal conflicts;[40] preventing and reacting to climate-related extremism and terrorism;[41] and responding to new geopolitical conflicts, involving state and non-state actors;[42] and 3) climate change-related criminality (for example water theft, cattle theft and wildlife poaching) and offences pertaining to civil unrest and organized criminal activities (for example, food riots and people smuggling).[43]
- **In many countries, national defence forces and, in some cases, police are being called upon**: a) under the heading of 'DRR', 'civil defence' and the Sendai Framework to address prevent, reduce, and manage climate and environmental risks [47], and b) to respond directly, including to fight fires, respond to floods, protect infrastructure, and support policing tasks.[48]

Climate change will have substantial effects on the prevalence of conventional crimes,[44] which in turn will increase strains on society and the police. This will also likely affect the relationship between police and local communities. Police will have to be prepared to deal with new forms of social unrest, eco-protest and eco-terrorism.[45] One study reveals that the transnational nature of climate protests will require different tactics by the police.[46]

- **Similar demands are being placed on police and defence responses to humanitarian emergencies** as "humanitarian emergencies … create the urgent need to forge multi-agency alliances and force the state (and the police, too) to share authority, legitimacy, and capacity with other bodies". The police will thus be expected to further develop the 'care mindset' of a 'first responder' and be able to collaborate with other first responders and operators of critical infrastructure. Therefore, "**enhanced collaboration between the police, intelligence services, army, and civil society" can be anticipated in the future.**[49]
- **Given the operational realities, there is increasing pressure on national security institutions to respond to climate-related crises and challenges, which in some cases overstretch their operational capacity, as well as their traditional roles and mandates,** including for police, border guards, armed forces and intelligence services. In countries highly affected by climate disasters, there are calls[50] for the creation of climate-emergency response teams within the national defence forces.
- **Migration triggered by climate change and by increases in resource-based conflicts due to climate change will put pressure on security sectors**, which will reduce their ability to respond effectively to climate shocks.
- **In times of climate crisis, rigorous good governance is essential to address risks associated with overly militarized** approaches, for example in the area of migration.[51]
- **There is clear evidence[52] that inclusive good governance of national security sectors is conducive to conflict prevention and sustainable peace, reinforcing idea that "green SSR&G" is an important tool in tackling the climate crisis.**

- Moreover, human security impacts of climate change are often gendered – for example, women often bear the brunt of conflicts over land and natural resources, and scarcity of natural resources caused by climate change expose women to an increase risk of gender-based violence. **This needs to be considered in framing security sector responses**.[53]
- **Vulnerability to climate-related security risks is enhanced by a lack of proper security sector governance**, the capacity of each State and society to mitigate and adapt to climate change effectively, and citizens' mistrust in national security institutions.[55] Moreover, security institutions' responses to climate problems can impact their relationship with local communities. It is therefore important that security interventions do no harm to communities and their livelihoods. This can help prevent negative public perceptions of injustice or unequal response whereby laws are, for example, implemented selectively. Adequately managing social protest and discontent of local communities or social/political groups on climate and other issues is essential especially in conflict-affected and fragile countries.[56]
- While the **role of the security sector in addressing environmental crime**, including illegal activities involving the environment, wildlife, biodiversity and natural resources, **is sometimes complex, often political, and still evolving**, climate change-related resource scarcity is leading to an increase in environmental crime. Beyond the police and sometimes the military, customs and border guard agencies, including coast guards, can play a role in addressing these crimes. But as the exploitation of natural resources is lucrative, this is also an area vulnerable to corruption which requires more scrutiny and oversight of security actors.[58]

Interviewed Colombian women have related about security sector personnel being involved in environmental initiatives that constitute a threat to human rights and communities, in particular to female environmental defenders, and of sexual violence to women. Sometimes, laws and policies protecting the environment are criminalizing communities, including indigenous ones, which rely on the forest for their livelihood. This may lead to imprisonment for pursuing subsistence farming in restricted or policed settings, while, at the same time, failing to prevent illicit crops by non-state armed groups or the corrupt attribution of exploitation permits to energy and mining projects.[54]

Interviewed Yemeni women organizations have described how weak governance, political marginalization and corruption act as factors both driving conflict and limiting capacity to adapt to climate change.[57]

COOPERATION: *cooperate, nationally and internationally, as well as with other national institutions and affected people.*

- **National governments are making more efforts to strengthen cooperation locally**, between their respective security institutions and other sectors, as well as with affected populations.
- **Cooperation between security sector actors and local communities is crucial for the success of climate-related projects seeking to contribute to conflict prevention and peacebuilding.** Formal security actors can support the equitable access to available resources, while informal ones can step into these roles in areas beyond the reach of formal authorities. But security sector actors can negatively impact local conflict dynamics if they contribute to an unequal access to resources.[59]
- **There are neither international climate-related standards and best practices for the reform of national security sectors nor frameworks to develop them. Existing standards deal either with climate change or security separately.**
- Since there is no framework in the Paris Agreement providing for standards and best practices regarding the 'green transition' of the security sector, or 'green SSR&G', **the potential exists for unintended negative consequences and harmful practices** to emerge, which could jeopardize global efforts at climate mitigation and adaptation.

- **There are no international financial mechanisms tailored to address 'green SSR&G' within the Green Climate Fund[60] or within climate-related official development assistance (ODA)**,[61] which both support the developing world to undertake climate mitigation and adaptation in their security sectors.
- **The nucleus of international cooperation between national security institutions on climate emergency rests on an already established framework of DRR-related international cooperation,** which takes place either bilaterally as part of development and humanitarian aid policies of developed countries or within the UN framework, coordinated by the United Nations Office for e for Disaster Risk Reduction (UNDRR) and under the Sendai Framework.[62] Moreover, under the EU Civil Protection Mechanism,[63] Member States and 10 other participating countries cooperate on disaster risk and natural catastrophes, including climate emergencies, and can rapidly mobilize help when a disaster overwhelms any other country in the world. These positive examples are important points of reference for deepening cooperation between national security sectors in case of climate emergencies and disasters.

4. Options for action

There is no time to wait. The storm is well upon us and we are yet to experience worse. Action is no longer a matter of ‘nice to do’ but one of life and death. National authorities must urgently ‘MARC’ climate change with commensurate climate-related action on SSR, or ‘green SSR’, specifically by mainstreaming mitigation, adaptation, response and cooperation considerations in the reform of national security actors, such that they are best able to ‘serve in the storm’. Specifically, national authorities should, based on climate intelligence and analysis, and without delay:

MITIGATION: mitigate their own negative impact on climate change, as well as the negative impact of others.

- **Draw upon national climate change-related assessments** or, in the absence of such, conduct security-sector/institution-specific climate change-related assessments to determine priorities for security sector mitigation.

- **Review or enact new laws** to hold security institutions – and their personnel – accountable for national climate mitigation laws, goals, and plans.
- **Develop the capacity of security oversight institutions** (especially of parliaments and their specialized committees, but also ombuds organizations, audit institutions, and civil society) to ensure accountability, compliance and consistency of adherence to climate mitigation targets in the security sector.
- **Reduce the environmental footprint, including GHG emissions, and impact** of national security sectors, in particular police services and defence forces, including through the development of **carbon-neutral technology**.
- **Reduce the environmental impact of military training, weapons testing and ammunition storage.**
- **Prioritize remediation of environments affected by nuclear weapons, and rehabilitate communities** affected by their use and testing.
- **Prioritize the protection of natural resources, biodiversity and carbon sinks**, on land, sea and in the air.
- **Account for the security sector's mandate and duties in both national and international climate mitigation frameworks (NDCs and NAPs)**, including within the evolving framework of the Paris Agreement.
- **Advocate for and support the strengthening of existing international reporting mechanisms on GHG emissions** within the framework of the Paris Agreement, ensuring universal, systematic, transparent and reliable data collection and reporting on GHG emissions of national security sectors.
- **Develop mandatory national frameworks to estimate and monitor the climate footprint of the security sector, as well as that of armed conflicts and postwar reconstruction programmes**. This should also contribute to the development of national and international law and jurisprudence, including

the establishment of legal grounds for legal sanctions, including remediation in case of violations and abuses of human rights.

ADAPTATION: *adapt to 'climate-constrained' environments.*

- **Draw upon national climate change-related assessments, as well as predictions**, or, in the absence of such, conduct security-sector/institution-specific climate change-related assessments to determine priorities for security sector adaptation.
- **Increase awareness, channel resources, and provide incentives for the development of climate adaptation policies and plans** in the security sector, throughout and mainstreamed within all security institutions.
- **Adopt adaptation measures, which seek to help national security institutions effectively function** in climate-constrained environments.
- **Focus on adapting 'the what' – i.e. assets and tasks, but also 'how'** security institutions conduct themselves, i.e. culture, approach and processes, especially with climate-affected communities and people.
- **Develop climate-resilient (which, ideally, should also be carbon-neutral) technology for security sector use**, while also channeling security and military expenditures towards this goal.
- **Ensure that climate-related threats are prioritized in national security policy, strategy and planning** processes, as well as in national SSR&G initiatives.
- **Use climate intelligence to develop and adopt futures-oriented oversight and planning methodologies**, in addition to more traditional predictive methodologies.

- **Adapt budgets and procurement systems** to include climate adaptation priorities in a sustainable manner.
- **Develop the capacity of security oversight institutions** to ensure accountability, compliance and consistency of climate adaptation in the security sector.
- **Ensure that the security sector is integrated into National Adaptation Plans.**

RESPONSE: *respond, reactively and proactively, to climate crises, as well as climate change-related insecurity, violence, conflict, and criminality, in a manner sensitive to the effects of climate change on the people they serve.*

- **Review**, on the basis of national security policies, strategies and plans, as well as climate change-related assessments and climate intelligence, climate-related areas of engagement for national security institutions (some of which might not fall within their traditional – and/or legally mandated – roles).
- **Develop or, if necessary, revise laws, policies, strategies and plans to guide the response** of national security institutions to climate-related crises and challenges, including: 1) natural and person-made disasters; 2) insecurity, violence and conflict; and 3) criminality.
- **Develop security sector capacity (knowledge, skills, and procedures) to analyze and respond to climate and environmental risks**, including the need to ensure that security sector responses actively consider and address gender (and the often-gendered human security impacts of climate change).
- **Review and, if necessary, revise the traditional mandates, roles, functions and/or structures** of existing security institutions such that they can more successfully and accountably respond to climate-related crises, insecurity, violence and conflict. Consider whether new climate-related security

instituions are or will be required.

- **Establish clear frameworks of operation and rules of engagement** for the response of national security institutions to climate challenges, which are conflict-sensitive, respectful of local communities, consider the local needs and customs and respect rule of law, human rights norms and standards, gender equality and principles of good governance.
- **Resist over-militarizing responses to migration** triggered by climate change.
- **Ensure that the response of national security sectors to climate-related crises considers existing national DRR frameworks**, existing civil emergency systems and the Sendai Framework.
- **Support security institutions in contributing not only to responses to climate-related risks, but also to prevention and risk mitigation**, especially by strengthening their ties with local (and indigenous) communities, civil society and civilian agencies.
- **Include the security sector in national climate fragility/security assessments.**
- **Ensure that national security policies and strategies prioritise the issue** of climate-change-related conflict, violence and insecurity and that **national security assessments, as well as plans, identify related change drivers.**
- **When developing reform plans for national security institutions, ensure that issues of climate-change-related conflict, violence and insecurity have been considered**, at all levels including in terms of oversight, accountability and governance.
- **Strengthen security sector engagement on environmental crime**, with the dual emphasis on effectiveness and accountability.
- **Put in place specific regulatory and oversight measures to prevent**

intimidation or abuse of communities, and especially of environmental defenders, by public and private security providers. Regarding all such abuses, mechanisms must also be in place to ensure accountability and recourse to justice. Measures to enforce environmental protections should be collaboratively developed with communities concerned to avoid misdirection of security resources and undue use of force.

- **Strengthen the capacity of security oversight institutions (formal and informal ones**) to monitor, review, evaluate and control climate-related responses and interventions of security institutions.

COOPERATION: cooperate with one another nationally and internationally, as well as with other national institutions and affected people.

- **Strengthen cooperation nationally** between national security institutions, other national sectors, and with affected communities and people.
- **Use existing international DRR frameworks to deepen cooperation between security institutions on climate** emergency and disasters.
- **Include security sector actors in all climate-related security projects** seeking to contribute to conflict prevention and peacebuilding.
- **Enhance cross-border and regional collaboration to ensure the effectiveness of the security sector to manage climate shocks**, mass displacement and emerging security threats around climate change that are cross boundary.
- **Seek, prioritise and/or allocate international SSR&G assistance** for security sector MARC, or 'green SSR'.
- **Share good practices in the area of security sector MARC/'green SSR'** regionally, internationally, and with donors and aid recipients.

- **Champion the development of international climate-related standards and best practices for the reform of national security sectors.**
- **Advocate for and request heightened climate-related SSR&G support to developing and conflict-affected nations** within the Green Climate Fund and ODA[64] per ART4.5 of the Paris Agreement.
- In this regard, **request UNFCCC and through the COP process to open climate-related funding mechanisms to SSR&G assistance**, especially for conflict-affected, transition and developing countries.
- **Generally, call on developed nations to increase ODA for 'green SSR' in developing and conflict-affected States**, specifically for mitigation, adaptation, response, and cooperation.

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Further reading

United Nations, 2022. Report of the Secretary-General on SSR
United Nations, 2020. Security Council Resolution 2553

Document management and control

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End notes

1. UN Secretary-General Speech at COP28, 11 December 2023, news.un.org/en/story/2023/12/1144642.
2. See also SSR Backgrounder "Climate Change and Security Sector Governance and Reform", Geneva: DCAF, 2023.
3. The Agreement is a legally binding international treaty. It entered into force on 4 November 2016. As of February 2023, 194 Parties (193 States plus the European Union) have joined the Paris Agreement. www.un.org/en/climatechange/paris-agreement.
4. www.reuters.com/business/environment/worlds-war-greenhouse-gas-emissions-has-military-blind-spot-2023-07-10/.
5. See N. C. Crawford`s study "Pentagon Fuel Use, Climate Change, and the Costs of War", Watson Institute, updated on 13 November 2019.
6. Idem and the study by the Conflict and Environment Observatory (CEOBS) and Scientists for Global responsibility (SGR) examining the carbon footprint of the EU military sector.
7. See The All-Too-Real Consequences of Military War Games, by Mark Stabile, INSEAD Knowledge, The Business School for the World, 5 October 2020; see also How does war damage the environment? , Blog of the Conflict and Environment Observatory, 4 June 2020; see also Soil Contamination in Areas Impacted by military Activities: A Critical Review, by Parya Broomandi, Mert Guney, Jong Ryeol Kim and Ferhat Karaca, Sustainability 2020, 12(21); see also the Policy Brief Protecting environment in times of armed conflict, by Finn Stepputat and Jairo Munive, Danish Institute for International Studies, 26 October 2022. For instance, in Germany, military exercises led to a wildfire that burned 500 acres at a military training area in summer 2022.
8. See Humanitarian impacts and risks of use of nuclear weapons, 10th Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 29 August 2020.
9. Idem.
10. Environmental crime' is defined using the approach proposed by the United Nations Environment Programme (UNEP) and INTERPOL (Nellemann et al., 2016): "Although the definition of "environmental crime" is not universally agreed, it is most commonly understood as a collective term to describe illegal activities harming the environment and aimed at benefiting individuals or groups or companies from the exploitation of, damage to, trade or theft of natural resources, including, but not limited to serious crimes and transnational organized crime."
11. See Reuters Special Report Brazil`s military fails in key mission: defending the Amazon, by Jake Spring, 24 March 2021, See also Reuters Brazil launches military operations to protect Amazon rainforest, by Jake Spring, 11 May 2021; see also IMCCS Report Climate and Security in Brazil, by the Expert Group of the International Military Council on Climate and Security, November 2020. See also Central African Forest Initiative (CAFI); see also Gabon launches anti-poaching operation, Africa News, 30 May 2022, see also Gabon: OPJ and APJ, at the school of wildlife legislation and trafficking, by Boris Ngounou, 14 June 2022. See also French Climate and Defence Strategy, French Ministry of Defence, April 2022, p. 7.
12. See Addressing corruption as a driver of forest, wildlife and biodiversity loss: UNODC supports interagency in the DRC, 14 April 2022.

13. Anna Matczak and Sylvia I. Bergh, A review of the (potential) implications of climate change for policing practice worldwide in Policing: A Journal of Policy and Practice, 2023, 17(1-8), p.4.
14. See Zero Carbon Police Force, United Arab Emirates, UN Global Climate Action Awards – Climate Neutral Now; see also Police Scotland, Environmental Strategy 2021
15. According to NATO Climate Change and Security Action Plan, 14 June 2021, as well as NATO and climate change: How big is the problem?, 15 June 2021, NATO is designing a methodology to measure the its members' GHG emissions from military activities and installations. See also NATO aims to cut emissions by 45% by 2030, be carbon neutral by 2050, by Sabine Siebold, 28 June 2022.
16. For instance, the high fuel consumption of the US DOD renders it in the world`s largest GHG emitter, emissions higher than those of entire countries, according to the estimations of N. C. Crawford in the study "Pentagon Fuel Use, Climate Change, and the Costs of War", Watson Institute, updated on 13 November 2019. Equally, British Parliament stated that the UK`s defence sector generates half of the central government`s GHG emissions, which equal that of over six million cars.
17. SGR-CEOBS_Estimating_Global_MIlitary_GHG_Emissions.pdf
18. "Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of its long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions" (Nationally Determined Contributions (NDCs) | UNFCCC).
19. "COP 16 established the process to formulate and implement NAPs to enable the LDC Parties to formulate and implement NAPs with a view to identifying medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs; and invited other developing country Parties to employ the modalities formulated to support NAPs".
20. See the Database on Military Emissions Gap, showing that the duty to report and actively reduce military related GHG emissions is in place only for the most economically developed countries (43 states and the EU). Some of the world's largest militaries, with high levels of military expenditure, have no reporting obligations in this field.
21. See the study by the Conflict and Environment Observatory (CEOBS) and Scientists for Global responsibility (SGR) examining the carbon footprint of the EU military sector: ceobs.org/wp-content/uploads/2021/02/Under-the-radar_the-carbon-footprint-of-the-EUs-military-sectors.pdf
22. Research into the UK and EU militaries shows that it is military equipment procurement and other supply chains that account for the majority of emissions, see militaryemissions.org/problem/.
23. Military campaigns in Iraqi Kurdistan, for instance, led to the burning of nearly 300.000 acres of land between May and September 2020. Shelling and bombing resulted in bushfires and caused the displacement of thousands of people, destroying their livelihoods and damaging fragile ecosystems.
24. See How does war contribute to climate change?, Conflict and Environment Observatory (CEOBS), 14 June 2021.
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64. As per ART4.5 of the Paris Agreement, i.e. "Support shall be provided to developing country Parties for the implementation of this Article, in accordance with Articles 9, 10 and 11, recognizing that enhanced support for developing country Parties will allow for higher ambition in their actions."

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