



REPORT

WORKSHOP

Defense Policy and Strategy and Climate Change

NOVEMBER 22ND AND 23RD, 2023

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Workshop Report.

Defense Policy and Strategy and Climate Change: challenges and opportunities for integrating agendas in Brazil

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Opening remarks

This document is the result of an effort to systematize the contributions offered by the participants of the workshop “Defense Policy and Strategy and Climate Change”, held by the Sovereignty and Climate Center, in partnership with the University of Brasília (UnB), the Brazilian Army’s Strategic Studies Center (CEEEx, for its acronym in Portuguese), and the Management and Operational Center of the Amazonian Protection System (CENSIPAM, for its acronym in Portuguese), on November 22nd and 23rd, at the CENSIPAM facilities, in Brasília, Brazil.

Throughout the two days of debates, representatives of different Brazilian institutions presented an enriching collection of data, scientific evidence, and reports, which are invaluable to support the decision-making process and to contribute to the ongoing efforts to update the National Defense Policy, the National Defense Strategy, and the White Paper on National Defense.

Discussions have revolved around six major topics that will be covered in detail throughout this document. These are: i) climate change on the international agenda; ii) climate change in Brazil: agenda, challenges, and perspectives; iii) the role of intelligence in confronting climate change; iv) the support of the Armed Forces in confronting the climate crisis: experiences and challenges; v) the impact of climate change on the Armed Forces: readiness and employment and, finally, vi) Defense Policy and Strategy and Climate Change.

The main findings and strategic recommendations derived from the debate are highlighted below:

1) Climate change is a multidimensional challenge and has implications for development, security and overcoming inequalities between people and countries

The necessary and urgent climate mitigation and adaptation measures cannot contribute to the intensification of inequalities, either in Brazil or in the world. The fight against climate change cannot come at the expense of the sovereign right to development of the countries of the Global South, nor can it result in the widening of inequalities between the poorest and richest parts of the population. However, the climate crisis imposes the urgent task of promoting a new development model, capable of guaranteeing environmental integrity, combating inequalities, and promoting the country’s economic prosperity and, consequently, strengthening national sovereignty.

2) The climate crisis is transforming security and defense scenarios

Around the world, climate effects have been triggering humanitarian crises, deepening scenarios of food and water insecurity, leading to epidemics and increasing the frequency and intensity of extreme natural disasters. The scenario of uncertainties and multiple risks creates challenges to the operation of the Armed Forces, with potential compromises of their priority and subsidiary functions.

3) There are gaps in the mapping and analysis of the climate vulnerabilities of Brazil and its subregions, including its Defense assets

Considering the most recent scientific evidence that points to a likely scenario of a temperature increase of 2°C in the coming years, it is essential to map the country’s vulnerabilities in order to build a comprehensive, integrated and multisectoral national strategy for climate adaptation. These efforts

must also be directed at promoting the resilience and adaptation of Brazilian defense structures and assets, in order to ensure the conditions for fulfilling the constitutional and subsidiary functions of the Armed Forces.

4) Defense plays a fundamental role in encouraging research and sustainable technological innovation in the country

Recognizing Brazil's vocation in the sector of technological development in the area of Defense, contemporary challenges must also be understood as stimuli for innovation and promotion of qualified jobs, contributing in a crucial way to the strengthening of the Armed Forces' climate resilience.

More sustainable equipment and renewable energy sources, when incorporated into the daily lives of the Brazilian Armed Forces, have the potential to contribute to the mitigation of national GHG emissions, reduce the sector's vulnerabilities to fluctuations in fossil fuel prices and modernize defense assets. It is also noteworthy the possibility of the new technologies being used in a dual manner, for the benefit of other segments of society.

5) Considerations about the risks posed by climate change must be incorporated into the texts of high-level Defense documents

The lack of mention of climate change in Brazil's strategic Defense documents, such as the National Defense Policy, the National Defense Strategy, and the White Paper on National Defense, presents itself as an obstacle to deeper analysis and considerations about the challenges posed by climate change to the Defense sector and to the operations of the Armed Forces, as well as to the consolidation of more comprehensive policies and strategies to deal with these challenges.

6) Creation of a structure, within the scope of the Ministry of Defense, to coordinate the efforts and initiatives of the Armed Forces in the area of climate change

Replicating structures already incorporated into other Brazilian ministries, it is recommended the creation of an agency or advisory board, to be installed within the scope of the Ministry of Defense, to coordinate, across the board, the Armed Forces' initiatives aimed at coping with climate change and promoting greater synergy with other national policies in this sphere.

Some of the actions to be carried out by this agency or advisory body are highlighted: the articulation with other ministries and national instances, the analysis of vulnerabilities mapping of the Defense sector, and the promotion of initiatives to adapt Brazilian Defense structures and assets, in order to contribute to effectively address the multiple challenges posed by climate change.

KEYWORDS

National Defense, Climate Change, Climate Risks, Climate Mitigation and Adaptation.

WORKSHOP REPORT

Defense Policy and Strategy and Climate Change: challenges and opportunities for integrating agendas in Brazil

1. Introduction

On November 22nd and 23rd, 2023, the Management and Operational Center of the Amazonian Protection System (CENSIPAM, for its acronym in Portuguese) hosted the workshop “Defense Policy and Strategy and Climate Change”. Held by the Sovereignty and Climate Center with the support of the Institute for Climate and Society (ICS), and in partnership with the University of Brasília (UnB), the Brazilian Army’s Strategic Studies Center (CEEEx, for its acronym in Portuguese), and the Management and Operational Center of the Amazonian Protection System (CENSIPAM, for its acronym in Portuguese), the main objective of the event was to foster dialogue between different representatives of Brazilian institutions, with a view to creating bases for the consolidation of a national agenda attentive to the challenges and opportunities imposed by climate change on the National Defense sector. In addition, it sought to gather input to contribute to the efforts of the Ministry of Defense in reviewing the main guiding documents of the Brazilian Defense sector: the National Defense Policy, the National Defense Strategy, and the White Paper on National Defense.

The initiative takes on special importance in the current conjuncture, considering not only the extremely serious manifestations of the climate crisis in Brazil and in the world – with direct and indirect repercussions on human security, national security, and global security – but also recent political movements, which tend to boost an even more significant synergy between these two agendas. These movements include the inauguration of the Interministerial Committee on Climate Change (ICCC)¹, the establishment of the Interministerial Working Group (IWG)² to update Brazilian Defense documents, and the consolidation of unprecedented regional initiatives, such as the South American Intelligence Alliance³ and the Declaration of Belém, signed in 2023 by the member countries of the Amazon Cooperation Treaty Organization.

It should also be noted the central role to be played by Brazil in important multilateral spaces in the coming years. By assuming the presidency of the G20 in 2024, from where it has already signaled that combating climate change will be taken as a priority, and by hosting COP 30 in 2025, Brazil is placed in the international spotlight, positioning itself strategically to influence negotiating agendas. In this sense, there is a clear need to expand and qualify domestic debates so that the phenomenon

1. [Decree 11.550](#), June 5th, 2023, reestablished the Interministerial Committee on Climate Change, established in decree 10.145, November 19th, 2019, and revoked by decree 10.845, October 25th, 2021. The Interministerial Committee on Climate Change (CIM, for its acronym in Portuguese), aims to monitor the implementation of actions and public policies within the scope of the federal Executive Branch related to the National Policy on Climate Change (PNMC, for its acronym in Portuguese).

2. [Decree 11.720](#), September 28th, 2023, established an Interministerial Working Group (GTI, for its acronym in Portuguese) to update the National Defense Policy and the National Defense Strategy. The decree determines that the GTI is responsible for proposing suggestions for updating the National Defense Policy and the National Defense Strategy, referring to the quadrennium 2024-2027. The decree also establishes that civil society may participate in the GTI meetings. The Workshop was therefore motivated by the ongoing review process, in order to contribute to the efforts to update these documents.

3. The [South American Intelligence Alliance](#), formalized on October 5th, 2023 in Brasília, is a cooperation initiative between South American intelligence agencies. Focused on strategic intelligence, it aims to promote the exchange, coordination, and complementation between such instances to face regional risks and threats, reaffirming the commitment to the democratic order.

of climate change, considered one of the greatest challenges of our times, is understood by decision makers and society, and so that its multiple risks are minimized through multidimensional and integrated strategies.

In order to contribute to this task, the main objective of this publication is to systematize and compile the contributions offered by the workshop participants. The structure of the document is divided into three sections, in addition to this introduction and conclusion. The first section presents, in detail, the major topics addressed by the panelists throughout the workshop, also covering questions, comments and points of view expressed by the other participants; the second section addresses the controversies and points of disagreement identified in the debate, emphasizing the arguments and data that justify each of the positions and indicating potential ways to resolve such divergences; the third section highlights the opportunities to advance in the integration between Defense policies and climate initiatives in Brazil.

The workshop was held under the Chatham House Rule, so this report is limited to the presentation and analysis of ideas, data and positions discussed throughout the activities, ensuring the anonymity of the sources and the protection of the identity of the participants.

2. Details of discussions

Over the two days of discussion, the debates orbited around six major topics. These are: i) climate change on the international agenda; ii) climate change in Brazil: agenda, challenges, and perspectives; iii) the role of intelligence in confronting climate change; iv) the support of the Armed Forces in confronting the climate crisis: experiences and challenges; v) the impact of climate change on the Armed Forces: readiness and employment and, finally, vi) Defense Policy and Strategy and Climate Change.

This section aims to detail the debates on these six topics, in addition to systematizing questions and comments presented by the participants and identifying the potential developments to be followed by decision-makers in the short, medium, and long term.

2.1. CLIMATE CHANGE ON THE INTERNATIONAL AGENDA

One of the first topics explored in the workshop concerns the way climate change has been addressed internationally, especially in the context of the negotiation spaces provided by the United Nations Framework Convention on Climate Change (UNFCCC). As highlighted by the panelists, the so-called Conferences of the Parties (COPs), which bring together the signatory members of the UNFCCC, have been gaining unprecedented size and visibility, something that is justified by the alarming scientific evidence about the severity of the climate crisis.

During COP 28, held between November 30th and December 12th in Dubai, United Arab Emirates, Brazil had the most numerous delegation in its history, totaling 1,337 people⁴. Among the participants were negotiators, parliamentarians, representatives of state and municipal governments, as well as members of academia, business, and civil society organizations. The fact that 80% of the Brazilian delegation is composed of people from outside the government was indicated as a satisfactory fact, considering that the fight against climate change requires the intense participation of all segments of society.

It was also emphasized that, in the midst of the preparatory processes for COP 28, the Ministry of Foreign Affairs (MRE, for its acronym in Portuguese) has resumed accrediting all participants from Brazil as part of the Brazilian delegation, something that had ceased to occur in recent years, but which is considered a practice compatible with the maturity of our democracy.

4. Brasil. "Representação do Governo Brasileiro na COP-28 contou com cerca de 400 pessoas". Secretaria de Comunicação Social, December 13th, 2023.

After this brief introduction, the origins of the international climate change regime and the repercussions of COP 28 for the direction of the international climate agenda and for COP 30, to be held in Brazil in 2025, were addressed.

2.1.1. THE INTERNATIONAL CLIMATE CHANGE REGIME

The international climate change regime is guided by the UNFCCC, whose roots go back to the United Nations Conference on Environment and Development (UNCED), known as Rio-92. The general objective of the UNFCCC is to stabilize the concentration of Greenhouse Gases (GHG) in the atmosphere at a level that prevents dangerous human interference in the planet's climate system.

All international agreements on climate change come from the UNFCCC. The negotiations are based on the principle of Common but Differentiated Responsibilities (CBDR), which points to the countries of the Global North - those considered industrialized and developed - as the main responsible for historical GHG emissions and, therefore, as the main drivers of climate change. Such recognition implies pressures for these countries to make commitments to reduce their emissions sooner and faster than others. The UNFCCC also establishes that developed states must support and provide public financing to the nations of the Global South, enabling the transition of their energy matrices without prejudice to their sovereign right to pursue development.

Currently, the main instrument of the UNFCCC is the Paris Agreement. Adopted during COP 21 in 2015, the main objective of the Paris Agreement is to prevent the global temperature increase from exceeding 2°C, with efforts to limit it to 1.5°C by 2100, considering pre-industrial levels. Signatory countries are required to create emission reduction targets consistent with their national needs and development levels, and report them to the Convention from their Nationally Determined Contributions (NDCs). The NDCs should be updated every five years to ensure increased ambition in terms of emission reductions, and to make the goal of the agreement feasible.

2.1.2. EXPECTATIONS AND RESULTS OF COP 28⁵

The main expectations and results of COP 28 are highlighted as follows:

Completion of the first Global Stocktake of the Paris Agreement, the Global Stocktake

As established by article 14 of the Paris Agreement, the Global Stocktake⁶ is a global inventory whose function is to identify how far countries are from guaranteeing the final objective of the Agreement to limit the rise in the planet's temperature. Its results should inform the next round of NDCs, expected to be submitted to the Convention in 2025, the year that Brazil will host COP 30. The document pointed to the need to adopt more ambitious measures to ensure the achievement of net zero emissions globally by 2050, and to reduce global emissions by 43% by 2030 and 60% by 2035.

Officialization of the Loss and Damage Fund

The Loss and Damage Fund was made official on the first day of the conference. The initiative is the product of a long and arduous negotiation process that counted on the active participation of the Brazilian delegation. This is a response to the legitimate demands of island countries and countries with a lower level of development, which face existential risks due to the worsening of climate change. Initially, the Fund will operate within the framework of the World Bank, but based on specific op-

5. Although the workshop was held on November 22nd and 23rd, at a time prior to COP 28, this report was later updated to also include the results of the conference. More detailed information on the results of the COP 28 can be found on [the conference website](#).

6. UNFCCC. [Outcome of the first Global Stocktake](#), 2023.

erational criteria. At the end of the COP, the disbursement announcements already totaled \$800 million⁷.

Creation of the “Emirates Framework for Global Climate Resilience”

COP 28 enabled unprecedented progress on the topic of climate adaptation: the creation of the “Emirates Framework for Global Climate Resilience”. It is a framework that will make it possible to set adaptation goals and monitor the initiatives carried out by countries to increase resilience to the effects of climate change. The following were defined as key areas for adaptation: water resources, food, cities and infrastructure, ecosystems and nature, health, poverty, and cultural heritage.

New Global Quantitative Funding Target

In 2009, it was agreed that developed countries would provide \$100 billion annually to developing nations by 2025. It is estimated that not even 10% of this target has been reached, which makes the means of implementation the most neglected pillar of the climate regime. The definition of the New Global Quantitative Funding Target, which aims to fill this important gap, and which should be valid from 2025, was eventually left to COP 29, to be held in 2024 in Baku, Azerbaijan.

Announcement of the 1.5° C Mission by the Brazilian delegation

The 1.5° C Mission is an innovative proposal presented by the Brazilian delegation, which has been working to seek alternatives capable of addressing the historical dilemma between the need to raise ambitions in the area of mitigation and the lack of climate funding. The proposal aims to create positive stimuli to boost mitigation and adaptation actions and may even involve payment mechanisms for results.

In presenting the proposal at COP 28, the Brazilian delegation sought collective recognition of implementation gaps, such as the funding gap and insufficient efforts in the area of technology transfer, which make more forceful climate action by developing countries unfeasible. Thus, the Brazilian diplomatic delegation demands that the three pillars of the UNFCCC (mitigation, adaptation and means of implementation) go hand in hand in the negotiations and warns that, if this does not happen, the trend will be the proliferation of unilateral initiatives that undermine the already scarce access to climate funding.

Action Agenda

Proposed by the United Arab Emirates (UAE) presidency, the Action Agenda is configured as an agenda parallel to the diplomatic negotiation spaces. It is a space dedicated to welcoming members of governments, corporations, and international philanthropy to present their climate initiatives.

During COP 28, the Action Agenda was organized thematically, with days set for debates on gender equality, loss and damage, forests, health, sustainable agriculture and resilient food systems, energy efficiency and sustainable energy use, among others. Within the scope of this parallel space for negotiation, Brazil signed an agreement in the area of agriculture.

Parallel agendas have acquired such proportions that they can even hinder the progress of official negotiations. Countries hosting COPs often seek to strengthen their leadership role by proposing bilateral or multilateral political commitments in these spaces. Such proposals, however, tend not to communicate with the official negotiating rails - which present slow and gradual advances as they require consensus from the parties - not even with the overall objective and principles of the regime. Initiatives like this encourage the creation of coalitions, tend to give rise to voluntary commitments that are difficult to follow up, in addition to generating a false impression of progress.

7. MAGNANI, Amanda. Fundo de Perdas e Danos: entenda os próximos passos de iniciativa aprovada na COP 28. Um Só Planeta, 18 December 2023.

2.1.3. NEGOTIATING GROUPS

In the midst of climate negotiations, Brazilian diplomacy acts from three main negotiating groups, whose demands align with the interests traditionally defended by Brazil. These are:

G77 + China Group

Composed of 134 countries, the group covers approximately 2/3 of the parties to the climate agreements. At times when a consensus is reached among the participants, the G77 + China is able to dictate the commitments to be approved at the COPs. Brazil's strategy is to enable the group to dominate the COP 28 negotiations, in order to ensure that the interests of the countries of the South are considered.

ABU Group

It is a South American negotiating group composed of Argentina, Brazil, and Uruguay, three important agricultural producers in South America. The group meets frequently during the COPs to reinforce themes of common interest, such as ensuring the principle of Common but Differentiated Responsibilities, advocating for climate finance for developing countries, and reinforcing the role of agriculture in adaptation initiatives.

BASIC Group

BASIC presents itself as a coalition launched during COP 15, held in Copenhagen in 2009. It is composed of Brazil, South Africa, India and China, the BRICS members that did not have emission reduction obligations under the Kyoto Protocol.

After a period of relative inertia, BASIC was revived and has been acting in an increasingly coordinated manner in the face of the leadership crisis that emerged during the negotiations. In September 2023, BASIC held a ministerial meeting and published a political declaration⁸, in which the representatives of these four countries, which cover 40% of the world's population, demand the right to be heard in the climate negotiations.

2.1.4. DISCUSSIONS SECTION

Throughout the first block of discussions, participants asked different questions about how countries have been seeking to coordinate actions at the international level to address the climate crisis. Among the main points discussed, the following stand out: the role of informal negotiation mechanisms and forums, such as the G20 and BRICS, in the climate agenda; the potential contributions of the regulated carbon market to increasing Brazil's climate ambition; the centrality of the transport sector to mitigate national and global emissions; the role of biofuels in the energy transition, and how the ocean issue has been addressed in international negotiations.

Regarding the G20, it was highlighted that the group was not originally a forum for debates on environmental issues. In recent years, however, there has been growing pressure for the G20 to act more incisively in the areas of sustainable development, combating poverty and mitigating climate change. Such themes have been frequently addressed in the negotiating tracks and Working Groups (WGs) of the G20. Brazil has been presenting demands for countries' debts to be offset by actions in the climate area and for capital costs for the most vulnerable countries to be lower. The Brazilian presidency of the group, held throughout 2024, included tackling climate change as a priority area to be addressed and proposed an initiative in the bioeconomy sector, with a view to boosting the energy transition and giving traditional and forest populations a sustainable source of income. Another initiative announced by the Brazilian presidency under the G20 is the Climate Change Task Force, which aims to stimulate alternative forms of climate finance, one of the major gaps in the negotiations.

8. MRE. [Declaração Ministerial Conjunta do BASIC sobre Mudança do Clima](#), 16 October, 2023.

The BRICS - composed of Brazil, Russia, India, China, and South Africa - in turn, was pointed out as a distinct political platform, which questions whether the guidance of the Global North is leading us to the best possible international order. The BRICS countries always vote articulately on proposals for reforms in the United Nations system, in an attempt to promote an agenda of democratization of the international order and to ensure the right of the countries of the South to pursue development in a sustainable manner.

Regarding the questions about the carbon market, the participants pointed to the need to reflect on what we seek with this mechanism. As pointed out by some of those present, Article 6 of the Paris Agreement allows for the creation of market and non-market mechanisms, but does not provide a precise definition of these mechanisms and does not give UN system organizations the governance over these markets. Thus, there are significant risks that these commercial transactions occur in a disorderly manner, with potential negative effects on environmental integrity, since there is no guarantee that the emissions traded are actually taken out of the atmosphere. In view of this scenario, some argued that it would be positive to define mechanisms to regulate the carbon market so that Brazil can organize its credit system and establish its operating rules. Others argued that it would be essential to keep in mind that this mechanism will not be the solution to Brazil's emissions problem. According to the view of some of those present, the carbon market is configured as a mechanism for transferring responsibilities from the countries of the North, the biggest historical emitters, to the countries of the South, thus, violating the principle of Common but Differentiated Responsibilities. This is because, by buying carbon credits, developed countries end up preserving their right to pollute, avoiding greater responsibilities that, from then on, are transferred to the countries of the South, which own the largest forests and sell these credits. These participants warned that it is no coincidence that Article 6 of the Paris Agreement was conceived by the delegations of the European Union and the United States. According to them, it would be more interesting for Brazil to look for payment-by-results mechanisms.

It was also highlighted that the maritime, aviation and energy sectors are under constant pressure to contribute to the energy transition. In this sense, there are already multilateral debates about the possibility of taxing those who transport goods by sea over long distances and about a possible tax on the barrel of oil.

With regard to alternative energy sources, it was noted that Brazil has successful experiences in the areas of biofuel and ethanol production, but it has still not been able to make significant progress towards decarbonizing its economy. Some pointed out that, even in the midst of a process of deindustrialization, Brazilian emissions are not falling, and lamented that the country insists on maintaining a highly fossil fuel-intensive mode of road transport. In this sense, the need to seek solutions that combine low emissions and environmental integrity with economic stimuli for the country was highlighted.

With regard to new development models, some participants recalled CENSIPAM's important role in stimulating the bioeconomy, promoting the improvement of the living conditions of the local population, and strengthening the preservation of forest biomes. As they pointed out, through its data integration platform, it is possible to find bioeconomy projects in progress, facilitating the reproduction of successful initiatives that bring together environmental protection and economic and social development.

Finally, it was emphasized that the theme of the oceans has been gradually included in the climate negotiating agenda. It is a fundamental subject in the discussions, considering that its structure may be transformed due to the increase in temperature and the melting of the polar ice caps. The oceans also play an important role in capturing carbon from the atmosphere. According to some, the incorporation of the theme into the agenda of the negotiations is likely to encourage more comprehensive studies on the oceans, a very important topic about which we still know little.

HIGHLIGHTS

- The study by the International Energy Agency (IEA), entitled Net Zero Roadmap, has been influencing the negotiations to such an extent that specific targets for the energy sector were established at COP 28. The Global Stocktake document calls on countries to triple the use of renewable energy globally and double energy efficiency, which will mainly involve adapting industrial chains.
- Climate change has long ceased to be a purely environmental problem. The necessary transition to a less carbon-intensive energy matrix needs to happen fairly. In this sense, it is essential to ensure that mitigation and adaptation policies do not contribute to widening the gap between the richest and poorest portions of the world's population.
- The climate negotiations have the potential to shape the characteristics of what will become the new global order, and Brazil has a fundamental role in this process. Domestically, the country has been building a solid climate governance structure. An example of this is the creation of the Interministerial Committee on Climate Change (ICCC), which has Working Groups for the areas of adaptation, mitigation and resilience, and the process of updating its National Adaptation Plan (NAP). These initiatives will enable the consolidation of more robust domestic policies, which should give the country greater legitimacy to defend its right to development in the midst of this new order.

2.2. CLIMATE CHANGE IN BRAZIL: AGENDA, CHALLENGES, AND PERSPECTIVES

The second section of the workshop sought to analyze how climate change has been addressed at the national level, identify challenges, opportunities, and responsibilities to be considered by Brazilian decision-makers and propose ways for the country to strengthen its national positions and interests in the midst of this challenging situation.

As highlighted by the panelists, the indispensable reconciliation between maintaining sovereignty and combating climate change can present a significant challenge for a country like Brazil, which has the credentials to become an environmental power. It is worrying that, to this day, the topic is addressed in a reactive way, given the need to adopt proactive measures so that climate challenges are properly addressed.

While some advocate, in a profoundly mistaken way, that environmental concerns themselves would be a threat to national sovereignty, the scientific evidence leads us to urgently reflect on a more palpable and imminent risk: the climatic risk that the Amazon and the other Brazilian biomes will be led to collapse, which would irreversibly affect rainfall regimes, the capacity of soils to produce food, the availability of drinking water and the survival of the Brazilian population. These phenomena ultimately affect our sovereignty as they increase the vulnerability of the Brazilian territory, natural resources, populations, and institutions. The challenges posed by climate change to human security, energy security, food security, and the security of ecosystems are widely recognized. In the current context of an unprecedented worsening of the ecological crisis, these are the greatest risks to Brazil's security and sovereignty.

Under no circumstances can the country refrain from dealing with one of the most challenging issues of our times. In this sense, it is essential that the phenomenon is widely understood by decision-makers and society, so that effective policies are consolidated to mitigate national emissions and strengthen initiatives to adapt Brazilian ecosystems, communities, and infrastructures.

Climatologists around the world warn that October 2023 was the hottest month in the last 125,000 years. Some scientific studies already point to a likely scenario of a 2°C rise in global temperature, which would represent a huge challenge for Brazil in terms of adaptation. Faced

with this serious scenario, participants were invited to reflect on the main challenges, opportunities, and responsibilities that Brazil has in a world deeply impacted by climate change.

2.2.1. CHALLENGES AND OPPORTUNITIES

Brazil has a unique position in the environmental debates, given its megadiverse profile and its high vulnerability to the effects of climate change. Even so, the country lacks a comprehensive climate strategy. Given the growing global risks, it is critical that decision-makers prepare for a planet in turmoil, marked by the multiplication of extreme natural events.

Based on this diagnosis, the following were pointed out as possible ways to build a climate agenda at the national and regional levels:

- Consolidation of a policy network, constituted as a network or as a structure composed of professionals from different areas and representatives of different segments of society. This structure would have as its main function to enable the productive exchange of ideas and knowledge between its participants and decision-makers, aiming to point out ways to address the multiple challenges posed by climate change;
- Building the National Interest from different perspectives: Encouraging integration between the academic sector, think tanks, government representatives and negotiators to consolidate a broad and multifaceted perspective of the “national interest” that will guide Brazil’s insertion into multilateral forums;
- Attention to the complexities of regimes: Considerations on the complexity of environmental regimes and the tangle of themes that are intertwined with these regimes - such as human rights, health, economy, agriculture, transport - without losing sight of the fact that the climate is the most challenging agenda for the survival of humanity. It is also essential to identify who our allies are and the interests that oppose each of these agendas;
- Consolidation of a regional governance strategy: In view of its geographical characteristics, its biomes and its diplomatic credentials, Brazil should lead the efforts to articulate joint regional positions in the multilateral negotiations.

2.2.2. NATIONAL PRIORITIES

Some priorities to be considered by decision-makers in the climate arena were also listed. Here are they:

1) Data collection, research, and mapping on the climate vulnerability of Brazil and its subregions

Adaptation measures in a global scenario of 2°C, marked by the occurrence of extreme events, such as the “Super El Niño”, should be taken as the number one priority. It is lawful and desirable for Brazil to act in the international negotiations to ensure that the temperature increase is limited to 1.5°C. However, it is necessary for decision-makers to consider the real risk of soon reaching the 2°C scenario.

2) Considerations on climate justice

It is estimated that around 1% of the world’s population is responsible for a considerable share of global emissions, however, extreme natural events tend to disproportionately affect those who are not the major causes of the climate crisis, especially the most vulnerable populations. According to IPCC⁹, in the last decade, mortality rates from extreme weather events have been 15 times higher in developing countries. In Brazil, the discussion assumes even more significant relevance, consider-

9. IPCC. *Summary for Policymakers*, 2022.

ing the flagrant inequalities that characterize the population and that make certain groups, such as traditional peoples, indigenous people, quilombolas and residents of peripheries, disproportionately affected by climate risks. Therefore, it is essential that the vulnerabilities that overlap certain territories and social groups are widely considered in the processes of consolidating public policies, especially those in the areas of education, health, agriculture, energy, housing, transport, etc.

3) Reinforcing the principle of Common but Differentiated Responsibilities

Brazil ranks among the largest¹⁰ global GHG emitters. Brazilian emissions come from forest fires and deforestation. On the other hand, countries in the Global North are responsible for a large share of the GHG emissions that accelerate the death of our forests. Therefore, combating fires and deforestation assumes a crucial position in national mitigation initiatives, while it is up to developed countries to drastically reduce their emissions and ensure the transfer of resources so that countries in the Global South, including Brazil, advance their mitigation and adaptation initiatives. These considerations need to be inserted in the process of consolidating public policies, as well as in the range of demands to be presented by Brazil internationally.

2.2.3. DISCUSSIONS SECTION

At the end of the second block of presentations, the debate began among all workshop participants. These presented comments and questions on topics such as the role of the Amazon Cooperation Treaty Organization (ACTO) as a catalyst for regional integration in South America and the absence of representatives of traditional peoples and communities in the debate.

It was emphasized that, historically, South American integration has not been effectively promoted, which has hindered the consolidation of a consistent regional agenda in any areas, including the climate arena. As pointed out by some of those present, although the ACTO Summit produced an ambitious and comprehensive political statement, there are no guarantees of concrete progress, and the empirical data are not encouraging. ACTO member countries face shared challenges and have converging interests in various spheres. Still, there are enormous difficulties for this organization to assume a central role in the region.

As recalled by some of those present, for decades, the European Union (EU) has dominated global climate governance, creating norms and rules to be exported to the rest of the world. Within the EU, the process of signing, ratifying, and defining policies and rules takes place very quickly, while countries in the Global South, among them those in South America, tend to face a slow domestic ratification process, permeated by internal disputes and conflicts of interest.

In another moment of the discussion, some of the participants mentioned the absence of representatives of the traditional peoples and communities that inhabit the forest in the debate. They have been deeply affected by illegal activities carried out in public areas and on indigenous lands - such as illegal mining and deforestation - activities that violate the rights of these populations and that also generate emissions and damage the environment. It was pointed out that, based on their different worldviews, these peoples have historically contributed to the consolidation of strategies and alternatives capable of responding to contemporary challenges, pointing to solutions of problems that, in our eyes, seem indissoluble.

Still with regard to this same topic, it was mentioned that indigenous peoples are at the forefront of the fight against climate change and that their traditional knowledge is fundamentally important if contemporary challenges are to be addressed.

10. According to the "Emissions Gap Report", launched in 2022 by UNDP, in 2020, the per capita emission champions were: the United States, Russia, China, Brazil, Indonesia and the European Union.

However, uncertainties were raised about the best model of participation of these communities in the national and international governance processes. As some have pointed out, due to the presence of multiple stakeholders, there is a risk of considering that all actors have the same weight and the same impact on the negotiation process, which is certainly not the case. In this sense, it was regretted that a traditional community highly affected by environmental damage does not have the same weight as a transnational company in the international negotiations. Thus, being present does not guarantee that these communities are truly heard and cared for. Finally, it was pointed out that the search for a model that allows the participation of these populations in the official decision-making spaces constitutes a challenge within the scope of international regimes and several countries in the world.

HIGHLIGHTS

- Although the Brazilian energy matrix is considered renewable, the increasing fluctuations in rainfall patterns do not allow us to maintain the dependence on hydroelectric power plants to meet national energy demands. The country needs to adopt a safe, cheap, and durable energy matrix.
- It is necessary to pay attention to the progress of negotiations on seabed mining, an activity with the potential to release huge amounts of GHG and that imposes profound risks on megadiverse countries, such as Brazil. Brazilian diplomacy and the diplomatic corps of other Amazonian countries do not seem to connect these themes directly. It is important to carefully monitor the developments of negotiations that take place in other environmental regimes, directly affecting the territory, biodiversity and population of Brazil and its neighbors.

2.3. THE ROLE OF INTELLIGENCE IN TACKLING CLIMATE CHANGE

This block of debates was dedicated to discussions on the contribution of intelligence activity to addressing the challenges arising from the climate crisis. In the case of Brazil, the agencies that make up the Brazilian Intelligence System (SISBIN, for its acronym in Portuguese), with the Brazilian Intelligence Agency (ABIN, for its acronym in Portuguese) as its central body, are able to monitor extreme weather events, identify environmental risks, as well as produce scenarios on how climate change may impact sectors such as agriculture, transport, infrastructure, energy, and water security. In this sense, it was discussed how the intelligence sector has been increasingly involved in activities that correlate with the environmental agenda, including climate adaptation and mitigation initiatives.

The debate began with a brief introduction to the history of intelligence. As highlighted by the panelists, the first report of intelligence activities dates back 4,000 years, having occurred in the territory that is now considered Iraq. As they pointed out, the intelligence sector tends to arouse fears and suspicions, especially due to its secretive characteristic, and many people judge intelligence simply by the content published in the press, often through the dissemination of fake news.

In Brazil, institutions in the intelligence sector aim to serve society by offering information to the President of the Republic. In this sense, intelligence assumes the crucial role of supporting the decision-making process by providing information, and it is not up to the sector's officials to formulate policies.

As noted by the participants, the intelligence sector is endowed with ample capacity to work transversally and in communication with different areas. This is a very powerful activity that needs to be very well controlled. Deviations made by people working in the area must be determined and corrected. A close look at the sector is necessary so that the country can benefit from the information that intelligence can provide.

2.3.1. CLIMATE INTELLIGENCE

Questions are critical to the work of intelligence. According to the debaters, when it comes to questioning how intelligence can contribute to tackling climate change, there are spaces and opportunities for cooperation among the activities of the sector, however, these spaces tend to be limited and well defined. Intelligence organs have the function of providing information so that decision-makers, whether the President of the Republic or ministry officials, can make decisions with the greatest possible level of autonomy, which means that intelligence has no value if it is not communicated.

Intelligence organs use the same approach to deal with climate change issues, a topic that has been tackled across the board by the different spheres and sectors of intelligence. As pointed out, in Brazil, the intelligence sector had been following the issue from a purely environmental perspective, which changed from 2019 onwards. That year, after a long negotiation process, Mercosur announced the signing of a free trade agreement with the European Union, but soon afterwards the process was halted due to elements linked to climate change. It became clear that there was a paradigm shift in monitoring the climate issue. Thus, from then on, Brazil's intelligence agencies began to focus on a more comprehensive monitoring of the theme. In this sense, emphasis was placed on the country's climate security, which includes considerations on economic security, human security, and the right to development.

Based on this new understanding, Brazilian intelligence has moved away from acting only in the field of environmental crimes and has adopted a broader geopolitical vision, which contemplates climate security from an anticipatory approach, based on the construction of scenarios. Based on this new paradigm, intelligence organs often take on atypical functions such as analyzing the vulnerability of Brazilian states.

2.3.2. THE ROLE OF INTELLIGENCE IN INTERNATIONAL NEGOTIATIONS

The intelligence sector has also been working to ensure national defense and security, through the identification of actors and interests that are convergent and divergent from those of the country. In the multilateral negotiations, intelligence activities assume the crucial function of ensuring the best conditions for Brazilian negotiators to defend national interests.

The fight against climate change has become a priority topic on the agenda of Luiz Inácio Lula da Silva's current government. Climate negotiations have become a multilateral space permeated by different interests, since the phenomenon of climate change has repercussions in the economic, social, and energy areas, among others. Mapping actors and interests that permeate this arena is a complex but fundamental task for decision-makers to anticipate threats and visualize opportunities.

2.3.3. DISCUSSIONS SECTION

At this point in the workshop, after the presentation block, participants reflected on topics such as the role of intelligence in the face of an intangible threat such as climate change, potential strategies for addressing overlapping crimes in the Amazon, and the role of interagency cooperation to prevent and curb cross-border crime.

As some of those present recalled, the priority mission of the intelligence sector is to inform decision-makers, above all, in advance. Anticipation is the great asset that enables the production of prospective knowledge. Unlike the work of the police, which focuses on and ends with the criminal investigation, intelligence has been monitoring the same issues for a long period of time, with the aim of anticipating and predicting upsurge trends, attentive to the need to guarantee the security of the state, institutions, and the population.

Others pointed out that the intelligence sector has a lot to contribute to national policies through scenario-building exercises, through which it is possible to understand, for example, the possible effects of desertification for the Amazon region, considering the economic risks, food insecurity, among others.

It was also observed that the intelligence organs in charge of mapping illicit activities tend to work from a different logic, emphasizing the *modus operandi* and the reproduction of practices by criminal groups. With regard to the international field, intelligence also carries out activities to map the different actors and interests that permeate multilateral negotiations. Therefore, the work of intelligence complements that of diplomacy, as it gives the diplomat a detailed profile of the country with which Brazil negotiates, identifying the actors that influence the decision-making process and the interests that these actors represent. As pointed out by some of those present, we are often not dealing with hidden interests, but with legitimate demands that represent the points of view of those societies. In this sense, the negotiator needs to have access to this information so that he is aware of the extent to which he may or may not advance, or even give in, in a diplomatic negotiation.

As noted by some of the participants, the exercise of building scenarios involving climate issues is also a fundamental activity in the international plan. For example, in a scenario of energy transition and disputes over fundamental mineral resources, it is crucial to question which actors dictate the rules and to identify Brazil's interests in this area. With regard to climate finance, it is necessary to map trends, identify the rules of the game and the actors that establish them. These issues can directly influence legislation to combat deforestation and environmental litigation processes in Brazil, for example. It was pointed out that, often, there are no opportunities or threats involved, only divergent interests, which nevertheless need to be identified and analyzed.

There were also reflections on the existence or not of actors whose interests are linked to the environmental area, which could be considered as threats by the Brazilian intelligence sector. At this point, some of the participants recalled that intelligence organs operate on the basis of identifying divergent interests and understanding the mechanisms that certain actors employ to advance those interests. Based on this understanding, the concept of threat used refers to a threat to the national interest. This type of information is transmitted by the intelligence sector to Brazilian negotiators. It was highlighted, however, that this does not necessarily imply the identification of enemies, but of divergent interests, which occurs very frequently.

The reasons that led to setbacks in the process of signing the Mercosur-European Union Agreement were cited as an example in this regard. At that time, there was a widespread understanding in the national media that the interest of the French agricultural lobby had blocked the deal. However, it is essential to recognize that this sector of French society lives in a situation of instability and presents legitimate demands with regard to the possible repercussions of the agreement on their lives, something that can threaten social cohesion within the French state. In this case, they are divergent interests but not threats.

Regarding the monitoring of organized crime activities, it was pointed out that intelligence agencies tend to work more strategically, paying attention to the routes and trends of expansion and internationalization. Criminal organizations expand in search of profits and business opportunities provided by our vulnerabilities, which makes it possible to overlap routes for illicit activities such as human trafficking, deforestation, and illegal mining.

Finally, the topic of interagency cooperation with other countries in the region was addressed, considering the need to comprehensively address cross-border crimes. Participants recalled the signing of presidential decree 11.693 of September 6th

2023¹¹, whose text gives greater fluidity to interagency cooperation and creates concentric circles of actors working in this area. They also referred to the meeting of representatives of nine South American countries, held on October 5th, 2023, when the creation of a South American Intelligence Alliance was announced in an unprecedented way¹². The initiative is the result, in part, of growing regional concerns surrounding environmental crimes and represents a substantial advance towards deepening regional integration and cooperation in the area of intelligence.

HIGHLIGHTS

- The Brazilian intelligence sector was not the only one to turn its attention to the climate agenda. The theme has been incorporated into the security and defense policies and intelligence strategies of several countries. In these high-level documents, climate change has been addressed as both a threat and an opportunity. Therefore, the beginning of a process of climatization of the intelligence sector is visible, as the climate lens has been adopted in practically all its processes.
- The National Intelligence Policy¹³ and the National Intelligence Strategy¹⁴, the main guiding documents for the sector were published in 2016 and 2017, respectively. In 2023, a new version of the Intelligence Activity Doctrine was published¹⁵. There are expectations for the publication of a new version of the National Intelligence Policy in 2024.
- Environmental and climate concerns have been favoring the resumption of South American regionalism and boosting cooperation initiatives between the region's intelligence agencies, such as the South American Intelligence Alliance.

2.4. EXPERIENCES AND CHALLENGES OF THE ARMED FORCES IN FACING THE CLIMATE CRISIS

At this moment in the workshop, the panelists were invited to share their knowledge about the experiences and challenges experienced by military personnel from the Navy, Army, and Air Force in dealing with the climate crisis, as well as to reflect on the extent to which this constitutes a mission of the Brazilian Armed Forces.

2.4.1. THE NAVY

It was highlighted that the Brazilian Navy is characterized as a multipurpose force, whose attributions are diverse. The Navy's subsidiary duties are defined by Complementary Law 97 of 1999. These include the role of contributing to the formulation and conduct of national policies regarding the sea and implementing and monitoring compliance with laws and regulations at sea and in inland waters, in coordination with other bodies of the executive branch.

In addition, Law 9.537 of 1997 establishes that, as a Maritime Authority, the Navy is responsible for safeguarding human life and navigation safety, as well as preventing environmental pollution caused by vessels. With regard to the latter, there is a range of national laws, standards and policies that aim to minimize maritime pol-

11. Decree No. 11.693, of September 6th 2023. Provides for the organization and functioning of the Brazilian Intelligence System.

12. For more information on the Alliance see: https://www.gov.br/abin/pt-br/canais_atendimento/imprensa/encontro-de-alto-nivel-das-agencias-de-inteligencia-da-america-do-sul; and <https://www.gov.br/abin/pt-br/centrais-de-conteudo/noticias/abin-iniciou-em-2023-uma-nova-etapa-na-inteligencia-brasileira>

13. The National Intelligence Policy was inaugurated through Decree No. 8.793, on June 29th, 2016.

14. The National Intelligence Strategy has its origins in the Decree of December 15th, 2017.

15. Approved by Ordinance GAB/DG/ABIN/CC/PR No. 1.205, of November 27th, 2023.

Available in: <https://www.gov.br/abin/pt-br/centrais-de-conteudo/doutrina/Doutrina-da-Atividade-de-Inteligencia-2023>

lution. Among these are the Oil Law, the Resolutions and Ordinances published by the environmental authority and the inspection initiatives conducted by the Navy in partnership with environmental agencies.

Regarding the prevention of air pollution caused by vessels, there are the instruments consolidated within the scope of the International Maritime Organization (IMO), such as the IMO Strategy to Reduce GHG Emissions and the 1973 International Convention for the Prevention of Pollution from Ships. The IMO is the international organization with jurisdiction over GHG emissions and other pollutants from international maritime transport. The organization has a Marine Environment Protection Committee (MEPC), where discussions on the subject take place and from which decisions are issued to be formalized through Conventions, Codes, Resolutions and Circulars.

Brazil has been a member of IMO since 1963 and part of its Board since 1967. Through active participation in debates and negotiations and the presentation of technical documentation, the country seeks to ensure its interests in this area. It is worth mentioning that, since 2000, when Decree 3.402 was published, it is up to the Navy to represent the country with the IMO. To ensure the necessary technical advice, the Navy has the support of a Coordinating Committee composed of 14 bodies and dedicated to discussing issues related to navigation safety, technical cooperation, legal and environmental issues, among others. The Committee meets 5 to 6 times a year to address issues of Brazilian interest and elaborate the proposals that Brazil will defend within the framework of the IMO negotiations. There is also an Advisory Forum, composed of the Maritime Community and members of industry and academia, which also provides support to the Brazilian representation. Brazil has a permanent representation in London, where IMO's headquarters are located, which acts in coordination with the Ministry of Foreign Affairs. In the domestic sphere, there is a maritime coordination division designed to deal with IMO issues.

In 2023, the IMO revised its GHG Reduction Strategy that had been launched in 2018. Among the new goals stipulated are:

- Reducing CO₂ emissions by at least 40% by 2030 compared to 2008, aiming for a 70% reduction;
- Ensuring that new “net zero” fuel technologies account for 5% of the energy used by international maritime transport, pursuing the 10% target;
- Achieving net zero emissions from international shipping by 2050.

The updated strategy also establishes indicative checkpoints. These are not binding, but will be used as a verification resource in the years 2030 and 2040. A work schedule was also established for the IMO sessions to be held until 2025, when it is intended to adopt technical and economic measures that enable the achievement of the stipulated goals.

The following were identified as major challenges for the energy transition of the maritime sector:

1) The definition of the new fuel standard for vessels

The definition process, still in progress, evaluates issues such as the life cycle of different fuels (which includes considerations about their sustainability and the certification process), their production process (planted biofuels enable the absorption of GHG, however there are questions about the feasibility of allocating food production areas for their cultivation), their level of global availability and their economic costs.

Brazil advocates that biofuels be considered as a viable alternative to replace more carbon-intensive marine fuels.

2) Economic measures

There are ongoing discussions about the possibility of taxing the use of marine diesel, the fuel currently used by maritime transport. A linear tax would result in asymmetric impacts for the states, even affecting Brazil. It is estimated that a tax in these terms could have a significant impact of around 2% on the Brazilian Gross Domestic Product (GDP). The possible benefits arising from taxation would be the creation of a fund for adaptation and mitigation initiatives, but this would not, in principle, compensate for the damage caused.

3) Infrastructure for production, distribution, and storage of new fuels

The national regulation on the subject is in the process of being updated. Brazil has policies in this sector, such as Renovabio and the reissue of an ANP Resolution, which provides for the experimental use of biodiesel mixed with marine fuels. However, these regulations are still insufficient.

The updated IMO strategy puts pressure on states to move forward with their implementation plans. And Brazil is working on a proposal, which should be discussed later this year or early next year.

2.4.2. THE ARMY

With regard to the Brazilian Army's actions in the environmental area, the participants pointed out that the Army's actions are based on two fundamental points: knowledge about the environment in which its forces operate and the defense of the homeland, both of which have the potential to contribute to environmental preservation.

As the debaters noted, the Brazilian Army is present in all existing biomes in the country, such as the Amazon, the Caatinga, the Cerrado, the Pantanal, the Atlantic Forest and the Pampa. Each training action requires specific knowledge about these biomes. In this sense, the environment is as much a pillar of knowledge as it is of action for the land forces.

The Army's actions aimed at preserving its structures and protecting its troops have occurred since the colonial period, when the genesis of practices to protect and preserve areas administered by the Army can be identified. During the Brazilian Empire, Lieutenant Colonel Gastão Luís Henrique de Robert d'Escagnolle directed actions to recover and conserve the Tijuca Forest, turning it into a park for public use. During the period of the Republic, in his mission to delimit national borders, Marechal Rondon was a pioneer in conducting studies on Brazilian fauna and flora. Since 1920, the legislation of the Republic had already indicated the need to save trees and ensure the regeneration of vegetation in the troops' training camps. To this day, the areas under the jurisdiction of the Brazilian Army, which cover 24,479 km² and include 2,048 properties, are highly preserved and recovered from degradation, and are even home to endangered species.

Currently, the Army Commander's Directive 2023-2026 establishes the consolidation of the sustainable development and environmental management policy for the Brazilian Army¹⁶, in line with the state's public policies. Thus, sustainability criteria are considered during the process of acquisition and disposal of goods, in contracting and carrying out works and in the use of alternative energy sources, in order to protect the environment.

The Environmental Management System of the Brazilian Army (SIGAEB, for its acronym in Portuguese) promotes initiatives in the areas of preservation of water resources and sanitation, environmental training and education, sustainable use of military areas and military training in accordance with environmental preservation.

16. On September 9th, 2021, the Army General Staff published [Ordinance No. 505](#), which established the Brazilian Army's Sustainable Development Policy.

During periods of peace, environmental protection actions are conducted aimed at preventing, mitigating, controlling and restoring the environment, with the ultimate objective of protecting the military itself. Examples of the Brazilian Army's sustainable initiatives include the construction of the largest urban photovoltaic plant in the Federal District, the installation of photovoltaic panels in the special border platoons, the revitalization of the São Francisco River during the overlapping works and the support granted to Operation Amazon Log, a multinational operation that involved several Brazilian institutions and resulted in new sustainable procedures.

Considering the successful experiences in the area of sustainability, the UN has approached the Brazilian Army with the aim of promoting the sharing of its good practices with other forces. As part of these efforts, a booklet on the Army's environmental practices during operations was developed. The Army has also been offering training to other Forces, in order to share its techniques for controlling water quality and installing military bases in accordance with environmental protection.

In addition, the Brazilian Army also conducts sustainability actions that cover wastewater treatment - making it possible to supply water to cities -, selective collection and recycling of solid waste, training soldiers, managers and teachers in the area of environmental preservation, planting trees, and evaluating the performance of its military units by adopting the olive green seal of environmental sustainability. All these actions occur in peacetime, since in the midst of military operations it is much more difficult to ensure the preservation of the environment.

2.4.3. THE AIR FORCE

The debaters recalled that Brazilian constitutional article 225 states that everyone has the right to an ecologically balanced environment and gives the public authority the task of defending and preserving it. Within the scope of the Brazilian Public Administration, the Environmental Agenda in Public Administration (A3P) has been in force since 1999¹⁷, which aims to guarantee socio-environmental responsibility in the administrative and operational activities of the Brazilian public administration bodies. In this sense, all actions of the Armed Forces are based on the logic of sustainability, always aiming for resilience.

Aviation is responsible for about 5% of global emissions, while the Defense sector has also been identified as generating 5% of verified emissions worldwide, although United Nations reports generally do not consider emissions from Defense activities.

Defense-related actors, such as specific agencies of the European Union, the United States Department of Defense and NATO have been announcing climate mitigation and adaptation measures, aiming to ensure the operability of their forces and contribute to a sustainable future. In Brazil, we are also witnessing a rapprochement between the activities of Defense institutions and ESG practices. A specific example in this regard is the installation of a solar energy capture system at the Ministry of Defense, which gives the ministry autonomy over 40% of its energy consumed.

Air power has the advantage of having flexibility and reach and, because of these characteristics, the Air Force has been providing support to other agencies to implement initiatives in the environmental area, such as forest firefighting operations. New air navigation management strategies also contribute to reducing aircraft emissions. The improvement of routes and the adoption of checkpoints avoid wasting fuel, while aid tools enable preventive and corrective actions that ensure the accuracy of navigation. Since 2009, the Brazilian Air Force (FAB, for its acronym in Portuguese) has been applying the Performance Based Navigation concept, which has already resulted in the reduction of more than 6 million kilograms of CO₂ emitted annually.

17. More information on the Public Administration Environmental Agenda can be found [here](#).

The Lessonia Project has also been showing positive results in the environmental and climate area. Through high-resolution images captured by satellites, it is possible to more easily identify environmental crimes, ensure the continuous monitoring of areas of interest and patrol Brazil's Exclusive Economic Zone (EEZ) and borders. The Geostationary Defense and Strategic Communications Satellite (SGDC), in turn, have ensured inclusion and access to data by communities in the heart of the Brazilian biomes, high-speed data transmission to 100% of the national territory and easier communication to inhibit environmental crimes.

2.4.4. DISCUSSIONS SECTION

After the round of presentations, the workshop participants launched questions and made comments on different topics related to the performance of the Armed Forces and the intersections with the environmental agendas. Comments were made on the format of interaction between Navy officers and Brazilian diplomats in the IMO negotiations, on the relationship between the climate crisis and the mental health of sailors, on the compensation modality (Netzero) adopted for emissions from marine fuels, as well as the data collection and analysis strategies adopted by the Ministry of Defense with regard to the climate agenda.

With regard to the relationship established between Navy officers and Ministry of Foreign Affairs (MRE, for its acronym in Portuguese) diplomats within the scope of the IMO, it was pointed out that this is configured as a *sui generis* relationship, since, as a rule, it is the responsibility of the MRE to represent Brazil in international negotiations. As pointed out by the debaters, the MRE is one of the bodies that make up the Commission that advises the Brazilian delegation in the consolidation of the positions defended by Brazil with the IMO. There is a great interaction between the Navy and the MRE to ensure that Brazil adopts coordinated positions in the IMO and UNFCCC negotiating spaces.

Regarding seafarers' mental health, the Seafarers' Welfare Convention and the guidelines established based on the regulations of the International Labor Organization (ILO) were mentioned. Some of the participants pointed out that, in Brazil, there is a requirement established by the Brazilian Health Regulatory Agency (ANVISA, for its acronym in Portuguese) for all ships that dock in Brazilian ports to undergo a process of reporting suspected cases or comorbidities on board. If deemed necessary, the vessel is transferred to a quarantine area where it is subjected to inspection by ANVISA staff.

Regarding the questions about how the IMO establishes measures to offset emissions from marine fuels, it was pointed out that GHG emissions attributed to the international maritime sector are equivalent to 3% of global emissions. The IMO determines that the complete fuel cycle - from the well to the route, or from planting to the route, in the case of biofuels - is considered in the compensation process. Thus, in the case of biofuels, it would be possible to achieve negative emissions, with a greater amount of GHG absorbed than emitted throughout the process. As noted by the participants, the negotiations that took place within the scope of the IMO on the subject were very contentious, as the aim was to achieve a situation of zero emissions, something very difficult to achieve in the transport sector.

Maritime transport has also been identified as the driver of the energy transition. As recently announced, a new rotating sailing technology has been used, resulting in a reduction of around 8% in vessel emissions. All ships must ensure a standard of energy efficiency. Currently, there is a carbon emission indicator that classifies vessels according to their degree of efficiency, a process similar to what we have in Brazil to assess the energy efficiency of household appliances.

Another participant in the debate pointed out that the data presented by the panelists are an important asset of policies and practices adopted by the Services, which

until now had been entirely unknown to Brazilian society. According to him, amid the growing demands for the Ministry of Defense to incorporate good practices and information dissemination initiatives, the insufficient disclosure of this data is a huge loss of opportunity. Such information constitutes assets with enormous potential for incorporation into the policy, which is why it would be important for the Ministry of Defense to adopt mechanisms to collect and process data and transform them into policies.

As observed by another participant, Brazilian public structures often display a reactive attitude towards climate action. It is necessary to deeply understand this phenomenon and contribute to change. At times, there is a conflict between the narrative and public policies, which makes it difficult to understand the scale and severity of the crisis and prevents decision-makers from creating more robust and effective policies. Thus, it should be questioned to what extent these narratives hinder the greater involvement of the Armed Forces in the climate change issue. For effective decisions to be made, it is essential that there is knowledge, the power to react (which involves physical and financial resources) and doctrinal, legal, and moral support. As the participant pointed out, for the Armed Forces to act in places like the Amazon, they need to have the legal backing of rules governing their duties, resources for preparing and maintaining troops, and data collected by intelligence.

In order to address the challenges identified, some of those present pointed out the need to create a structure, whether a secretariat or an advisory board, engaged in studies and research on issues related to the environment within the scope of the Ministry of Defense. Based on this knowledge, it would be possible to generate the power to react with federal agencies, the Executive and the Legislative Branch, so that the Armed Forces have legal and moral support to act sustainably.

Furthermore, it was pointed out that the good practices of global players with military operational experience have the potential to promote a change in the attitude of those who are more reticent to the actions of the Armed Forces in the area of the environment. It's a long road, but a necessary one. We cannot discuss operations related to the environment in an isolated way, given that these challenges affect our security.

HIGHLIGHTS

- There is a need to create a body, within the scope of the Ministry of Defense, to promote research on issues related to the environment and to manage and coordinate sustainability actions carried out by the three forces in times of peace.
- The role of the Armed Forces in tackling climate change rests on three fundamental dimensions: sustainability, operability, and state support. In-depth reflections and analyses are needed on the limits of the synergy between the operability of the Armed Forces and environmental concerns.
- The Conventions on the Law of the Sea do not apply to military ships and are merely recommendations. With regard to IMO decisions, it is up to the Brazilian Navy to signal and guide Petrobras with regard to the production of less polluting fuels.
- In modern times, the concept of modern warfare challenges the traditional division between air, land, and sea forces. In this sense, the integration between the Armed Forces becomes extremely necessary, as has been pointed out by academics in the area of Defense.
- The ongoing conflict in the Gaza Strip reveals a deep connection between the areas of defense, strategy, climate, and security. The region has the highest density of

solar panels in the world, something that provided the population with minimal energy resilience in the face of fuel supply cuts. However, as the conflict unfolded, the panels installed on the ceilings of homes became strategic targets, causing surplus impacts on human security.

2.5. THE IMPACTS OF CLIMATE CHANGE ON THE TRAINING AND EMPLOYMENT OF THE ARMED FORCES

Throughout the discussions held during the workshop, participants were also invited to share experiences and reflect on how climate change already affects, or tends to affect, the readiness and employment of Brazilian Armed Forces. By modifying the environment in which the Armed Forces operate, climate change tends to present challenges to the execution of force operations, in addition to endangering military infrastructure and assets. In this sense, questions were raised about the possible gaps found in the National Defense Policy and the National Defense Strategy to face this problem, as well as the possibilities of improving capacities and intersectoral responses to respond to the numerous challenges posed by climate change.

2.5.1. THE NEXUS BETWEEN THE ARMED FORCES AND CLIMATE

Environmental issues and challenges tend to impact core and non-core activities of the Armed Forces. As noted by one of the workshop participants, the relationship between the Armed Forces and the climate crisis tends to be approached through different lenses, including:

- 1) Armed Forces as large GHG emitters;
- 2) The budgetary impact of adaptation measures aimed at the Defense sector
- 3) The Armed Forces as victims of climate change, considering the risks posed to military infrastructure and assets and the resilience of combatants;
- 4) The contributions of climate effects to increased hostilities and;
- 5) The increase in humanitarian military operations aimed at dealing with water and food insecurity and extreme natural events.

In view of these different approaches, considerations were made about the challenges posed by climate change to the training and use of the Armed Forces in Brazil.

2.5.2. TRAINING AND EMPLOYMENT OF THE ARMED FORCES

The performance of the Brazilian Armed Forces is regulated by a dense doctrinal framework, guided by the Federal Constitution, by the National Defense Policy and Strategy and by a series of infra-constitutional laws that provide for the performance of the Armed Forces in subsidiary operations. There is a range of instructions and manuals from the Ministry of Defense and the Armed Forces that deal with topics such as interagency operations, joint operations, Civil Defense support, humanitarian aid operations, among others.

The Brazilian Armed Forces have a tradition of preserving biomes and green areas. In situations of war or peace, they always consider the weather conditions when carrying out their duties. The 1st volume of the Joint Military Doctrine establishes that the Military Civil Coordination Center has specialists in the environmental area to propose environmental preservation measures in military operations. The 2nd volume of the Military Doctrine on joint planning of operations provides for the need to seek the least possible side effect on the environment.

The document of the Ministry of Defense, entitled “Defense Scenario 2020 to 2030”, predicts that the effects of climate change and the challenges arising from droughts, floods and windstorms may cause instabilities and a greater possibility of calling the Armed Forces to assist the Civil Defense. The document also anticipates that, with regard to the regional sphere, the Brazilian Armed Forces will certainly be called upon to act.

Relations between countries will tend to be affected as the climate crisis deepens, since physical borders do not guarantee the protection of states against cause-and-effect relationships arising from this phenomenon. It is also expected to increase international pressure on the political governance of the climate and the environment in Brazil, which could compromise national autonomy in the administration and conservation of its natural resources.

The training and employment activities of the Land Forces are guided by the Military Land Operational System (SISOMT, for its acronym in Portuguese), which includes the Employment System (SISEMP, for its acronym in Portuguese), the Land Operational Information System (SINFOTER, for its acronym in Portuguese), the Land Force Training System (SISPREPARO, for its acronym in Portuguese). All systems work in line with the Army Operational Concept - Convergence Operations 2040 (SISOC, for its acronym in Portuguese).

In the cases in which they are called upon, the Armed Forces have acted jointly in responses to climatic phenomena, using their materials in a dual manner, in order to overcome the lack of resources in other sectors of the state. Based on this conception of training and employment, in the period between 2008 and 2022, the Armed Forces acted on approximately 10 occasions in events related to climate change. In 2008, they were called upon to act in Santa Catarina in response to the flooding scenario. In 2010, they worked in the context of the earthquake that devastated Haiti and also participated in operations in Pernambuco and Alagoas to assist the Civil Defense. In 2011, they worked in the mountainous region of Rio de Janeiro. In 2012 and 2015, they participated in operations in Acre to mitigate the consequences of river flooding. In 2014, through Operation Friendly Hand, they worked to help the flood victim population in Santa Catarina. In the midst of the pandemic, they participated in a series of activities involving patient transportation, medical care, distribution of food and medicines and vaccination. Only in 2022, the Armed Forces participated in operations in Petrópolis, in southern Bahia, and in Recife. Currently, Operation Drought is underway in Amazonas and Operation Taquari in the South. In addition to these activities, Operation Pipa has been carried out uninterruptedly since 1998 with the objective of mitigating the effects of drought in the semi-arid region of the Northeast of Brazil and in the north of Minas Gerais.

2.5.3. CLIMATE CHANGE AS A COMPLEX THREAT

The US Security and Defense documents define complex threats as emerging and far-reaching threats, whose unfolding events have great potential to affect national security. In recent years, climate change has been systematically considered a complex threat by states and international organizations. This understanding is justified by the impossibility of neutralizing climate risks through conventional power resources, because they do not result from the intentional action of one or more easily identifiable actors and are imposed for indefinite periods of time and over large territorial areas.

In order to be properly addressed, climate threats require actions and planning by the Defense sector. Over the last three decades, there has been a process of securitization of climate risks. The term is derived from studies conducted by theorists from the Copenhagen School, who claim that issues tend to be securitized when they are interpreted as a serious threat, especially to state sovereignty.

The US National Security Strategy foresees the melting of the Arctic ice cap and the opening of an access that would enable antagonistic powers, such as China or Russia, to attack its sovereign territory. By building scenarios like this, US Defense agencies seek to anticipate and prevent threats. In Brazil, climate change has yet to be considered at the political and strategic levels of the forces, in order to promote changes in doctrine. How many more aircraft will we have to use to perform our tasks in cases such as the river blockade in the Amazon due to drought? This already occurs eventually, but the increase in the frequency of events like this will certainly impact the training and employment of the Armed Forces.

2.5.4. THE ZONE OF PEACE AND COOPERATION OF THE SOUTH ATLANTIC (ZOPACAS)

Considering the aforementioned political developments, it is necessary to reflect on how climate risks affect Brazil's territory, including its strategic environment, such as the oceans. These are important vectors of wealth, a source of livelihood for diverse populations and the most relevant global trade route. Therefore, it is essential to consider the pressures and threats that are imposed on the marine biome.

In this sense, the Zone of Peace and Cooperation of the South Atlantic (ZOPACAS) assumes a fundamental position. ZOPACAS was conceived three decades ago in response to the inoperability of the Inter-American Treaty of Reciprocal Assistance (TIAR, for its acronym in Portuguese), a regional security mechanism that had proven insufficient to protect South American countries in the event of a European threat, such as that during the Falklands War. Created in 1986, through Resolution No. 41/11 of the United Nations General Assembly (UNGA), ZOPACAS is the product of a Brazilian initiative and a milestone with regard to cooperation in the strategic environment of the South Atlantic. Through the Mindelo Declaration of 2023, the members of ZOPACAS started to include environmental issues related to the oceans, marine resources and climate change at the center of their discussions, in addition to the traditional themes addressed in the areas of security and defense.

It should be noted that ZOPACAS is characterized as a geopolitical space marked by the overlap of international mechanisms, such as AFRICOM, CECLAN and CPLP. In this sense, it is necessary to reflect on the means available to Brazil to occupy this area geopolitically and exercise regional leadership. Research and monitoring activities emerge as strategic. Brazil has a national ocean observation system coordinated by the Navy Hydrographic Center, GOOS-Brasil, which collects, performs quality control and distributes oceanographic and climatological data and monitors the South Atlantic. The Navy also grants support to the SAMBAR project, an initiative from the University of São Paulo (USP), that aims to detect changes in the oceanic circulation of the South Atlantic that may affect the planet's climate system.

It should be noted that while the intelligence system assumes a primary role in the identification and assessment of conventional or complex threats with the potential to damage Brazilian sovereignty, in the case of threats derived from climate change, the monitoring and research of the marine biome emerge as priority activities. At the moment, there is a huge need to advance studies on climate change and its effects on this biome. With regard to the risks arising from climate change, real intelligence must rest on research activities, not combat activities.

2.5.5. DISCUSSIONS SECTION

The presentations of the panelists raised debates among the audience on different topics, such as the holding of military exercises in Brazil's strategic environments, such as ZOPACAS and South America, the gap in Brazilian Defense documents regarding climate risks, the role of Defense and the Armed Forces in building national resilience and the need for climate challenges to be addressed across various sectors and public policies.

On the subject of military exercises, it was recalled that, in the last two years, Brazil participated in MECODEX¹⁸, coordinated by the Inter-American Defense Board. It is a multidimensional military exercise that seeks to optimize joint responses to humanitarian disasters. It was also highlighted that the member countries of the Community of Portuguese Language Countries (CPLP, for its acronym in Portuguese) have been carrying out similar activities. In this sense, it was questioned whether exercises like these take place within the scope of ZOPACAS and South America.

In response to the question, some participants evaluated that the CPLP is a more mature initiative than ZOPACAS, which is not an international organization, but a forum for cooperation that lacks greater institutionalization. As pointed out by some of those present, the ministerial meetings of the ZOPACAS member countries had not taken place for ten years and the logistical support provided by Brazil was essential for the resumption of high-level meetings this year.

Regarding the South American environment, it was highlighted that the South American Defense Council of the defunct UNASUR had advanced in several discussions, generating concrete results. However, since the demobilization of UNASUR, there has been no progress with regard to regional cooperation in Defense. Mercosur does not work directly with the subject, therefore, the articulation of combined operations between the Armed Forces in the region is practically non-existent.

Regarding the absence of specific guidelines for the Armed Forces about the climate crisis scenario within the scope of the Defense guiding documents, it was recalled that the new operational concept used by the army for 2040 is that of hybrid threats, that is, those that are difficult to identify and that evoke multiple and conflicting interests. According to some of those present, climate change is certainly a worrying reality, however, the issue often refers to a game of interests that unfolds at the international level. It is necessary for the Armed Forces to be prepared to act in situations where there is a preponderance of military actions.

Some argued that it would not be necessary for the Armed Forces to develop specific capacities to meet the Civil Defense, since, if their constitutional capacity for external defense is ensured, it will be possible to use them in a dual manner to meet these subsidiary demands. With regard to the doctrinal framework, the existence of a very advanced doctrine was highlighted, especially within the scope of the Brazilian Army, although there is no specific structure within the Armed Forces to deal with these themes. As defended by one of the participants, ordinary issues related to the work of Civil Defense (excluding scenarios of major events, as was the case with the collapse of the mining dam in Mariana) should not be the main focus of the Armed Forces. Each Force is responsible for its own training and employment, and the Forces do not feel at ease when this limit is crossed. Thus, for the Armed Forces it is difficult to descend to a lower level and prepare for subsidiary roles. In some situations, equipment and personnel of the Forces are used by Civil Defense, which directly impacts on their constitutional functions.

Regarding the comments on resilience, it was observed that the Brazilian Defense industry was once a reference for the world and that today it is falling behind. According to some of those present, the conflict in Ukraine reveals the need to return to being a reference to guarantee our autonomy. Regarding the pressures on the Defense sector to adopt more sustainable practices, it was argued that the development of military systems and materials goes through a cycle of operational requirements that includes, among other issues, environmental requirements.

As pointed out by some, considering that there are more pressing and immediate threats and challenges that the Armed Forces have to deal with, less carbon-inten-

18. Exercise of the Disaster Cooperation Mechanism of the Conference of Defense Ministers of the Americas. More information on MECODEX 2023 is available [here](#).

sive fuels tend not to be considered a priority at the moment. Due to the scarcity of resources, it would be essential to prioritize other aspects on which the Armed Forces will be more immediately demanded by society, such as support for Civil Defense, combating cross-border crimes, among others. This does not mean that the Armed Forces should not prepare for what lies ahead. In this sense, it was highlighted that the Defense sector is developing research on sustainable fuels that can replace fossil fuels. The development of new materials that guarantee the survival and less wear and tear of the combatant in extreme situations has been pointed out as essential. Unfortunately, progress has been slower than we would like.

With regard to the demands for the topic to be dealt with transversely by the Ministry of Defense, it was pointed out that such an approach could result in greater synergy between the Forces and in the allocation of more resources. Thus, the forces could be better equipped to perform their functions of defense of the homeland and respond to the new demands that will arise.

Finally, some of the participants argued that the lack of mention of climate change in national security and defense documents means that the issue does not have priority and, consequently, does not have its own budget. The creation of a specific structure within the Ministry of Defense to address the issue and coordinate the action of the Armed Forces was also pointed out as strategic to ensure that climate challenges were addressed more forcefully by the Defense sector. According to these participants, it would be interesting to have a specific center to offer advice on the subject and review, together with the areas of action, the operational doctrines. This is a favorable time to reflect on this possibility.

HIGHLIGHTS

- Climate implications have always affected military operations, favoring, or hindering forces that attack or defend. The conduct of research and the search for new technologies are fundamental to respond to the challenges of our time.
- When it comes to climate risks, security and defense strategies should emphasize research activities, not combat activities.
- The Navy's Strategic Planning (PEM-2040, for its acronym in Portuguese) already lists "environmental issues and natural disasters" as threats to sovereignty.
- Frequent support to the Civil Defense in cases of extreme natural disasters tends to negatively affect the exercise of the priority functions assigned to the Armed Forces.
- The Ministry of Defense lacks a specific body to coordinate initiatives in the environmental area, offer advice on the subject and review, together with the areas of action, the operational doctrines.

2.6. THE NATIONAL DEFENSE POLICY AND THE NATIONAL DEFENSE STRATEGY IN THE FACE OF CLIMATE CHANGE

The last topic addressed by the workshop participants refers to how climate change has been redefining security and defense policies and strategies around the world. In the wake of this debate, reflections were proposed on how Brazil's Defense can benefit from successful experiences of other countries in this arena and how it can also contribute to the realization of the commitments assumed by the country internationally in terms of climate mitigation and adaptation.

Also considering the ongoing processes for updating the main Brazilian defense documents, among them, the publication of Decree No. 11.592, of July 10th, 2023, which establishes the Interministerial Working Group to contribute to the updating of the White Paper on National

Defense, the participants were invited to reflect on the possible ways for climate change to become a protagonist in these Brazilian documents and strategies.

2.6.1. CLIMATE RISKS

Scientific studies on climate change no longer make only predictions but also now present findings about the severity of the current scenario. There is a virtually absolute consensus among scientific communities that the increase in the average temperature of the planet is due to anthropogenic GHG emissions. There is a connection between the so-called “points of no return”, which prevent the resilience and restoration of natural environments severely affected by climate change. This causes the Amazon Forest, for example, to suffer the irreversible effects of other points of no return, such as the melting of the polar ice caps.

Around the world, climate effects have been increasing demands for humanitarian aid, the number of food insecure people, reducing agricultural production and the availability of fishery resources, creating scenarios conducive to epidemics, increasing the frequency and intensity of extreme natural disasters, and intensifying migratory movements.

According to a study by the International Monetary Fund (IMF) published in 2022, climate change raises the chances of domestic conflicts by 38%. Other research¹⁹ points out that, with each increase of 1°C in temperature, the chances of interpersonal and group conflicts increase. It is worth noting, however, that climate change is not the only vector of conflict in these cases, but an element that contributes to pre-existing hostilities and tensions.

2.6.2. THE INTEGRATION OF CLIMATE CHANGE IN STRATEGIC SECURITY AND DEFENSE DOCUMENTS IN THE WORLD

Published by NATO in 2022, the document “Climate Change and Security Impact Assessment”²⁰ reveals that climate change has resulted in the interruption of the Armed Forces testing and training cycles; that coastal flooding tends to negatively affect maritime operations; that rising ocean temperatures will require the adoption of cooling techniques to prevent the overheating of ships’ propulsion systems; that excessive heat and drought can endanger the physical health of soldiers; that the climate crisis is expected to result in new theaters of war; and, finally, that growing demands for humanitarian aid may reduce the availability of the Armed Forces for its more traditional functions.

The document “Climate Change and International Security”²¹, published by the European Commission, identifies “constellations of conflicts” in some regions of the globe. In the Southern Cone region, a high vulnerability is pointed out with regard to food production, in addition to the degradation of water resources.

Germany’s National Security Strategy, entitled “Integrated Security for Germany”²², asserts that climate change qualifies as the most pressing challenge of our century and announces that the German government will chart its first climate diplomacy strategy. Germany’s Defense Policy Guidelines²³, on the other hand, point out that German Armed Forces should prepare for changes in climatic conditions and their potential consequences in the availability of resources and the use of alternative pro-

19. Burke, M et al. [Climate and Conflict](#). Annu. Rev. Econ. v. 7, 2015.

20. More information on the NATO report can be found [here](#).

21. Council of the European Union, European Commission, [Climate change and international security](#) – Paper from the High Representative and the European Commission to the European Council, Publications Office, 2008.

22. Germany. [Integrated Security for Germany](#), 2023.

23. Germany. [Defence Policy Guidelines](#), 2023.

pulsion methods. The document explains that Germany seeks to understand the effects of climate change on the priority functions and additional activities performed by its Forces, in order to ensure their readiness in the future. The same document also establishes that sustainable development and climate actions cannot compromise the operability and priority function of the Armed Forces.

The United Kingdom has a range of security and defense documents that recognize climate change as a threat to its national security. Among these, we highlight the National Security Strategy and Strategic Defence and Security Review²⁴ and the Integrated Review of Security, Defence, Development and Foreign Policy²⁵. These documents reveal the UK's concerns about decarbonizing the global economy by 2030 and maintaining the Arctic as a low-tension region, as well as detailing projects with the potential to modernize the defense sector, generate jobs and contribute to meeting the country's climate commitments.

Concern about the potential for climate change to promote instabilities and tensions is also evidenced by France's Climate and Defense Strategy²⁶. The document reveals the need for Defense preparation to better respond to climate challenges, establishes that the knowledge-anticipation binomial should regulate adaptation initiatives conducted by the Armed Forces, and advocates that the topic be addressed within the scope of the United Nations Security Council. Climate considerations are also incorporated into strategic documents from Portugal, Spain, and Italy, as well as a number of European Union publications.

Since 1990, the US has pointed to the possible impacts of climate change on its defense sector, already suggesting adaptation measures. The country has climate action plans for each of its Forces. In these documents, opportunities for investments in new technologies are pointed out, with the potential to generate jobs and economic growth for the country.

The US documents list initiatives in the mitigation area, such as increasing energy efficiency, the use of renewable energy sources, the sustainability of military equipment and the emphasis on carbon sinks, and in the adaptation sector, such as changes in planning and operational requirements, training and operations in extreme conditions and the improvement of infrastructures. There are also processes common to the areas of mitigation and adaptation, such as the adoption of new energy systems, the promotion of green technologies and investment in education. These mitigation and adaptation measures are understood by U.S. Defense as essential to ensuring the resilience of their Forces.

2.6.3. CLIMATE CHANGE AND THE DEFENSE AND SECURITY DOCUMENTS IN BRAZIL

Brazilian National Defense Policy is limited to recognizing that the impacts caused by climate change or pandemics have the potential to cause serious environmental, social, economic, and political consequences, requiring a prompt response from the state. The National Defense Strategy mentions the need to increase the capabilities of the Armed Forces in their self-defense and in contribution to the Civil Defense in adverse events of a biological, chemical, radiological, or nuclear nature. It is necessary to question the reason why climatic events are not mentioned in this excerpt.

The deepening of the climate crisis implies a series of challenges for Brazilian Defense. These are reflected in the support provided by the Armed Forces to Civil Defense in situations of forest fires, floods, and intensification of health crises. In order to respond to this scenario, actions are required to adapt military equipment to Civil

24. United Kingdom. [National Security Strategy and Strategic Defence and Security Review](#), 2015.

25. United Kingdom. [Global Britain in a Competitive Age: the Integrated Review of Security, Defence, Development and Foreign Policy](#), 2021.

26. France. [Climat et défense](#), 2022.

Defense support activities, to carry out specific training and to increase Brazil's participation in support operations in neighboring countries. With regard to military infrastructure, the growing climate risks generate the need for adaptive changes towards more resilient structures. Brazilian Defense must also consider the side effects of the climate crisis, such as the potential attempts of foreign interference in Brazilian environmental policy and its effects on the economy.

2.6.4. CHALLENGES AND OPPORTUNITIES FOR BRAZIL

- Integration of climate issues into Defense Policy and Strategy: the theme should be treated as a continuous priority, which involves the constant assessment of climate risks, the adaptation of infrastructures and the training of personnel to act in adverse weather conditions;
- International cooperation: there is a need for coordination with other countries and international organizations in order to share information and good practices in the environmental area and in the fight against illicit acts;
- Investment in new technologies: investments in research and technological innovations are required to increase energy efficiency, reduce emissions and strengthen the resilience of Armed Forces;
- Education and awareness: it is crucial to educate and improve awareness of troops and the population to enable a comprehensive understanding of climate risks and the importance of mitigation and adaptation initiatives;
- Disaster response: the country should prepare to respond to extreme natural events and develop strategies to minimize their impacts.

2.6.5. DISCUSSIONS SECTION

The last block of presentations elicited a series of comments from the audience. Some of those present pointed out that the absence of the topic of climate change in Brazilian Defense documents summarizes the purpose of this type of event. According to one of the participants, Defense is a concern primarily attributed to the Armed Forces, however, it is necessary to take a close look at how the missions of the Armed Forces and Defense policies have been changing around the world. Defense policy is fundamental to national sovereignty, which must be understood in a multidimensional and interdisciplinary way. Therefore, in a democratic context, challenges such as climate change tend to be integrated into debates. The proposal by some states to discuss climate change within the United Nations Security Council highlights the potential of the issue to affect the sovereignty of the whole world.

It was also highlighted that all negative transformations in the world tend to affect first and most acutely women, girls, black people and the poor, while positive changes tend to benefit the ruling classes first. Based on this understanding, a proposal was launched to include climate justice in the process of reviewing the National Public Security Plan.

Other participants argued that there is an anachronistic understanding in Brazil that the issues that approach the National Security Strategy would be hierarchically below the National Defense Policy. Such understanding makes all the difference in the process of reviewing these documents. Furthermore, it was argued that the disconnection between planning and budgeting has its origins in processes that precede the construction of Defense documents. Therefore, there is a need for a disruptive change in these processes. Changes in National Defense Policy and Strategy will only be effective if transformations are conducted at a higher level, through a broad effort to qualify the discussions. Thus, questions were raised, such as: Why is it so difficult to debate national security within Brazilian society? Why is it equally difficult to ad-

dress climate change in defense? These questions precede and justify the difficulties in connecting budgets and strategies.

Some of those present referred to CENSIPAM's contributions to advancing knowledge about how climate change has been manifesting itself in Brazil and to improving national responses to the challenges imposed by this phenomenon. However, difficulties were listed for this information to be transmitted and integrated to other bodies, which results in overlapping tasks and wasting resources.

It was also argued that despite the laconic discourses that point to Brazil as a green power, the country cannot currently be understood as such. However, it was also pointed out that Brazil has the potential to become a power in the environmental area and that much deeper transformations are needed than those already carried out so far for Brazil to assume the credentials of leading the climate agenda in the Global South and in the world. In this sense, it was argued that replacing the fuels used by the Armed Forces could raise the Brazilian status and reputation at the international level. The cost of innovation in renewable energy has been decreasing and, in this context, it is also necessary to consider the possibility of launching an induced demand strategy, which would combine the demands of the Armed Forces for these new technologies with tax incentives, which could result in industrial and competitive advantages. As observed by one of the participants, throughout the discussions several successful experiences of the Armed Forces in terms of preserving the environment were highlighted, however, it should also be considered how the Armed Forces can act in such a way as not to harm the climate system, considering that these two issues - environment and climate - are connected, but not confused.

It was also argued that Brazilian entrepreneurs will be able to adapt to the new standards and requirements that will result from the growing concerns about decarbonization. However, it should be noted that public procurement ecosystems are not compatible with national needs due to regulatory legal frameworks that tend to prioritize foreign products. Public accounts today do not pay taxes when they import, but the national industry does. Regarding regulatory and certification issues, it was warned that the same may happen, and the tendency is for imports to benefit to the detriment of the national product. In this sense, effective measures were advocated to remedy this situation.

Finally, it was pointed out that the Brasilia Declaration, signed during the Conference of Ministers of Defense of the Americas, also deserves mention. The text of this document reveals the objective of the region's governments and defense ministers to preserve the environment and promote climate resilience. It was observed that such processes, including events such as the workshop, signal the rapprochement between the environment and defense sectors. It was also recalled that the review of national defense documents is currently in the interministerial phase, escaping the jurisdiction only in the Ministry of Defense. By pointing out the need to incorporate adaptation and mitigation initiatives in the scope of Defense, the other ministries also indicate a concern and greater proximity to the sector.

2.6.6. HIGHLIGHTS

- Around the world, climate effects have been increasing demands for humanitarian aid, the number of food insecure people, reducing agricultural production and the availability of fishery resources, creating scenarios conducive to epidemics, increasing the frequency and intensity of extreme natural disasters, and intensifying migratory movements.
- The absence of any mention of the subject in National Defense documents is an obstacle to more in-depth analysis and considerations of the challenges posed by climate change to the Defense sector and to the operations of the Armed Forces.

- Recognizing the global influence of climate change, there is a pressing need to integrate considerations of climate justice and environmental impacts into policies in several areas, including Defense. This includes adapting Defense strategies, incorporating climate adaptation and mitigation measures, in order to address the multiple challenges posed by the phenomenon.
- There is a need to promote disruptive changes in Defense structures and processes, including the process of formulating the National Defense Policy and the National Defense Strategy, in order to ensure that they are effective, modern, and capable of responding to contemporary challenges, including the connection between budget and strategy.
- It is important to promote innovation and sustainability within the Armed Forces, which includes the adoption of renewable energy technologies and sustainable practices. Such a move would not only align the Defense Forces with global climate concerns, but also enhance Brazil's role as a leader in green and sustainable initiatives on the international stage.
- Also noteworthy is the need to reformulate the public procurement ecosystem in order to strengthen the National Defense Industry. It is essential to address regulatory and tax discrepancies that currently benefit foreign products at the expense of domestic ones. By aligning defense policies with support for local industry, technological innovations, sustainability, and national autonomy in the Defense sector can be stimulated.
- A collaborative and integrated approach, involving various ministries and sectors of society, should be adopted for the review of Defense documents. Integration between the environment and defense sectors is key to addressing multidimensional challenges such as climate change from a holistic and coordinated point of view.

3. Identified divergences and potential paths of convergence

During the course of the debates, it was possible to identify at least two priority topics that gave rise to contrasting positions among the participants. This section aims to explain these points of controversy, list the arguments presented by the parties to justify their positions and point to possible paths of convergence.

3.1. LINKING ENVIRONMENTAL AND CLIMATE ISSUES TO SECURITY AND DEFENSE

The linking of environmental and climate issues to security and defense matters, one of the main axes of discussion addressed during the workshop, does not represent a consensus among the participants in the debate.

3.1.1. OPPOSING ARGUMENTS

Among those who oppose this movement, there is an understanding that such a link is unproductive in terms of properly addressing environmental challenges, in addition to posing risks of militarization of the issue and increasing hostilities between countries.

The arguments used to justify this fear point to multilateral spaces dedicated to addressing climate issues - such as the UNFCCC, the Kyoto Protocol, and the Paris Agreement - as the locus from which measures, technologies and tools should emerge to address the challenges related to climate change.

In addition, the actors who speak out against this link reinforce that, through their reports, IPCC scientists have been adopting a cautious position regarding the contribution of climate change to the outbreak of violent conflicts. In its latest reports, the panel points to problems such as socioeconomic challenges, poverty, lack of basic resources and the suppression of rights as the biggest causes of tensions and instabilities. Thus, according to the best science available to date, climate change should not be understood as a vector of conflict, even though it may play a relevant role in the midst of pre-existing hostilities and tensions.

Some of those present also highlighted the risks that a widespread understanding of climate change as a driver of conflict will pulverize climate finance - which urgently needs to be provided to developing countries - directing these already scarce resources to humanitarian and peace missions. It was emphasized that the countries that tend to advocate the securitization of climate change are precisely those that should be committed to transferring resources to the countries of the Global South.

Finally, it was argued that the international instruments for dealing with peace and security issues are contained in the UN Charter and in the mandate of the Security Council, a body that lacks equal representation of all member countries of the organization. Therefore, there is no sense in taking the topic to be discussed in a body that does not represent the interests of the countries most affected by climate change, as is the case of Brazil.

3.1.2. ARGUMENTS IN FAVOR

Some of those who spoke out in favor of linking these issues argued that it was not possible to address climate change and security as separate issues. This is because climate change represents multidimensional challenges to human security, which include pressures on food and nutrition security and water security, as well as risks of deaths caused by extreme natural events and the proliferation of new viruses, as evidenced by the IPCC reports. In this context, it was mentioned a study published in *The Lancet* that points out that the number of deaths caused by climate change tends to increase 300% in the coming years.

In addition, it was also highlighted that the deepening of the climate crisis tends to generate pressures on essential infrastructures, affecting energy security and even the defense assets of the Armed Forces, which will result in challenges for the fulfillment of its constitutional and subsidiary functions. As a complicating element, in the Brazilian case, the Defense agencies contribute directly to climate mitigation and adaptation initiatives, given the operations to fight fires and deforestation, the intelligence support to alert and monitoring systems and the support granted by the Armed Forces to the Civil Defense.

3.1.3. POTENTIAL WAY FORWARD AND SOLUTIONS

In an attempt to address the differences that have arisen over the link between climate change and security and defense issues, some participants pointed to the distinction between the process of securitization of climate change and the climatization of public policies. According to some of those present, the fact that climate change becomes part of public policies in the areas of security and defense would not necessarily imply securitization, or even militarization of the issue.

While a process of securitization generally implies a shared understanding of a problem as a threat to the survival of the state, generating risks of militarization and escalation of hostilities, an undesirable and counterproductive scenario with regard to addressing climate challenges, it was pointed out that the intersection between these issues could occur from a distinct process, called "climatization of public policies". Climatization would follow a different dynamic from securitization, requiring

all sectors, including security and defense, to incorporate into their guidelines considerations on how to mitigate and adapt to climate risks.

In this sense, the importance of expanding and qualifying the spaces for debate was emphasized, with the aim of resolving possible doubts and fears and enabling environmental challenges to receive the proper framework and attention from Brazilian decision-makers.

3.2. SHOULD THE ARMED FORCES EXPAND ITS FUNCTIONS IN THE FACE OF CLIMATE CHANGE?

Another theme that gave rise to divergent positions in the debate concerns whether or not the Brazilian Armed Forces need to expand their functions in order to respond to the challenges posed by climate change.

3.2.1. OPPOSING ARGUMENTS

Those who spoke out against expanding the role of the Armed Forces in the face of climate change argued that if they have sufficient resources to fulfill their constitutional role of protecting the State, they will also be able to employ these resources in a dual manner in humanitarian aid operations and support to Civil Defense, in the event of disasters.

Some also argued that due to the scarcity of resources and budget, the Armed Forces should value their priority functions, because, in threatening scenarios, society will demand that they properly exercise their constitutional functions.

It was also emphasized that in the increasingly frequent cases in which the Armed Forces are called upon to provide support to Civil Defense, fundamental activities conducted by the Forces need to be paralyzed, which may negatively affect their constitutional functions. In this sense, it was pointed out that Civil Defense needs to be equipped and structured to respond satisfactorily to the increasingly frequent disaster scenarios.

3.2.2. ARGUMENTS IN FAVOR

Despite recognizing the legitimacy and the basis of the concerns of those who are reluctant to expand the functions of the Armed Forces, other participants argued that this is an inevitable movement, given the severity of the current crisis.

Based on data on the security and defense strategies of other countries, as presented by some of the participants, it was pointed out that, around the world, the Armed Forces have been adapting their materials, doctrines, and functions in the face of complex threats, such as climate change. In this sense, some participants emphasized the need to adapt the materials and training of the military so that the Armed Forces can properly fulfill its priority and subsidiary roles.

Considering that environmental challenges do not recognize borders, the need to improve communication and cooperation channels with Brazil's neighboring countries was also advocated, in order to involve the Defense, intelligence, and environmental sectors, among others.

3.2.3. POTENTIAL WAY FORWARD AND SOLUTIONS

In the Brazilian case, the Defense bodies have a fundamental role with regard to climate mitigation and adaptation initiatives. This is because the Armed Forces provide essential support to operations to combat fires and deforestation - illicit activities that are responsible for most of the country's GHG emissions. On the other hand, the Armed Forces also provide crucial assistance to the population in cases of extreme natural events and pandemics, while other Defense institutions and struc-

tures, such as CENSIPAM, military research centers and intelligence networks, play an essential role in anticipating scenarios and mapping risks, contributing to the improvement of alert and monitoring systems.

In this sense, ways of strengthening the National Defense should be pursued, in terms of budget, personnel and resources, not necessarily in order to give the Armed Forces new functions, but to ensure better conditions for them to perform the priority and subsidiary roles that are already assigned to them by national legislation.

Initiatives such as the inclusion of climate challenges within the scope of Brazilian Defense Policy and Strategy and the creation of a special structure in the Ministry of Defense, dedicated to addressing the issue of climate change in a cross-cutting and integrated manner, were pointed out by the participants as possible ways to address the aforementioned concerns.

4. Opportunities

The enriching data and experiences shared by the participants over the two days of debates made it possible to identify a range of opportunities to advance the integration of Defense and climate change policies in Brazil, in order to contribute to meeting national mitigation goals, consolidating more robust adaptation strategies, and increasing the resilience of the Defense sector. We highlight the following ones:

- Through the information and data presented on the current status of international regimes, such as climate change and the maritime regime, and the commitments made by Brazil in these spheres, it was possible to see more clearly the **convergences between national defense and environmental policies, as well as the joint contributions of these sectors to the achievement of global goals**, such as the Paris Agreement;
- Recognizing Brazil's vocation for technological development in the Defense sector, contemporary challenges should also be understood **as opportunities for technological innovation and for promoting the resilience of Armed Forces to the effects of climate change**;
- **The Brazilian defense industry can benefit from incorporating and developing sustainable technologies and renewable energy.** This not only reinforces the commitment to climate goals, but also provides an opportunity to innovate, gain a competitive advantage in the global market and contribute to Brazil's image as a leader in sustainability and defense technology. This approach may include the development of new materials, military vehicles powered by alternative energies, and defense systems adapted to extreme weather conditions. There is, however, an important role of the Brazilian state in creating the incentives and mechanisms that enable the Brazilian Defense industry to invest in the development of these technologies;
- From the broad **mapping on how climate change has been addressed in Defense policies and strategies around the world** and the discussions on the reverberations of climate change for the sector, there is an opportunity to qualify the national debate on the potential of incorporating the issue in Brazil's Defense documents;
- Also noteworthy is the opportunity to adopt **a more collaborative approach in the processes of reviewing Defense documents, involving both the civilian and military sectors.** This collaboration can lead to more effective integration of diverse perspectives, ensuring that **defense policies are holistic, responsive, and aligned with contemporary climate challenges.** Such an approach also fosters transparency and mutual understanding between the defense and civilian sectors, which is essential for building robust and adaptive defense policies in the context of climate change;
- The identification of an important knowledge gap about how climate change tends to affect the training and employment of the Brazilian Armed Forces stimulates collaboration between military

and civilian research institutions, which should work together to **map data on the vulnerability of Brazilian defense structures and assets to growing climate risks;**

- Considering the worrying developments of the climate crisis, there is also an important **opportunity to resume regionalism in South America.** Brazil has the credentials to assume a leadership position in this process, which tends to favor **the adoption of coordinated responses to effectively address the challenges shared by these states and societies.**

5. Final considerations

The workshop “Defense Policy and Strategy and Climate Change” is a pioneering initiative of the Sovereignty and Climate Center, which has been working to promote and strengthen constructive dialogue between representatives of the areas of environment and Defense in Brazil. Convergences between these two spheres are not exactly new in the Brazilian context. However, considering recent developments, the tendency is for these convergences to become unavoidable in the coming years.

Although it is an initial effort, the workshop produced a very rich collection of data and analysis on how Brazil has been defending its national interests in multilateral negotiations, on the main challenges facing Brazilian decision-makers in a context of planetary crisis, on the contributions of the intelligence sector and the Armed Forces in coping with climate risks, as well as on the possible implications of the topic in strategic regional environments for Brazil, such as South America and the South Atlantic. By offering a panoramic view of how these themes are intertwined at the domestic and international levels, the initiative provided an invaluable asset to support decision-making processes and the consolidation of public policies in the areas of Defense and the environment.

However, while on the one hand, the discussions have made it possible to exchange and expand knowledge on the subject, on the other hand, they have also raised questions and uncertainties that indicate how much we still do not know. How vulnerable are our biomes to the points of no return of distant ecosystems? How to guarantee the security of the Brazilian territory and population in a scenario of profound uncertainties and instabilities? How will Defense infrastructures be affected by the effects of climate change? What will be the fuel models used in the future? How to guarantee a development model that contributes to combating inequalities, protecting the environment and the climate system, and ensuring the rights of future generations? The complexity of these issues is an invitation to the continuity of debates and research, but also to the inclusion of actors and knowledge, often located outside these processes, that have much to contribute to the joint efforts to find solutions.

In this sense, the Sovereignty and Climate Center reaffirms its commitment to act as a catalyst for critical and plural dialogues and to continue to promote the integration of Defense and climate change policies, thus contributing to Brazil’s sustainable development and the strengthening of national sovereignty. Its activities, which include workshops, webinars, and publications, are essential for identifying convergences, overcoming divergences, and offering informed support for strategic decisions on Defense and the environment. This role is fundamental in the search for innovative and inclusive solutions to contemporary challenges. ■

WORKSHOP REPORT

Defense Policy and Strategy and Climate Change: challenges and opportunities for integrating agendas in Brazil
Held on November 22nd and 23rd, 2023, at the facilities of the Management and Operational Center of the Amazonian Protection System (CENSIPAM), in Brasília, Brazil.

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