

The Military Is India's Missing Climate Sector

Raushan Tara Jaswal

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Flares billow from a military tank during a tri-service exercise held in Gujarat, November 2025. Photo: PTI.

India's climate debate and agenda have increasingly become impressively granular, especially in the context of its **updated NDC**. We count the carbon emissions and intensity of power plants, transport, agriculture, industry, waste, steel, and coal, as well as electric mobility and the cost of adapting our cities to extreme heat. Yet, one of the country's and arguably the world's largest consumers of fuel, land, infrastructure and industrial production remains almost entirely outside climate scrutiny: the defence establishment. This article does not present an argument against national security; rather, it states that national security cannot be separated from national climate policy, especially when the military has to operate within the varying degrees of hot summers, unstable mountains, flooded bases and disrupted supply chains, very aware of the interplay of climate change as a security risk.

In fact, the defence sector should also accept that the security sector is a climate actor, especially given that its bases, construction, procurement chains, and high-altitude logistics generate emissions and ecological damage. However, if those costs are neither measured nor disclosed, they cannot be intelligently reduced, and this problem is not only unique to India but rather presents a global blind spot. An estimate puts the carbon footprint of the world's militaries and their supply chains at around **5.5% of global greenhouse gas emissions**; if they were treated as a country, they would collectively have one of the largest carbon footprints.

Though this estimate is merely an approximation, it shows the extent of military contribution, even when military fuel is often buried within broader energy or transport categories; emissions from overseas operations and international bunker fuels are incompletely captured; and the carbon embedded in weapons, metals, electronics, and construction is rarely counted consistently and is often masked as continued invisibility.

When carbon emissions from global conflicts exceeded 30 million tonnes

In fact, this problem becomes more profound when we look at the estimates during the war, which indicated that the United States' post-2001 operations emitted about **1.2 billion tonnes of greenhouse gases** between 2001 and 2017, with a substantial portion attributable to overseas operations. In fact, recent estimates of carbon emissions from the Israel-Gaza conflict exceeded **30 million tons**. While it cannot be attributed to a single military, such estimates should also avoid double-counting; however, excluding these emissions might produce an even greater distortion. War appears in public accounts as a geopolitical and humanitarian catastrophe, but not as a climate event.

India, too, illustrates this very problem, especially in its **Fourth Biennial Update Report** to the United Nations climate regime, which recorded 2,959 million tonnes of greenhouse gas emissions in 2020, excluding land use and forestry, and did not present the armed forces as a distinct emissions category. Defence-related fuel and electricity consumption may be statistically absorbed elsewhere in the inventory, but the public cannot identify the military share, distinguish routine activity from operational surges, or evaluate whether the sector is becoming more or less carbon-intensive, resulting in accounting fiction.

This fiction struggles to answer questions of accountability for aviation turbine fuel used during training, electricity mixes across cantonments and naval bases, movement requirements for fuel, food, weapons, and personnel through mountainous terrain, the lifecycles of aircraft, warships, and missile systems, amongst others. None of these questions requires the public release of movements, fuel depot locations, or even operational plans; rather, a consolidated emissions report can be produced with suitable time lags and carefully defined confidentiality safeguards. The extent of the national security defence should also be treated as a narrow exception rather than as conferring the state with wide discretion.

Disclosing that military aviation consumed a consolidated quantity of fuel in a past reporting year does not necessarily reveal where aircraft are based, which missions they flew or how forces would respond to a future contingency. Where even service-level disclosure creates a demonstrable risk, figures can be combined across services or published after a delay and reported to Parliament's standing committees confidentially, and the Comptroller and Auditor General or another security-cleared technical institution could examine the methodology. Accountability can be designed, but it need not be abandoned.

These guardrails and accounting mechanisms are the need of the hour as India's military and industrial ambitions grow. **India spent \$92.1 billion** on its military in 2025, an 8.9% increase over the previous year, making it the world's fifth-largest military spender. While India is also rightly seeking greater self-reliance in defence manufacturing, though, "indigenisation" does not make production environmentally weightless. It relocates and may even expand the mining, metallurgy, electricity use, chemical processing, transport and waste associated with military equipment.

This is why counting only the fuel burned by soldiers, aircraft and ships would still be wholly inadequate, and a credible inventory must ideally include three layers. The first is direct operational emissions: fuels burned in vehicles, aviation, shipping, generators and training. The second is purchased energy for bases, offices, hospitals and production facilities. The third, which is often the hardest, is the supply chain: steel and aluminium, electronics, concrete, imported components, outsourced logistics, construction and the lifetime use of weapons systems. Without this third layer, a military can appear to decarbonise simply by shifting emissions to contractors and manufacturers.

India does not have to choose between readiness and reform, especially in the defence sector and its climate ambitions. In fact, the limited research on the subject suggests that the two can reinforce each other, as it finds that **simulator-based training can reduce fuel consumption, ammunition use, equipment wear, and logistical costs without compromising training efficacy, thereby** saving the armed forces more than Rs 1,000 crore annually. The same logic applies to buildings and logistics, where solar power and storage at bases can reduce dependence on vulnerable fuel convoys and unreliable grids.

More efficient cooling is not cosmetic in a warming country; it protects personnel while lowering energy demand. Better route planning, electrification of suitable non-combat fleets, shore power for docked vessels, and alternative movement systems in difficult terrain can reduce both fuel use and exposure. These are operational advantages with climate co-benefits, not acts of unilateral disarmament. But carbon is only part of the military's environmental footprint, as the Indian Armed Forces occupy and operate in some of India's most fragile ecosystems, including deserts, forests, coasts, islands, and high-altitude glaciers. **Siachen** is the most powerful symbol. Decades of deployment have generated fuel use, helicopter and ground logistics, human waste, discarded equipment, and non-biodegradable material in an environment where decomposition is extraordinarily slow, leading to contamination and risks to the wider **Indus watershed**.

The climate footprint extends beyond the armed forces' direct operations

Increasingly, projects are being brought under the broad definition of "national security", and the climate footprint extends beyond the armed forces' direct operations to large infrastructure projects justified on strategic grounds, a trend that is increasing day by day. **The Great Nicobar mega-project**, estimated to cost up to Rs 92,000 crore, is a striking example: its proposed port, airport, power plant and township will require the diversion of approximately 130.75 sq km of

forest land and “enhance India’s national security, strategic and defence presence” in one of India’s most ecologically fragile island regions. Yet “strategic and national importance” has also been invoked to withhold portions of the High-Powered Committee’s report that reconsidered the project’s environmental clearance, thereby limiting public scrutiny of its ecological consequences.

The relevant carbon cost cannot be reduced to emissions generated during construction and operation; it must also account for the destruction of an established tropical rainforest, the release of stored carbon and the permanent loss of future sequestration capacity. Compensatory plantations in Haryana cannot reproduce the carbon density, biodiversity or ecological functions of an old-growth island rainforest. Great Nicobar, therefore, demonstrates why national security cannot operate as either an exemption from climate accounting or a justification for obscuring the information necessary to undertake it.

International climate law, especially under the **Kyoto**-era system, afforded special treatment to international aviation and shipping fuels, and to certain multilateral operations, thereby allowing military emissions to escape full national accountability. Even though the **Paris Agreement** did not preserve a blanket military exemption, it did not produce a clear, mandatory and disaggregated military reporting system either. **Military activity can, therefore, disappear** across categories, jurisdictions and supply chains even when some of its fuel use is technically present in an inventory. Hence, climate-security conversation becomes one-directional: the climate threatens the military, but the military apparently does not threaten the climate.

While India’s developmental needs cannot be equated with those of wealthy states, its military footprint is not comparable to that of the United States. But climate justice loses moral force if it becomes a reason to avoid accounting for one’s own actions. Equity determines how burdens should be shared; it does not make emissions vanish, especially when we are **egregiously close to the point of no return**. Hence, equity becomes the centre point of this debate, and India can lead the charge, especially given its history in climate negotiations vis-à-vis developmental and, in this case, military priorities. This could be led by India by pressing for military emissions to become a defined subject in UN climate reporting and even the Global Stocktake, combining a common methodology that separates domestic operations across the three phases, international operations, and supply-chain emissions while preventing double-counting.

Apart from this, separate accounting should also be considered for conflict-related emissions, especially from fires, destroyed energy systems, and reconstruction. Without it, the carbon cost of war remains absent from the ledger precisely when it is most immense.

Without measurement, every promise is impossible to evaluate

While it can be argued that this agenda is unrealistic, especially in the era of rising border tensions and rapidly rising global military expenditure, the opposite is true. A hotter, more unstable world

makes efficient, resilient armed forces increasingly necessary. Fossil-fuel dependence creates logistical vulnerabilities; environmental degradation can undermine the very territories and communities the military exists to protect; opaque accounting produces poor decisions. Climate competence is becoming part of defence competence, but the armed forces cannot be expected to decarbonise on the same timetable, or through the same technologies, as a university campus or a commercial vehicle fleet.

“Not every emission can be eliminated” is a very different claim from “no emission need be counted.” While the former is a practical constraint, the latter is a political choice. India’s climate policy has reached a stage where the easy omissions matter. Once that distinction is visible, Parliament and the armed forces can debate trade-offs honestly, invest in the most effective technologies and reject superficial claims of “green defence.”

Measurement is not the whole solution, but without it, every promise is impossible to evaluate. The military’s environmental footprint is not marginal simply because it is hidden, and it is not disloyal to measure the costs of national defence. On the contrary, a state confident in both its security and its climate leadership should be able to ask what its armed forces consume, what its defence industry embeds, what its deployments damage and what can be changed.

Raushan Tara Jaswal is Assistant Professor and PhD Candidate, Jindal Global Law School, O.P. Jindal Global University, Sonapat, Haryana and Incoming Doctoral Researcher, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany.

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