

Accelerating Sustainable Training in the Armed Forces: A Simulator Based Approach

Date: 5th June 2023,

Time: 10:30 AM – 1:00 PM

Venue: Juniper Hall, India Habitat Centre, Lodhi Road, New Delhi-110003

Background Note

Synthesis of the IPCC's 6th Assessment Report released in March 2023, spells out climate change's disastrous consequences on the environment in the coming decades. The nature of the problem is unique, the impact is all encompassing, and the risks to both infrastructure and human life are high. It also underscores the urgency of taking more ambitious action and, if countries act now, the world still has a chance to secure a livable and sustainable future for all.

While the goal of the defense sector is ensuring national protection, however rising GHG contribution in Defence operations require urgent actions that can decarbonize the sector. Global defense industry's contribution to worldwide CO₂ emissions can increase from its current level of 2% to 25% by 2050¹. From an economic standpoint the military sector is one of the largest spenders in the world. In 2020, global military expenditure touched \$2 trillion², which is almost the equivalent of GDP of several developed countries. Thus, given the magnitude of its operations which is comparable to that of a country, it is imperative that collectively the defense industry must adopt strategic initiatives focused on reducing its carbon footprint.

Training Simulators and Sustainability

The report *Climate Change and National Security: Preparing India for New Conflict Scenarios* (The Indian National Interest Policy Brief, 2008), concluded that "India needs to develop military capabilities to address a range of new strategic scenarios including Climate Change". From infantry weapons to air defense systems and tanks to fighter jets, simulators play a critical role in reducing significant dependence on on-field training. This makes strong environmental sense as transition to simulator-

¹ Dimitrova et al 2021, The Growing Climate Stakes for the Défense Industry, BCG, Available on <https://www.bcg.com/publications/2021/growing-climate-stakes-for-the-defense-industry>

² <https://ceobs.org/the-militarys-contribution-to-climate-change/>

based training reduces consumption of fossil fuels, use of ammunitions, wear and tear of on field equipments and the associated environmental impacts alongside its production and consumption value chain. Hence simulator usage can help the defense forces significantly progress towards greening their training practices.

They generate near real responses to various situations at a fraction of the time training cost. Further, they help in compressing time and removing extraneous details, providing better learning experience, in terms of skills, process, and knowledge. Opportunities also exist in other areas including, energy efficient defense equipment, transition to sustainable fuels, use of renewable electricity sources.

Recognizing its relevance, India's defense ministry introduced the New Simulator Policy in 2021 for enhanced utilization of simulators by armed forces to impart safe and cost-effective training. The aim of the policy is to transform to simulation-based training across all military domains, while focusing on indigenous design and development to achieve cost-effective, safe and smart training. While the introduction of the policy is a great effort on the behalf of the government, it falls short of highlighting the environmental benefits that may be associated with a largescale transition towards simulator-based training method.

Report Launch and Panel Discussion on World Environment Day

In order to understand how cohesively simulator-based training can help the defence forces reduce their carbon footprint, TERI has undertaken a detailed study to assess this relationship. Through this exercise it has assessed the environmental benefits and found that the technological intervention by simulators can help the Armed Forces reduce its overall carbon emissions without compromising on training efficiency, thus enabling defence personnel to undertake critical military interventions, wherever required. Given that global emissions for the defence sector will rise considerably over the next couple of years, we believe that the increased adoption of simulated training will help the military assist India towards achieving its climate commitments.

On the occasion of the World Environment Day, (i.e. 5th June 2023) the report on environmental and economic benefits of adoption of simulator based training will be launched and will be followed by a panel discussion. This launch will have eminent dignitaries from the defense space who will deliberate and discuss the role of simulator based technological interventions, and how they can help India's military sector reduce its GHG emissions without compromising on training efficiency.