



# ISSUE BRIEF

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## Biological Warfare and the Indian Armed Forces



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### Introduction

Military history is a subject which an officer cadet is introduced to, while he undergoes basic training at the Academies in our country. This is a subject which is extremely important and is the 'bedrock of military analysis of an officer'. The starting point of the subject is the "Principle of War", as any military leader would make use of these principles, multiple times during his tenure in the Armed Force. However, Warfare has its nuances and one has to change the way of dealing with war as per the requirement. It would be pertinent to note the statement of Field Marshal Sir William Slim who stated that, "Many years ago, as a cadet, hoping someday to be an officer, I was pouring over The Principles of War listed in the Old Field Service Regulations, when the Sergeant Major came upon me. He surveyed me with kind amusement. Don't bother your head about all these things, my lad, he said. There's only one principle of war and that's this- "Hit the other fellow, as quickly as you can, as hard as you can, where it hurts him most, when he ain't lookin".

The Joint Doctrine of the Indian Armed Force published by Headquarters Integrated Defence Staff, Ministry of Defence, in June 2007, laid out the following basic Principles of War for the Indian Armed Forces: <sup>1</sup>

### Key Points

- Biological Warfare is a component of biotechnology. At present 17 countries are suspected of having biological warfare programs.
- The Biological and Toxin Weapons Convention is supported by 183 countries who pledged to disavow biological weapons.
- Intelligence with respect to Biological Warfare is an important aspect for the Indian Armed Forces.
- There is a need for a Project Management Team who will function under the Department of Military Affairs and observe the subject.
- The Institute of Nuclear Medicine and Allied Sciences (INMAS) should actively cooperate with the project.



- Selection and Maintenance of Aim
- Maintenance of Morale
- Offensive Action
- Surprise
- Concentration of Force
- Economy of Effort
- Security
- Flexibility
- Cooperation
- Simplicity
- Administration
- Intelligence

Out of all these principles, the 'Principle of Surprise' is the most important- the world has been surprised by the Coronavirus (COVID-19) which probably first occurred around October 2019 and is likely to have over 35 million cases and 10.35 lakh deaths around the world. Nonetheless, the moot question being asked all over the world is: Whether it is 'just' a case of health or is it a global war? The current scenario proves the growing significance of Biotechnology and Biological Warfare.

### **Close Link Between Biological Warfare and Biotechnology**

One of the components of biotechnology is Biological Warfare. Biological Warfare is the use of 'disease producing agents' to harm or kill the adversary's military forces, population, food and livestock. This could be delivered by conventional warhead, a human being or other 'easily available' means. The payload could be any living or non-living virus, micro-organism or a bio- active substance. This could result in widespread destruction like for example plague, anthrax poisoning, etc. The oldest example of biological warfare could be traced back to 14<sup>th</sup> century, whereby Mongol Forces reportedly catapulted 'plague-infested cadavers' into the Black Sea port of Caffa, thereby starting the Black Death Pandemic in Europe.<sup>2</sup>

Biological warfare can also be triggered by the contamination of food with any herbicide, pesticide or a heavy metal, thereby resulting in food poisoning. Anti-crop warfare is another means of biological warfare whereby, pathogenic organisms, that can kill crops and destroy buffer stocks of food, are released intentionally with an aim to cause panic and consternation



for the adversary; resulting in famine, malnutrition, decline of economic conditions and unsatiated hunger amongst the people. A case in point is the use of 'defoliants' to destroy sweet potatoes, sugar beets, soya beans, cotton, wheat and rice, during the Vietnam War (1955-75).<sup>3</sup>

The advancement of biotechnology further strengthened the concept of biological warfare. In the present world order, 17 countries are suspected of having biological weapon programs- they are Canada, China, Cuba, France, Russia, Germany, Iran, Iraq, Israel, Japan, Libya, North Korea, South Africa, Syria, the United Kingdom and the United State.<sup>4</sup> Many countries have also recognised biological weapons as "poor man's weapon of mass destruction", which could be used to deter attacks from stronger nations. It is also a relatively cheap force multiplier that can 'possibly' compensate for asymmetry in conventional arsenals. However, identification of offensive biological weapons programme is difficult at this stage.

### **Silent Historical Progress**

Attempts to use biological weapons date back to 400 BC- when the Scythian archers used to infect their arrows by dipping them in decomposing bodies or in blood mixed with manure. During the First World War, the Germans developed anthrax, glanders, cholera and had allegedly spread plague in St Petersburg and infected mules with glanders in Mesopotamia. They also attempted to do the same with the horses of the French Cavalry. However, the first major control measure towards the use of biological agents came with the signing of the Geneva Protocol of 1925, that was signed by 108 nations. It is rather unfortunate that no method for verification of compliance was addressed.

During the Second World War, the Japanese forces operated a secret biological warfare research facility (Unit 731) in Manchuria, which carried out human experiments on prisoners. In 1942, the United States formed the War Research Service, which was tasked to develop biological agents by June 1944, to counter Germany's aggression. The British also made similar tests for a possible German offensive.

Post the Second World War, biological warfare was continued to be used by the powers like USA and erstwhile Soviet Union. For instance, in Vietnam biological agents were used sporadically by the United States from 1960 to 1968. The agent was to ensure limited spread of pneumonic plague from germs of the disease spread aurally, thereby causing more loss of human lives. The erstwhile Soviet Union was also suspected of supplying biological



weapons, mainly Mycotoxins, to the Government forces, to kill dissident tribal people and enemy soldiers in Laos, Cambodia and Afghanistan.<sup>5</sup> Meanwhile, the Biological and Toxin Weapons Convention- banning the entire category of biological and toxin weapons- was opened for signature on 10 April 1972. This was to be effective from 26 March 1975 —was ratified by 22 countries and signed by 109 countries.<sup>6</sup> Currently, 183 countries have joined the Convention and pledged to disavow biological weapons. United States and India have also ratified the treaty. However, the treaty lacks significant provisions for enforcement or verification. This has enabled a number of signatories to the treaty to maintain active weapon programmes, as with the advancement of biotechnology such weapons are easy to produce and is also cost-effective.

The ongoing COVID-19 pandemic, comes as a wake-up call for the world powers to realise the damages that could be inflicted by the unconventional means of war. Therefore, it could be said that, a paradigm shift is being observed from conventional warfare to non-conventional warfare.

### **The Indian Armed Forces**

During an event organised by the DRDO in July 2018, the former Defence Minister late Manohar Parrikar remarked that, India must be well prepared to deal with chemical and biological warfare in the wake of changing threat perception and security reasons.<sup>7</sup> It is interesting to note that, the current Chief of Defence Staff (at that time the Chief of Army Staff) who was also present for the meeting echoed the Defence Minister's concern and said that the Armed Forces must be prepared for all kinds of threat.<sup>8</sup> A few issues which need consideration as far as the Indian Armed Forces are concerned are as follows:

- Biotechnology industry surpasses the aerospace industry.
- India is at a nascent stage in the field of biotechnology.
- Biotechnology should not be seen in isolation. A biological weapon can be used easily.
- BTWC does not provide enough space to control existing developments in the field of biotechnology.
- Issues need to be discussed by India at the regional level.
- Biotechnology is likely to be a lead technology in the current century.



- India has to be cautious on Agro terrorism and pharmaceutical companies spreading a biological agent for earning high profits.
- The biotechnological threat is increasing exponentially and there is a need to analyse the threat to get methods to solve the problem.<sup>9</sup>

The Indian Armed Forces however, must have a fresh look at Biotechnology and undertake the following measures:

- Department of Military Affairs (DMA) should form a special Project which should be suitably composed.
- The Project should comprise of the three services, DRDO, a representative from the ministry of Health a representative from the Ministry of Finance and Representative from the Ministry of Defence.
- The Project must have the capability of knowing the latest viruses and also details of genetically engineered viruses.
- The Project must keep in touch with the laboratories to keep ahead of impending biological weapons and genetically engineered products.
- The Project must also look at the possibility of India's crop and livestock being harmed and provide a response mechanism for the same.
- The Project must be given the same importance as Atomic Energy Commission and ISRO. The powers should be such that results are produced at all cost.
- The Project could function as a Biological Warfare Commission and create a doctrine.
- The Institute of Nuclear Medicine and Allied Sciences (INMAS) should actively cooperate with the project.
- Issues would be emerging as the project formalises and navigates itself in the biological warfare world.

We would definitely improve once the project takes off. This will enable us to be proactive, while dealing with Biological Warfare.



## Conclusion

The entire world has been surprised by COVID-19. The Indian Armed Forces must view the situation proactively. They must look at research in this field, gather intelligence and assertively deal with all incoming situations.

## End Notes

<sup>1</sup> P K Mallick, "Principles of War: Time for Relook", *Manekshaw Paper* No 12, 2009, CLAWS, p.10. Available at [https://archive.claws.in/images/publication\\_pdf/1249965562Mankshaw%20Paper%2012.pdf](https://archive.claws.in/images/publication_pdf/1249965562Mankshaw%20Paper%2012.pdf). Accessed on 30 September 2020.

<sup>3</sup> Mark Wheelis, "Biological Warfare at the 1346 Siege of Caffa", *Emerging Infectious Diseases Journal*, Vol 8 No.9, September 2002. Available at [https://wwwnc.cdc.gov/eid/article/8/9/01-0536\\_article](https://wwwnc.cdc.gov/eid/article/8/9/01-0536_article). Accessed on 30 September 2020.

<sup>3</sup> L A Cole, *The Eleventh Plague : The politics of biological and chemical warfare* (New York: W H Freeman and Co. 1998), p.289.

<sup>4</sup> "The Biological Threat", NTI (December 2015). Available at <https://www.nti.org/learn/biological/>. Accessed on 01 October 2020.

<sup>5</sup> Animesh Roul, "State Actors and Germ Warfare: Historical Perspective", *CBW Magazine* (July-December 2010), MP- Idsa. Available at <https://idsa.in/cbwmagazine/StateActorsandGermWarfarearoul>. Accessed on 01 October 2020.

<sup>6</sup> United Nations Office for Disarmament Affairs (UNODA). Available at <http://disarmament.un.org/treaties/t/bwc>. Accessed on 01 October 2020.

<sup>7</sup> PTI, "India must be prepared for biological warfare: Manohar Parrikar", *The Economic Times* (Updated on 11 July 2018). Available at <https://economictimes.indiatimes.com/news/defence/india-must-be-prepared-for-biological-warfare-manohar-parrikar/articleshow/57435338.cms?from=mdr>. Accessed on 02 October 2020.

<sup>8</sup> Ibid.

<sup>9</sup> Report prepared by Gunjan Singh, "Role of Biotechnology in Defence", MP-Idsa (05 September 2008). Available at [https://idsa.in/event/rolebiotechnologyindefense\\_alele\\_050908](https://idsa.in/event/rolebiotechnologyindefense_alele_050908). Accessed on 02 October 2020.

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