

VIRUS AS BIO-WEAPON: CONTESTED ORIGINS OF NOVEL CORONAVIRUS

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“Someone doesn’t have to weaponise the bird flu. The birds are doing that,” says Ellis Cheever of Centre for Disease Control (CDC) in the 2011 movie, *Contagion*, when asked by the United States Homeland Security whether someone had weaponised the flu instead of deploying explosives to ‘launch an attack’ at a crowded marketplace. As prophetic the movie turned out to be, the scene visualised the peculiar nature and manifestations of this threat: an invisible organism that is hatched in nature, but, incidentally, can also be appropriated by humans for destructive ends.

The spectre of a microbial pathogen ploughing through every habitable land on Earth infecting close to four million and killing more than two and a half lakh can spawn disbelief on the kind of mass disruption and deaths a single-source microbe can unleash.¹ With little resistance put up by a humbled human race and no reliable cure in sight,² the question whether the SARS-Co-V-2

((Severe Acute Respiratory Syndrome-Coronavirus-2) was nature’s retort to encroaching mankind or it was a man-made assault on humanity continues to hang as a mystery.

While most reports pointed to Wuhan’s wet markets and its wild livestock as source of a zoonotic (animal-to-human) transmission, a parallel narrative of the virus having originated in or spilling out of a laboratory, intentionally or by accident, has again gained traction. With global opinion being mobilised against China to make it accountable for the virus outbreak, the resultant geopolitical firestorm does not appear to be a mere fleeting affair. Rather, the omnipotent imprint of the pandemic is likely to generate new interest on the exploitation of biological agents for political ends which, in turn, could necessitate greater normative impulses to mitigate the consequent dangers.

Even before US President Donald Trump described the CoV-2 as the ‘China Virus’, sections of the American media had run stories on the presence of a virology institute in Wuhan and insinuating the lab’s linkage with the outbreak. Subsequently, they picked up murmurs in sections of the Mandarin press (and social media), based outside the mainland, on the possibilities of the virus having leaked from a Wuhan lab, where it was claimed that the security was enhanced after the outbreak.³ That Wuhan has China’s only BSL-4 (Bio-Safety Level-4 being the highest grade) lab⁴ – the Wuhan Institute of Virology (WIV) with its National Biosafety Laboratory reportedly being Asia’s only repository of the SARS-CoV and Ebola specimens – was good enough to buttress these theories.⁵ Pacing up the spotlight on WIV was a leaked report quoting earlier US Embassy cables from Beijing highlighting lax security at the Wuhan lab.⁶

Among the surmises include claims that the virus, going by its aggressively virulent nature, could have been engineered in Wuhan lab as a bio-weapon (or with ulterior commercial motives including a vaccination project), or that an experimental sample could have ejected out by accident through an infected employee or an animal specimen. In fact, despite initial reports that the first human transmission could have occurred at the Wuhan market, subsequent conjectures veered around various theories including that the patient zero was a WIV researcher and that animal specimens used for experiments were sold out to the local wet market.

The Chinese attitude too has been unhelpful: concealing information on the virus origins and deaths, and restricting research on these matters on the one hand, and indulging in aggressive diplomatic battles on the other. Having countered the initial negativity by casting aspersions on the US military as having planted the virus during a joint-exercise and pointing to corona traces in influenza already prevalent in the US, the Chinese officialdom was belligerent towards countries that sought international investigation on the outbreak and Chinese complicity in it.⁷ While Trump putting the spotlight on China might be to cover up his lax domestic management of the COVID-19 spread, the call for international investigations, the World Health Organisation's credibility deficit apart, is necessitated by global concerns on the lack of transparency regarding the initial Wuhan imprints and wildlife trade in virus-prone wet markets despite they being causal for many outbreaks.⁸

Notwithstanding the many inferences made about the Wuhan origin of the CoV-2, the global health science community has, by and large, been unanimous in dismissing the possibility of the CoV-2 being a lab-engineered pathogen. The authoritative medical journal, *Lancet*, published a joint statement expressing solidarity with the Chinese scientists and "condemning all 'conspiracy theories' that suggest COVID-19 does not have a natural origin."⁹ The scientific consensus against a lab-origin of the virus is based on results of a handful of genome-sequencing of the COVID samples undertaken by various collaborative ventures. The foremost among them has been a multinational study which concluded that the backbone of the SARS-CoV-2 was not based on the previous seven CoV versions,¹⁰ thus rejecting the possibility of a lab output. The study concludes:

While the analyses suggest that SARS-CoV-2 may bind human ACE2 with high affinity, computational analyses predict that the interaction is not ideal and that the RBD sequence is different from those shown in SARS-CoV to be optimal for receptor binding. Thus, the high-affinity binding ...is most likely the result of natural selection on a human...This is strong evidence that SARS-CoV-2 is not the product of purposeful manipulation...improbable that SARS-CoV-2 emerged through laboratory manipulation...the genetic data irrefutably show that SARS-CoV-2 is not derived from any previously used virus backbone.¹¹

While this study infers that the natural selection happened in an animal host through zoonotic transfer, other studies also echo the contention that the CoV-2 has its origin in a natural host (bats) before their zoonotic transfer, possibly through an animal intermediary.¹² Another study postulates that the "RNA sequences closely resemble those of viruses that silently circulate in bats, and... implicates a bat-origin virus infecting unidentified animal species sold in China's live-animal markets." These assessments validate the prevalent thinking about intermediaries being the transfer host for the CoV-2, like (civet) cats being transfer hosts in the 2002 SARS outbreak, though the transmitter in the latest outbreak is yet to be established notwithstanding numerous references about pangolins being a possible one.¹³

Notwithstanding the global calls for investigation into the coronavirus origin and occasional banter on the lab linkages, ongoing assessments including by the US intelligence community has ruled out the possibility of the virus being a lab-developed bio-weapon. However, China's actions continue to be suspect, particularly its intellectual espionage¹⁴ and the surreptitious inroads it had made into Western research ventures.¹⁵ Irrespective of where the truth lies, many feel that the contagion was the closest manifestation of a bio-weapon being unleashed on a global scale. The UN chief, Antonio Guterres, for instance, had described the pandemic as providing "a window onto how a bioterrorist attack might unfold."¹⁶ Though alluding only to threats from non-state actors "gaining access to virulent strains," between the lines are clear pointers on the likely intentions and capabilities of states in this domain.

In fact, how CoV-2 has brought nations to a calamitous halt – impeding all ways of lives and

impairing public health systems world over – propels the need to contemplate the potential implications if states decide to ‘weaponise’ biological organisms as a means to covertly wreak havoc on competitor economies and societies. That such organisms can be developed on frugal budgets in state-owned labs and deployed stealthily, makes them an attractive option when asymmetry and subversions are sought against rivals. Quite similar to the cyber domain turning into a proxy conflict zone, the use of biological means to trigger large-scale disruptions and deaths in rival nations is an eventuality that has potent strategic imminence. Furthermore, the cut-throat race to monopolise vaccine pathways also aggravates the risks inherent in many of the state-supported research and development forays that evade public scrutiny.

Though the Biological Weapons Convention (BWC) has established norms against the weaponisation of biological agents, the Convention innately provides the loopholes for misuse and diversion by enabling the scope for their prophylactic and peaceful applications.¹⁷ Furthermore, the failure of state-parties to finalise a credible verification mechanism and a weak oversight framework,¹⁸ dependent on the declaration by states, is a significant reminder that the shield against the weaponisation of biological weapons remains fragile and vulnerable to the contingencies of the international system, particularly the great power politics.

Views expressed are of the author and do not necessarily reflect the views of the Manohar Parrikar IDSA or of the Government of India.

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