

Reinforcing the Unsettled Problem of Biological Weapon Convention in Pakistan: Reasons of Concern and Action

Sir,

The current pandemic has relentlessly proved the damaging effects a disease outbreak can have on mankind, whether they are natural, unintentional, or deliberate in origin.¹ Evidently, biological weapons can be used to cause disease outbreaks intentionally. As a lesson from the coronavirus disease 2019 (COVID-19) pandemic, extreme caution and alertness for newly emerging disease outbreaks that may be deliberate must be adopted beforehand.

Moreover, during the COVID-19 outbreak, the readiness shown by life health sciences in the rapid development of COVID-19 vaccines and provision of guidelines about the medical treatments provided a new hope for prompt measures to any future deliberately introduced disease.²

For the control of biological weapons, constructive and potent public health measures are essential. The development and maintenance of such weapons can only be discouraged by reducing the impact of diseases and the severity of harm caused by these biological weapons. The collaboration and teamwork of biosafety and security experts have a potent role in reducing the risks of future infectious disease outbreaks.³

Moreover, rapid advances in the fields of life sciences and biotechnology and their conjunction with new technologies have sensational methodologies and different applications to improve the living comforts of humans and the natural world.⁴ However, acting as a two-end sword, these modern technologies pose risks to global health and security when they are misused accidentally. Furthermore, factors that seem to reduce the barriers to the appropriate use of these advancing technologies and related pathogens as biological weapons, are the low cost and widespread open access to these advanced capabilities.

It is recommended to constitute a scientific review process that should methodically monitor and review global developments in science and technology (S and T) and report to the relevant authorities. In addition, efforts must be put to enhance confidence that these biological activities are only being carried out for peaceful purposes through continuous vigilance. Biosecurity guidelines for codes of conduct for scientists should be reviewed, endorsed, and shared with scientific societies locally and interna-

tionally and must spread inclusive education, and awareness to highlight the importance of emerging risks associated with the advanced life science research and technology.⁵

It is urged that Pakistan should also implement and amend the required legislative measures, in accordance with their constitutional processes, to forbid and prevent the development, production, transfer, acquirement, withholding and use of biological weapons and to guarantee the safety and security of biological agents, and toxins used for peaceful activities.

COMPETING INTEREST:

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REFERENCES

1. Hiscott J, Alexandridi M, Muscolini M, Tassone E, Palermo E, Soultsioti M, et al. The global impact of the coronavirus pandemic. *Cytokine Growth Factor Rev* 2020; **53**:1-9. doi: 10.1016/j.cytogfr.2020.05.010.
2. Saha RP, Sharma AR, Singh MK, Samanta S, Bhakta S, Mandal S, et al. Repurposing drugs, ongoing vaccine, and new therapeutic development initiatives against COVID-19. *Front Pharmacol* 2020; **11**:1258. doi: 10.3389/fphar.2020.01258.
3. Domingo JS. The biological weapons convention (BWC) and biosafety diplomacy. *Applied Biosaf* 2008; **13(2)**:86-8.
4. Samarpita S, Li X. Leveraging exosomes as the next-generation bio-shuttles: The next biggest approach against Th17 cell catastrophe. *Int J Mol Sci* 2023; **24(8)**:7647. doi: 10.3390/ijms24087647.
5. Wang L, Song J, Zhang W. Tianjin biosecurity guidelines for codes of conduct for scientists: Promoting responsible sciences and strengthening biosecurity governance. *J Biosaf Biosecurity* 2021; **3(2)**:82-3. doi:10.1016/j.jobb.2021.08.001.

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