



DRUG DRONES: SURFACING PROBLEMS FOR INDIA'S NATIONAL SECURITY

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A quadcopter or drone carrying drugs that originated from Pakistan was shot down by the troops in the Gurdaspur district of Punjab.¹ The drone was identified as a DJI Matrice 300 RTK, made in China, with a payload capacity of 9 kg. Continuing aerial incursions into India's airspace, Pakistan is now using the best commercial drones for airdropping drugs into the regions of Jammu and Punjab.² These drones are specifically equipped with Advanced Encryption Systems (AES) and can also be used for surveillance and spying. The issue draws attention to the multiple uses of drones for illegal purposes and highlights the challenges and security threats they pose to national security. Therefore, it becomes quintessential to deploy Counter-Unmanned Aerial Systems (C-UAS) at the Indian borders and ports, especially those shared with Pakistan, to mitigate the drug menace.

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Drug Smuggling: An Emerging Problem

Drug smuggling incidents have become an epidemic in India. For instance, the Border Security Forces (BSF) recently shot down a drone in the Sri Ganganagar district of Rajasthan and recovered 2.6 kg of heroin worth more than ₹12 crore in the international market.³ The drone was carrying not only drugs but also an AK series rifle. It is surely because of India's proximity to opium-producing countries like Afghanistan, Pakistan, and Iran in the west, as well as Myanmar, Thailand, and Laos in the east. The former known as the Golden Crescent (areas comprising of Afghanistan, Pakistan and Iran) and the latter as the Golden Triangle (areas comprising of Myanmar, Thailand and

Laos). As the demand for synthetic drugs such as pharmaceutical opioids and illicitly produced methamphetamine has increased globally, the trafficking and manufacturing of these drugs have also risen to significant extents. This has given an opportunity for industrialists to engage in the illicit manufacturing of drugs and expand their supply chain. As a result, the country has witnessed an increase in the seizure of drugs over the past few years. According to a report by the Narcotics Control Board of India, an almost 70 per cent increase was seen in the seizures of opium in the period from 2017 to 2021.⁴

There is an interlinkage between drug trafficking and criminal networks. The drug trafficking that takes place in India through the 'Golden Crescent' and the 'Golden Triangle' has become a source of funding for terrorist groups. The money generated through the illegal smuggling of drugs is used to fund insurgent movements across the region of Jammu and Kashmir. Sikh militant groups in Punjab are also known to be responsible for routing drugs into Indian territory.⁵ Terrorist groups accumulate a lot of funds that are generated through the drug trade, and these funds not only accelerate terrorist attacks and trade but also give them the power to hire more youth to expand their operations.

These routes aren't only exploited by the drug cartels, but weapons and explosives also find their way into India through them.⁶ The border between India and Pakistan is the most prominent route for the illegal trafficking of drugs into India. The western part of India is majorly impacted by the illicit heroin trade from Afghanistan, while the east is affected by Myanmar. Drug trafficking usually takes place through land and air routes, but since security at the border has increased in recent years, the smugglers are now exploring sea routes too.⁷

Druggy Drones

The air routes primarily involve the usage of drones with a significant payload capacity to supply drugs. It can be clearly seen that drone technology is a double-edged sword. Though it is commendable that technology is advancing, it is also being misused by terrorists, criminals, and civilians. The software that radars use is programmed to be limited to the detection of specific sizes and noise of drones. Hence, due to their small size and plastic bodies, they are not easily detectable by conventional radars and manage to escape radar detection. The small size of the drones also makes them extremely useful tools for terrorists.

There have been many cases of the BSF shooting down drones along the Indo-Pak border in Punjab, Jammu, and Rajasthan. For instance, in January this year, a patrolling party of the Punjab Police and the BSF together shot down a six-winged drone that carried 5 kg of heroin. Another quite similar case happened in Rajasthan, where 6.5 kg of heroin was seized.⁸ The doubling of the drone menace since 2021 to date at the Indo-Pak border has worried not only the BSF but the police of the bordering states.⁹

Earlier, such cases were prominent only in Punjab, but now the humming of the drones can also be heard in Rajasthan. This draws attention to a discussion about increasing surveillance in all the border areas that are largely susceptible to drug and ammunition trafficking. This will not only curb the drug drone menace but also act in favour of counter-terror mechanisms.

Mitigating the Drug Drone Threat

In November 2022, the Intelligence Bureau (IB) was instructed by Home Minister Amit Shah to urgently install anti-drone systems at the Indian borders and ports concerning the rise in drug trafficking through drones.¹⁰ However, securing long-range borders as well as ports with anti-drone technologies will require heavy investment. Therefore, establishing a C-UAS with longer detection and destruction ranges to cover wide areas of surveillance and reconnaissance should be a priority for the government, the IB, and other national security agencies. A search for 'low-cost technology solution' ought to be initiated so as to mitigate not only the UAS threat from the international borders but also the supply of ammunition through underground tunnels.

Recently, the Indian Army came up with an indigenous method to counter drone intrusions in border areas. The Indian Army trained Kites to prey on enemy drones. This was the first time birds were used for C-UAS operations. The training exercise was a part of the Indo-US wargame *Yudhabhyas* in Auli, Uttarakhand.¹¹ This method was undoubtedly economical and feasible in comparison to other alternatives; however, it poses a risk to the lives of birds. Birds can injure themselves with the sharp blades of the drone propellers. Training birds of prey requires extra human effort, including special trainers that can take up perhaps an year to train each of these birds.

The Indian Army has been testing drone jammer systems in Jammu and Punjab since January 2023 and has received positive and satisfactory results after their deployment. This testing was a consequence of the drug and weapon menace created by drones at the country's borders. Indeed, it is an additional guard that has helped India protect its national security. The spoofing and jamming systems that have been installed at the borders help tweak the satellite links of the drones.¹² One link connects to the Global Positioning System (GPS) and the other to the handler of the device across the border, which remotely controls the vehicle. Although the installations and results of the drone jammers have been successful, there is a need to install additional devices so as to increase the surveillance areas. Perhaps armed drones will be used as well, so as to conduct retaliatory attacks.

It is crucial for the officers to realize that carrying anti-drone guns has its own

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repercussions. Since the soldiers assemble near the downed drone to collect the drug package, they are not really aware of what is inside. There is a high chance that it could be a timed bomb that can explode once shot. It could perhaps also be a biohazard weapon that can cause severe damage to all living beings. Therefore, it is suggested that Artificial Intelligence (AI) be induced in the C-UAS installed at the borders so that it can help detect the characteristics of a drone and the parcel that it is carrying from a defined distance. A prior prominent action can hence be taken against the drones. AI might also be able to help in detecting the origin of the drone in order to find out the whereabouts of the controller as well. Once the controller of the drone is found, the whole network of the drug racket can be busted. However, this will only happen if the two involved countries are willing to sit down at the negotiating table to solve their mutual problems of terrorism and drug trafficking.

It is critical for the Indian armed forces to install hybrid detectors with sensor fusion technology that can disable blind spots and make the neutralization of drones much easier.

Additionally, though there are anti-drone systems already placed at the Jammu and Kashmir border with Pakistan, they have to be displaced to different positions after periods of time so as to conduct surveillance in a variety of areas. This increases the time and effort required for the soldiers to shoot down a drone.¹³ There might also be cases where the soldiers have to dismantle the anti-drone devices and re-install them at a different location.

It is critical for the Indian armed forces to install hybrid detectors with sensor fusion technology that can disable blind spots and make the neutralization of drones much easier. The installation of weaponized cameras that can immediately shoot drones carrying drugs would be extremely useful. Geo-fencing is another such method that is not only dynamic but also static. This method is a dynamically generated virtual perimeter that could be set for a predefined area, and that restricts the drone from entering the defined area. There has to be an establishment of high-power microwave (HPM) devices that generate electromagnetic pulses (EMPs) that disturb the electronic devices within their perimeter. It must be ensured that the HPMs are programmed in such a way that they do not block the electronic devices that are stationed at the borders for communications and other relevant operations. Another factor that can play a very important role in securing India's borders with Pakistan in terms of drone intrusions could be increasing the height of the fences altogether so as to make small drones difficult to fly over such heights. Perhaps the floodlights can add another advantage during the dark hours of the night. Indeed, the implementation of these processes might present many challenges, but they have to be applied sooner or later, regardless.

Conclusion

Clearly, emerging technologies have beneficial applications in the domain of security and other logistical employments. For example, UAVs have played a critical role when it comes to intelligence, surveillance, and reconnaissance (ISR) and other military uses. However, though these technologies are extremely shaping the military domain in a positive way, they bring along many challenges as well.

The already-built and installed anti-drone technologies must be enhanced and upgraded to cover a large area of surveillance. There needs to be more anti-drone systems installed at the border areas, covering Pakistan's shared borders. The manufacturing of indigenous anti-drone systems must be given priority. It is important for the governments of both countries to realize that cooperation between the two countries, in terms of spreading awareness among the youth and discouraging illegal trade, is a necessity that must be taken care of without any delays. The C-UAS are becoming smarter and more sophisticated, and they are using machine learning and AI to enhance their operational capabilities. Lastly, innovative solutions and out-of-the-box thinking are desired to curb the drone threat from across international borders.

Notes:

¹ "BSF shoots down Pakistani drone along International Border in Punjab", *The Tribune*, October 14, 2022, <https://www.tribuneindia.com/news/punjab/bsf-shoots-down-pakistani-drone-along-international-border-in-punjab-441194>. Accessed on March 17, 2023.

² Yudhvir Rana, "Pakistan sends high-end drone to airdrop drugs in Punjab; it is capable of spying too", *The Times of India*, February 20, 2023, <https://timesofindia.indiatimes.com/city/chandigarh/pakistan-sends-high-end-drone-to-airdrop-drugs-it-is-capable-of-spying-too/articleshow/98076513.cms?from=mdr>. Accessed on March 17, 2023.

³ "Dropped by drone: 2.6 kg heroin seized at border in Rajasthan, 2 Punjab men detained", *Hindustan Times*, March 07, 2023, <https://www.hindustantimes.com/cities/chandigarh-news/dropped-by-drone-2-6-kg-heroin-seized-at-border-in-rajasthan-2-punjab-men-detained-101678202639581.html>. Accessed on March 19, 2023.

⁴ "Annual Report-2020", Narcotics Control Bureau of India, Ministry of Home Affairs, 2020, <https://narcoticsindia.nic.in/Publication/2020.pdf>. Accessed on March 19, 2023.

⁵ N.S. Jamwal, "Terrorist Financing and Support Structure in Jammu and Kashmir", *Strategic Analysis* 26, no. 1, January 2002, p. 140-150. https://www.researchgate.net/publication/232899353_Terrorist_financing_and_support_structures_in_Jammu_and_Kashmir. Accessed on March 19, 2023.

⁶ "Drone activity along India-Pak border in Punjab poses big challenge to security agencies", *The Tribune*, October 23, 2022, <https://www.tribuneindia.com/news/punjab/drone-activity-along-india-pak-border-in-punjab-poses-big-challenge-to-security-agencies-444029>. Accessed on March 20, 2023.

⁷ Vaishali Basu Sharma, "Illicit Amphetamine Trafficking Through Sea Route", *The Kootneeti*, May 17, 2021, <https://thekootneeti.in/2021/05/27/illicit-amphetamine-trafficking-through-sea-route/>. Accessed on March 19, 2023.

⁸ “6-Wing Drone Shot Down in Punjab Near Pak Border, 5 Kg Heroin Seized”, NDTV, January 22, 2023, <https://www.ndtv.com/india-news/6-wing-drone-shot-down-in-punjab-near-pak-border-5-kg-heroin-seized-3714665>. Accessed on March 19, 2023.

⁹ “Drones from across Pakistan border more than doubled in 2022: BSF DG”, Press Trust of India, November 13, 2022, <https://www.ptinews.com/news/national/drones-from-across-pakistan-border-more-than-doubled-in-2022-bsf-dg/457362.html>. Accessed on March 19, 2023.

¹⁰ “Shah clears use of anti-drone technology to stop drug smuggling”, *The Indian Express*, November 10, 2022, <https://www.newindianexpress.com/nation/2022/nov/10/shah-clears-use-ofanti-drone-technology-to-stop-drug-smuggling-2516770.html>. Accessed on March 19, 2023.

¹¹ “Indian Army trains kites to destroy enemy drones”, *The Economic Times*, November 29, 2022, <https://economictimes.indiatimes.com/news/defence/indian-army-trains-kites-to-destroy-enemy-drones/articleshow/95851124.cms?from=mdr>. Accessed on March 20, 2023.

¹² Shishir Gupta, “Anti-drone jammers show positive results on Indo-Pak border”, *Hindustan Times*, March 02, 2023, <https://www.hindustantimes.com/india-news/antidrone-jammers-show-positive-results-on-indo-pak-border-101677722058947.html>. Accessed on March 20, 2023.

¹³ Ankur Sharma, “Insufficient Anti-Drone Systems Giving Tough Time to BSF on Indo-Pak Border, Advantage to Enemy”, News18, June 24, 2023, <https://www.news18.com/news/india/insufficient-faulty-anti-drone-systems-giving-tough-time-to-bsf-on-indo-pak-border-5427811.html>. Accessed on March 20, 2023.



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