



Jammu Drone Attacks

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Why in News

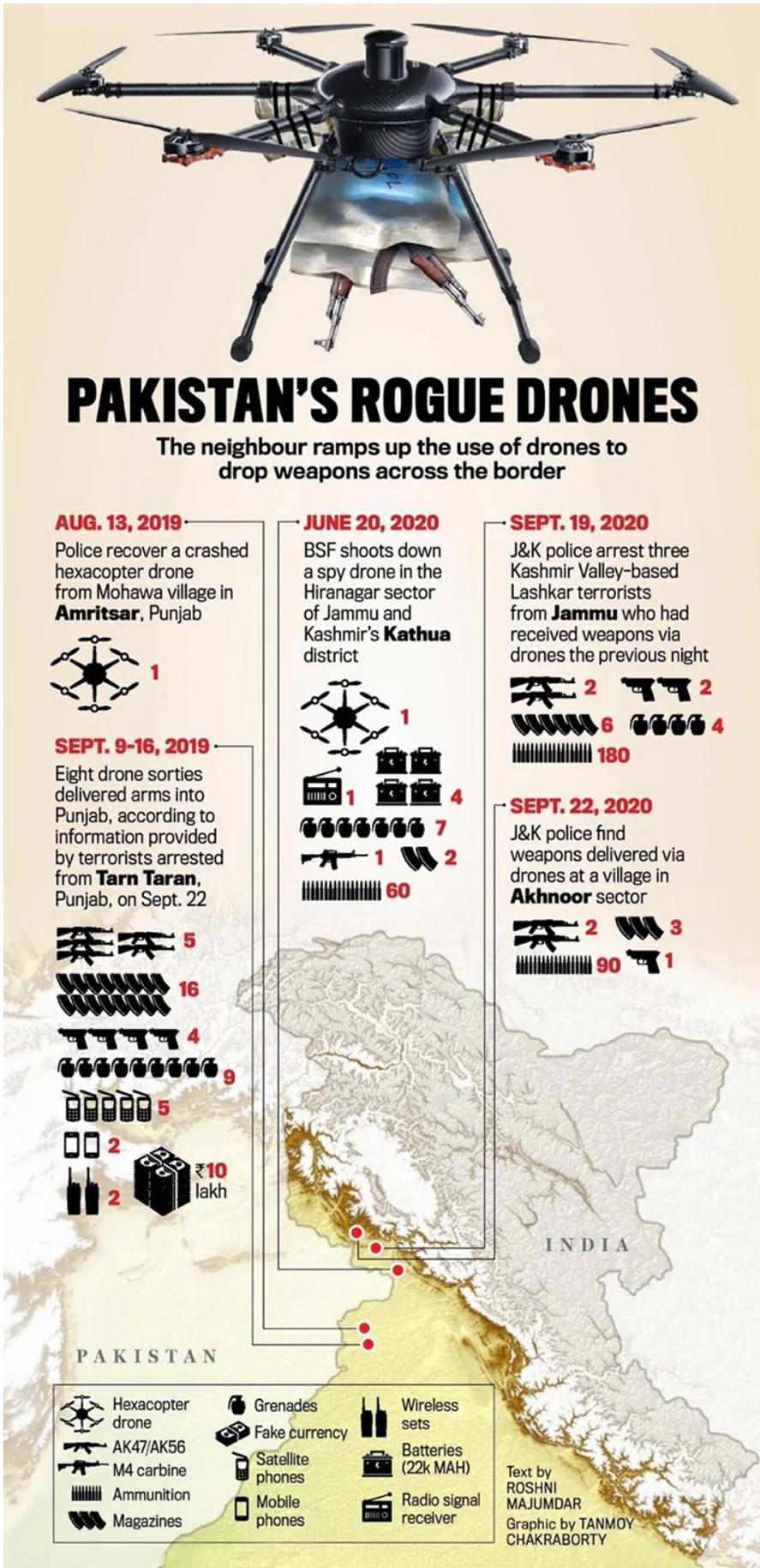
Recently, **Drones** were used for the **first time to drop explosive devices**, triggering blasts inside the Air Force Station's technical area in Jammu.

Drone

- Drone is a layman terminology for **Unmanned Aircraft (UA)**. There are three subsets of Unmanned Aircraft- **Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft**.
 - Remotely Piloted Aircraft consists of remote pilot station(s), the required command and control links and any other components, as specified in the type design.
- Besides **combat use**, drones are used for **a range of purposes** like package delivery, in agriculture (spraying pesticides etc), monitoring environmental changes, aerial photography, and during search and relief operations, among others.

Key Points

- Drone Attacks and Concerns:





- Over the past two years, **drones have been deployed regularly by Pakistan-based outfits** to smuggle arms, ammunition and drugs into Indian territory.
Drones fly low and therefore **cannot be detected by any radar system**.
- According to government figures, **167 drone sightings were recorded along the border with Pakistan in 2019**, and in **2020, there were 77 such sightings**.
- With the **rapid proliferation of drone technology and exponential growth** of its global market in recent years, the possibility of a drone attack cannot be ruled out even in the safest cities in the world.
- Drones are **becoming security threats particularly in conflict zones** where non-state actors are active and have easy access to the technology.
For example: 2019 twin drone attacks on Aramco crude oil production in Saudi Arabia.
- What makes combat drones in the hands of non-state actors most dangerous is the **threat of them being used to deliver weapons of mass destruction**.
Weapons of mass destruction are weapons with the **capacity to inflict death and destruction on such a massive scale** and so indiscriminately that its very presence in the hands of a hostile power can be considered a grievous threat.
- In the military domain, **small drones have been proliferating at a rate that has alarmed** battlefield commanders and planners alike.
In certain incidents, the **small drones were also armed with explosive ordnance**, to convert them into potentially lethal guided missiles, thus demonstrating the growing sophistication with which these potent warriors have found relevance in combat zones.
- **Reason for Increasing Drone Attacks:**
 - **Cheap:**
The primary reason for this proliferation is that **drones are relatively cheaper in comparison to conventional weapons** and yet can achieve far more destructive results.
 - **Remotely Controlled:**
The biggest advantage that comes with using a drone for combat purposes is that **it can be controlled from a remote distance** and does not endanger any member of the attacking side.
 - **Easy to Operate:**
It is this **easy-to-procure, easy-to-operate**, and proven damage potential that makes it important for any country to equip its forces with anti-drone combat technology.

- **Rules for Drone Regulations in India:**
 - **Unmanned Aircraft System (UAS) Rules, 2020:**
 - It is a set of rules notified by the government that aims to **regulate the production, import, trade, ownership, establishment of the drone ports (airports for drones) and operation of UAS.**
 - It also seeks to **create a framework for drones use by businesses.**
 - **National Counter Rogue Drones Guidelines 2019:**
 - The guidelines had suggested a **number of measures to counter rogue drones** depending on the vitality of assets being protected.
 - For places of critical national importance, the rules called for deployment of a model that consists of primary and passive detection means like radar, **Radio Frequency (RF) detectors, electro-optical and infrared cameras.**
 - In addition to this, soft kill and hard kill measures like **RF jammers, Global Positioning System (GPS) spoofers, lasers, and drone catching nets** were also suggested to be installed.
- **Other Initiatives:**
 - **Directed-Energy Weapon:**
Defence Research and Development Organisation (DRDO) has developed two **anti-drone Directed-Energy Weapon (DEW) systems**, with a 10-kilowatt laser to engage aerial targets at 2-km range and a compact tripod-mounted one with a 2-kilowatt laser for a 1-km range. But they are yet to be productionized in large numbers.
 - **Smash-2000 Plus:**
The armed forces are now also importing a limited number of other systems like Israeli '**Smash-2000 Plus**' **computerized fire control and electro-optic sights**, which can be mounted on guns and rifles to tackle the threat from small hostile drones in both day and night conditions.

Way Forward

- In the backdrop of the drone attack, the **Ministry of Civil Aviation** could potentially look at **making the existing regulations for unmanned aircraft systems more stringent.**
- Current drone rules are sufficient to get information into the system about drones from the manufacturer or importer to end users. However, **rogue drones will always be non-compliant. But yes, tightened regulations are required to create deterrence.**

Source: TH