

## Ministry of Civil Aviation urges various ministries to promote use of drones

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Ministry of Civil Aviation has requested several Ministries including Ministry of Home Affairs (MHA) to encourage various entities under their administrative control to promote use of drones.

Drones offer tremendous benefits to almost all sectors of the economy like -agriculture, medicine delivery, mining, infrastructure, surveillance, emergency response, transportation, geo-spatial mapping, defence and law enforcement etc. An illustrative list of drone applications under different Ministries is attached herewith as Annexure- I.

As per Drone Rules, 2021, operation of drones in zones marked red and yellow on the drone airspace map zones requires permission from the Central Government and the Air Traffic Control (ATC) authority respectively. No permission is required to operate a drone in a green zone which is where most of the drone operations currently happen.

### Annexure -I

#### Illustrative list of drone applications under different Union Ministries

S No	Ministry	Illustrative drone applications
1.	Agriculture & Farmers Welfare	<ol style="list-style-type: none"><li>Crop and soil health monitoring</li><li>Irrigation estimation and scheduling</li><li>Requirement and efficacy assessment of fertilizer and pesticide spraying</li><li>Anti-locust operations</li><li>Crop output estimates</li><li>River and canal erosion; restoration tracking</li><li>Insurance claim surveys</li></ol>
2.	Health & Family Welfare	<ol style="list-style-type: none"><li>Delivery of medicines, equipment and other supplies</li><li>Pathology tests - sample collection from remote or epidemic/ pandemic affected areas</li></ol>
3.	Panchayati Raj	<ol style="list-style-type: none"><li>Land records and property rights (SVAMITVA Scheme)</li></ol>

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4.	Defence	<ul style="list-style-type: none"> <li>a. Surveillance</li> <li>b. Combat</li> <li>c. Communication in remote areas</li> <li>d. Swarm drone solutions</li> <li>e. Counter drone solutions</li> </ul>
5.	Home Affairs	<p>Surveillance, situational analysis, public announcements and evidence gathering for:</p> <ul style="list-style-type: none"> <li>a. Security of sensitive installations</li> <li>b. Raids and counter-terror operations</li> <li>c. Crowd management</li> <li>d. Crime control</li> <li>e. VVIP security</li> <li>f. Disaster management; search and rescue; transportation of food, medicines and essentials</li> <li>g. Traffic management</li> </ul>
6.	Housing and Urban Affairs	<ul style="list-style-type: none"> <li>a. Urban planning and management</li> <li>b. Construction planning and monitoring</li> <li>c. Incident reporting</li> <li>d. Prevention of encroachment and land-use alteration</li> </ul>
7.	Transportation: Road Transport and Highways; Railways; Ports, Shipping and Waterways	<ul style="list-style-type: none"> <li>a. Surveillance</li> <li>b. Incident response</li> <li>c. Inspection and maintenance</li> <li>d. Project monitoring</li> <li>e. Disaster management</li> </ul>
8.	Mining	<ul style="list-style-type: none"> <li>a. Monitoring and Inspection</li> <li>b. Automatic surveying and mapping</li> <li>c. Stockpile assessment and management</li> <li>d. Haulage road optimisation</li> </ul>
9.	Power	<ul style="list-style-type: none"> <li>a. Real-time surveillance of assets and transmission lines</li> <li>b. Theft prevention and incident response</li> <li>c. Visual inspection and maintenance</li> </ul>

		d. Construction planning and management
10.	Petroleum and Natural Gas	a. Real-time surveillance of assets and pipelines b. Theft prevention and incident response c. Visual inspection and maintenance d. Construction planning and management
11.	Environment, Forests and Climate Change	a. Monitoring of forests and wildlife b. Afforestation through seed-balls, irrigation and real-time monitoring c. Anti-poaching actions d. Pollution assessment and evidence-gathering
12.	Information and Broadcasting	a. High quality videography of events and difficult-to-reach-places at a fraction of the cost and approvals required b. Low altitude shooting without noise and dust pollution and risk of accidents c. Complete replacement of costly helicopter-based videography

Note:

1. The above list is **illustrative and not exhaustive**. New applications may evolve with time, usage and further innovations.
2. The above list has been prepared in consultation with academia, drone startups and industry bodies.

This information was given by the Minister of State in the Ministry Of Civil Aviation (Gen. (Dr) V. K.Singh (Retd) in a written reply to a question in Lok Sabha today.