BENEFITS OF DRONE TECHNOLOGY

728.   SHRI BALASHOWRY VALLABHANENI

Will the Minister of CIVIL AVIATION
नागर विमानन मंत्री   be pleased to state:-

(a) whether Drones offer many benefits in various sectors of the economy and also public welfare and if so, the details thereof;
(b) whether the Government proposes to use Drones and Drone Technology for various Governmental services, particularly to remote and inaccessible areas and if so, the details thereof; and
(c) whether the Government has set any targets for use of Drones and if so, the details thereof?

ANSWER

Minister of State in the Ministry of CIVIL AVIATION
नागर विमानन मंत्रालय में राज्य मंत्री   (GEN. (DR) V. K. SINGH (RETD))

(a) to (c) Drones offer many benefits in various sectors of the economy and also public welfare. These include - agriculture, vaccine delivery, rural property mapping, search and rescue, surveillance, transportation, defence and law enforcement etc.

The Government proposes to use drones for various governmental services, particularly in the remote and inaccessible areas in India. Government agencies have used drones for crowd surveillance during COVID-19 anti-locust operations mapping of rural residential properties under the SVAMITVA Scheme test flights of medical supplies in hill states of North and North East India to name a few. Several Union Ministries are encouraging entities under their Ministry to promote use of drones. An illustrative list of drone applications relevant to different Ministries is at Annexure.

*****

Illustrative list of drone applications under different Union Ministries

S No	Ministry	Illustrative drone applications
1.	Agriculture & Farmers Welfare	a. Crop and soil health monitoring b. Irrigation estimation and scheduling c. Requirement and efficacy assessment of fertilizer and pesticide spraying d. Anti-locust operations e. Crop output estimates f. River and canal erosion; restoration tracking g. Insurance claim surveys
2.	Defence	a. Surveillance b. Combat c. Communication in remote areas d. Swarm drone solutions e. Counter drone solutions
3.	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
4.	Health & Family Welfare	a. Delivery of medicines, equipment and other supplies b. Pathology tests - sample collection from remote or epidemic/ pandemic affected areas
5.	Home Affairs	Surveillance, situational analysis, public announcements and evidence gathering for: a. Security of sensitive installations b. Raids and counter-terror operations c. Crowd management d. Crime control e. VVIP security f. Disaster management; search and rescue; transportation of food, medicines and essentials g. Traffic management
6.	Housing and Urban Affairs	a. Urban planning and management b. Construction planning and monitoring c. Incident reporting d. Prevention of encroachment and land-use alteration

S No	Ministry	Illustrative drone applications
7.	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
8.	Mining	a. Monitoring and Inspection b. Automatic surveying and mapping c. Stockpile assessment and management d. Haulage road optimisation
9.	Panchayati Raj	a. Land records and property rights (SVAMITVA Scheme)
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.	Ports, Shipping and Inland Waterways	a. Surveillance b. Incident response c. Inspection and maintenance d. Project monitoring e. Disaster management
12.	Power	a. Real-time surveillance of assets and transmission lines b. Theft prevention and incident response c. Visual inspection and maintenance d. Construction planning and management
13.	Railways	a. Surveillance a. Incident response b. Inspection and maintenance c. Project monitoring d. Disaster management
14.	Road Transport and Highways	a. Surveillance b. Incident response c. Inspection and maintenance d. Project monitoring e. Disaster management

Note: The above list is **illustrative and not exhaustive**. New applications may evolve with time, usage and further innovations.

***