Precautions for Drone Spraying

- Avoid spraying during pollination stage to protect beneficial insects
- Avoid flying too close to the crop canopy to prevent crop lodging
- Avoid spraying just before or immediately after rains
- Do not spray if the temperature exceeds 35°C or humidity is below 50%
- Avoid chemical spray if rain is expected within 6 hours
- Maintain a minimum distance of 100 meters from fodder crops, grazing fields, and water bodies (ponds, rivers, canals), villages, poultry houses, barns, and schools
- Use only clean water; avoid using muddy or stagnant water for pesticide mixing
- Do not operate drones near government facilities, military bases, or in no-drone zones
- Ensure the drone is fully charged and in proper working condition before each operation

Financial Assistance for Drone Services

Rental Services: Drones are available for rent for farmers

Custom Hiring Centre (CHC) Support: Financial assistance of **40%** (up to **₹4.00 lakh**) for purchasing drones by CHCs under Cooperative Societies, FPOs, and rural entrepreneurs. Agriculture graduates establishing CHCs get **50%** assistance (up to **₹5.00 lakh**)

Individual Ownership

- **Small/Marginal, SC/ST, Women, and NE State Farmers**: **50%** assistance (up to **₹5.00 lakh**)
- **Other Farmers**: **40%** assistance (up to **₹4.00 lakh**)

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Drone Spraying: The Future of Farming

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फ़ेक - 797 107 नागालेंड

Village Porba, Post Pfutsero,

Phek - District 797 107 Nagaland

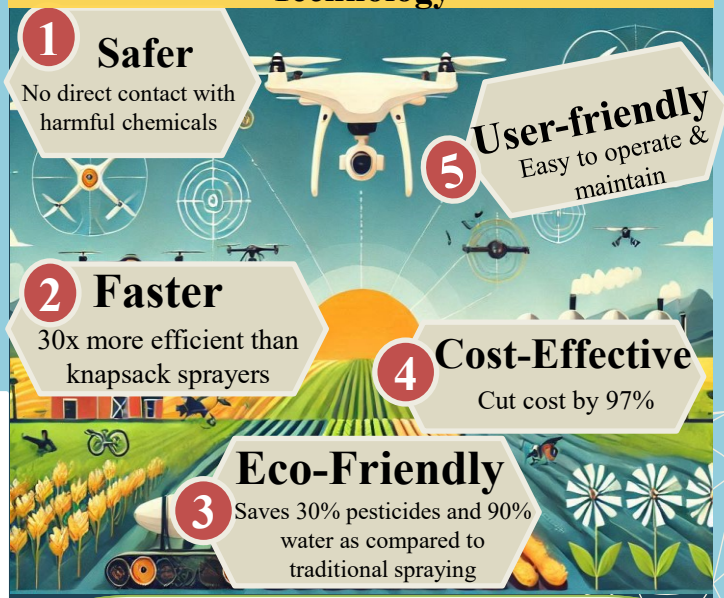
6. Safety Measures

- Wear appropriate protective gear (mask, gloves, goggles)
- Keep bystanders and animals away from the spraying area
- Always perform pre-flight checks for equipment safety

Do's

- Drone spraying is most suitable for mono-cropping patterns.
- Evaluate crop parameters like stage, height, and canopy development before spraying.
- **Field Zones**:
  - ✓ Green Zone: Safe for spraying.
  - ✓ Yellow Zone: Obtain permissions from DGCA and local authorities before spraying.
  - ✓ Red Zone: No-fly zone.
- Secure a Unique Identification Number (UIN) from the DGCA and RPTO License before operating the drone.
- Check that all nozzles are free from clogging and scaling.
- Keep spare parts such as motors, propellers and batteries ready.
- Ensure sufficient charged batteries for uninterrupted operations.
- Operate drones only during daylight.
- Wear protective clothing: nitrile gloves, face mask, cap, apron, and full trousers to ensure safety.
- Use the recommended dose and dilution for pesticide application.

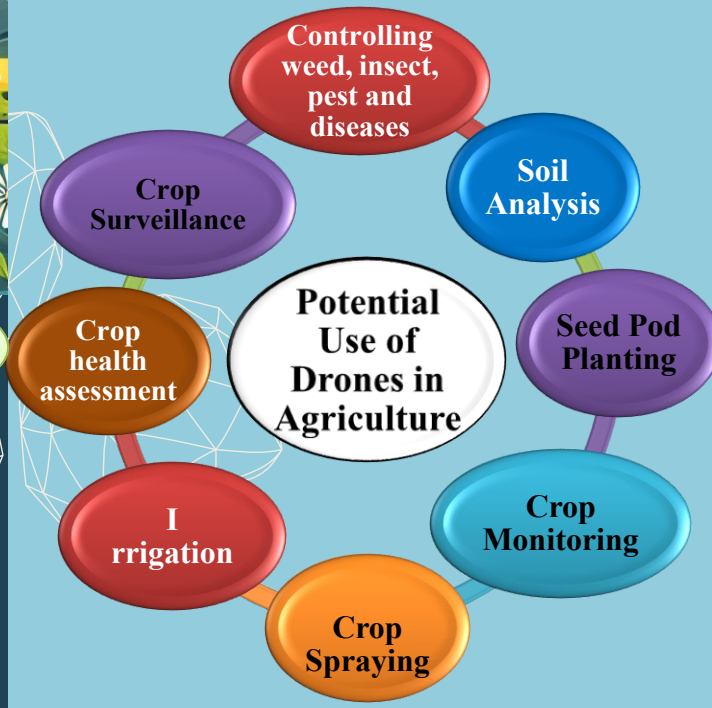
Advantages of Drone Spraying Technology



Standard Operating Procedure (SOP)

1. Maintain **flying speed** range of **4.5–5 meter per second** during spraying
2. **Height Above Crop Canopy**:
   Good crop conditions: 1.5 – 2.5 m
   Crops prone to lodging: 2.0 – 3.0 m
3. **Suitable Time for Spraying**
   Summer & Rainy Season: 6 – 10 AM and 3 – 6 PM
   Winter: 8 AM – 11 AM and 2 PM – 6 PM
4. **Environmental Conditions**
   Temperature: Do not spray if it >35°C
   Humidity: No spraying when humidity is <50%
   Wind Speed: Stop operation if wind >3 m/s
   Wind Direction: Always with the wind direction
5. **Nozzle Specifications**
   Nozzle Type: flat fan nozzles
   Droplet Size: 250–350 µm for insecticides
   Discharge Rate: Adjust to 0.3–0.6 liters/min
   Spray Angle: Set between 60–120 degrees
   Pressure: Ensure operating pressure is 2–3 bar

India, with its vast agricultural landscape, faces numerous challenges, including pest infestations, uneven crop distribution, and labor shortages. Drone technology is a phenomenal innovation with the potential to transform the way routine manual activities are carried out in agriculture



Use of drones can be advantageous in the case of pesticide spraying, replacing labor-intensive and hazardous conventional methods, particularly in difficult areas such as hills