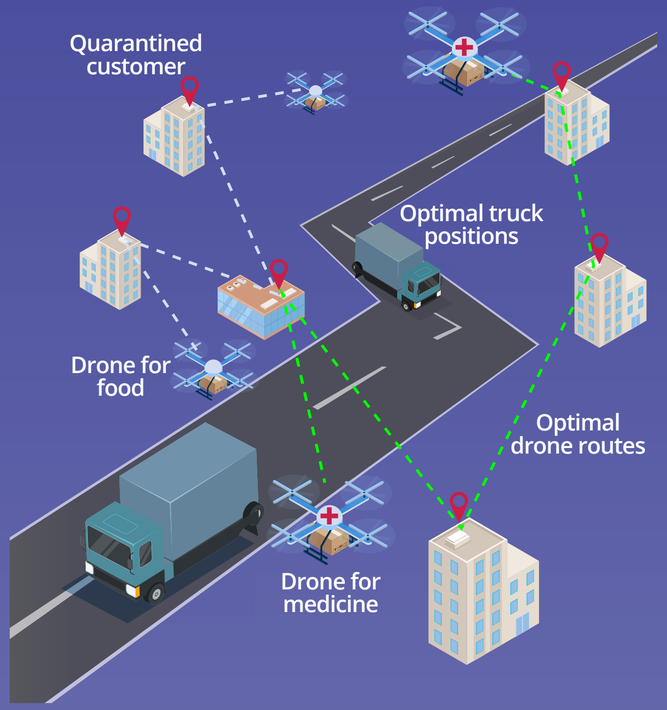
Exploring Disruption-Resilient Models of Supply Chains

The COVID-19 outbreak necessitated strict lockdowns to control infections

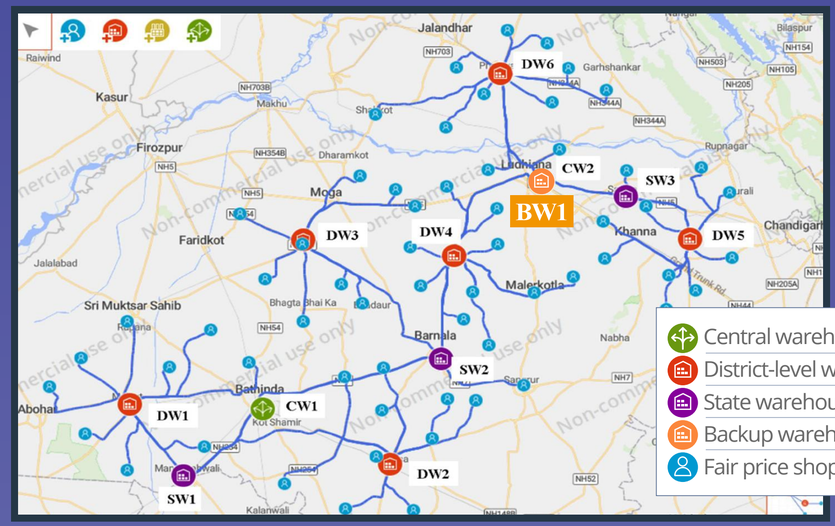
But the lockdowns, combined with a labour shortage due to rising infections, disrupted supply chains

Based on a comprehensive literature review, **a truck-drone synchronized delivery system** is recommended to quickly reach customers in infection hot zones while maintaining social distancing



New simulation model of food supply chain (Public Distribution System) operations was created for three scenarios for a six-month period:

- Normal operation
- One central facility shut down due to COVID-19
- Backup facility present



Shows that a backup warehouse at strategic locations can help maintain required supply levels

These models of distribution and delivery can help devise robust action plans to tackle pandemic-related disruptions to supply chains for essential services

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Adapted from peer-reviewed research article:
Impact of COVID-19 on logistics systems and disruptions in food supply chain
Singh *et al.* (2020) | *International Journal of Production Research* | 10.1080/00207543.2020.1792000