



WFP Drones Unmanned Aircraft Systems



SAVING
LIVES
CHANGING
LIVES

The World Food Programme (WFP) is scaling technology and innovation as part of its strategy to end hunger by 2030. Looking to improve its ability to prepare for and respond to humanitarian emergencies, WFP has been developing the use of unmanned aircraft systems (UAS), commonly known as drones, since 2017. With support from the Government of Belgium, WFP created a **UAS coordination model**, and in parallel, is building local capacity to use drones in countries at risk of natural hazards. Moreover, WFP acquired substantial knowledge during its work with drones in Mozambique following cyclones Idai and Kenneth in 2019. This has enabled WFP to better identify needs and opportunities for using drones in emergency response and to develop a new 10-day course, “UAS Emergency Response Training” which was conducted for the first time in Mozambique in December 2020.

With decades of experience in Aviation, Logistics and Telecommunications, which it uses for humanitarian response in over 80 countries each year, WFP is well positioned to **develop, coordinate** and **deliver** the standardized, **safe and ethical use of drones** for its own operations as well as those of partners and the wider humanitarian community.

WFP is focusing on three functional areas related to drone technology — **data collection, cargo delivery** and **connectivity** — which are being developed into **common humanitarian services** with support from partners and funding from United Kingdom’s Foreign, Commonwealth and Development Office Development (FCDO). Prepositioning drones and an investment in Information Management are at the heart of the WFP’s approach to this drone project.

December, 2021

WFP EXPLORES USING DRONES FOR:



DATA COLLECTION



CARGO DELIVERY



INTERNET CONNECTIVITY

The humanitarian community has identified several ways to use drones in emergency preparedness and response:

- Damage assessment
- Site Survey
- Line of Sight
- Search & rescue
- Flood modeling
- Project Management
- Community Participation
- Cargo delivery
- Connectivity (Wi-Fi in the Sky)
- Communication (public information & advocacy)

What has been done so far

WFP has been active with drones in **30 countries** — from prepositioning equipment in high risk countries and strengthening local emergency preparedness efforts through training and workshops, to supporting emergency responses when disaster hits.

Emergency response: When two powerful cyclones struck Mozambique in 2019, WFP worked with the country's National Institute of Disaster Management (INGD) to coordinate and deploy drones for the first time. The operation required **deconflicting airspace** and ensuring operational safety; **managing humanitarian needs and partner activities** to minimize duplicated efforts; and **delivering drone services** to fill operational gaps. Drones were used to capture thousands of images, creating detailed maps to improve rapid disaster assessments and support the work of over 20 humanitarian organizations.

Capacity building: Along with the experiences from the cyclone response and the teams own internal emergency simulation activities, trainings offered can now be tailored according to the needs of the trainees. This has also enabled WFP to better identify needs and opportunities for using drones in emergency response and to develop a new 10-day course, "UAS Emergency Response Training" which was conducted for the first time in Mozambique in December 2020.

Preparedness: Following the practical deployment of drones for Search and Rescue in 2019 (Cyclone Idai, Mozambique), WFP aims to investigate best practices to maximize the efficiency and effectiveness for Search and Rescue using drones. A two-phase study is underway; the first phase was completed in Mozambique, and the second phase is planned to be in March 2022.

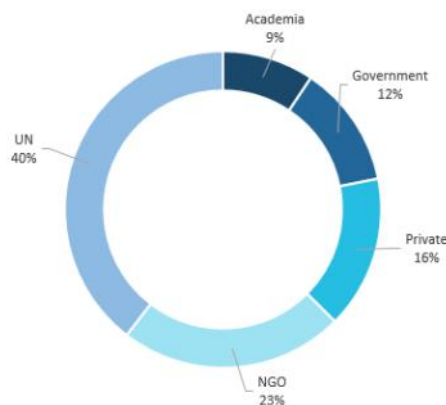
Working with the humanitarian community

Technical Working Groups

While UAS technology holds tremendous potential in humanitarian operations, it also poses key challenges notably legal and operational issues, ethical procurement, partnerships, privacy and data protection, and community perception. To help steer the responsible use of drones and build a community of humanitarian stakeholders, WFP set up four technical working groups (TWG) around the following thematic areas: Regulation and Operation, Ethics, Connectivity, and Imagery.

The TWGs began in September 2020 and each group has had eight sessions so far.

TYPES OF ORGANISATIONS PARTICIPATING IN UAS TWGS



Connectivity (R2C2)

To help provide connectivity and reach communities affected by disasters, a new WFP Drones solution that emerged from the [Innovation Accelerator Bootcamp](#) in 2021 is set to empower humanitarians responding to emergencies as well as communities in crisis.

The [Rapid Response Connectivity Carrier \(R2C2\)](#) is a tethered drone solution flying 24 hours a day (powered by a cable that runs between the ground station and the drone) covering a 3 square kilometre area and providing potentially thousands of affected people and emergency responders with Internet access. R2C2 could also be powered by solar energy, making it eco-friendly as well as a flexible and efficient solution. This will mean we can connect the affected populations in high risk areas without them having to leave their homes.

Our Donors:



Since 2017, Emergency Response, Capacity Building and Preparedness has also been funded by ECHO



WFP Drones Team World Food Programme

For more information, contact wfp.drones@wfp.org
Or visit our website <https://drones.wfp.org/>