UPDWG

UAV for Payload Delivery Working Group

Integrating Drones into Immunization Supply Chains

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Integrating Drones into Immunization Supply Chains: DRC Case Study

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Photo: Henry Sampangi Sanyulye

NGCA (Next-Generation Supply Chains)

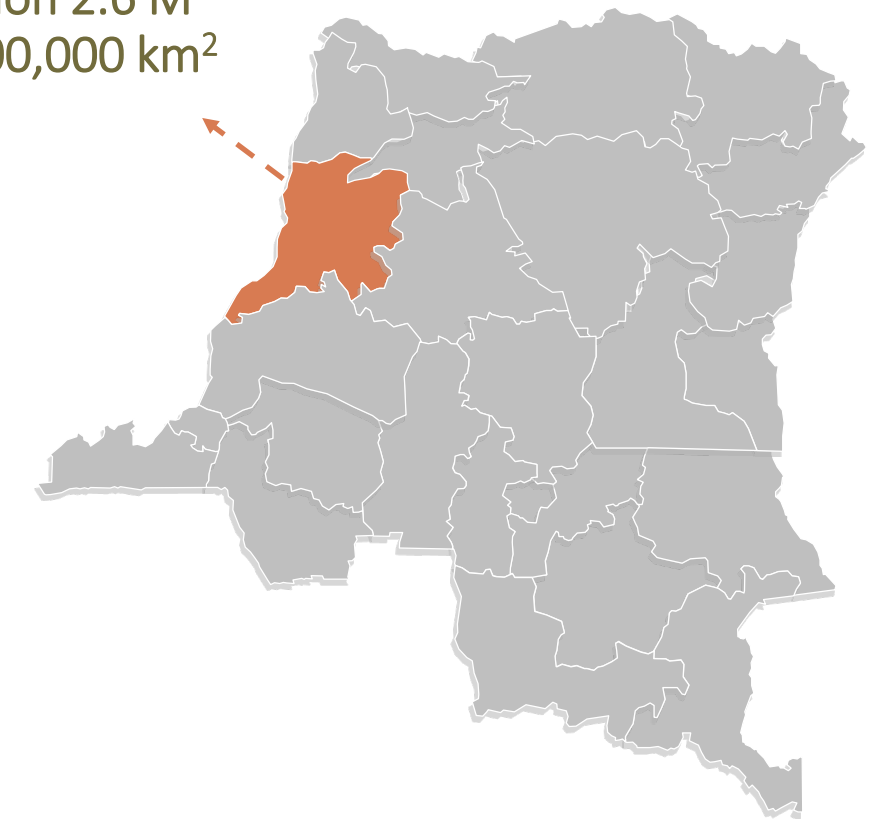
Started in Equateur Province as a partnership with the DRC Ministry of Health (National & Provincial) and VillageReach to improve the supply chain and product availability

Empowered human resources

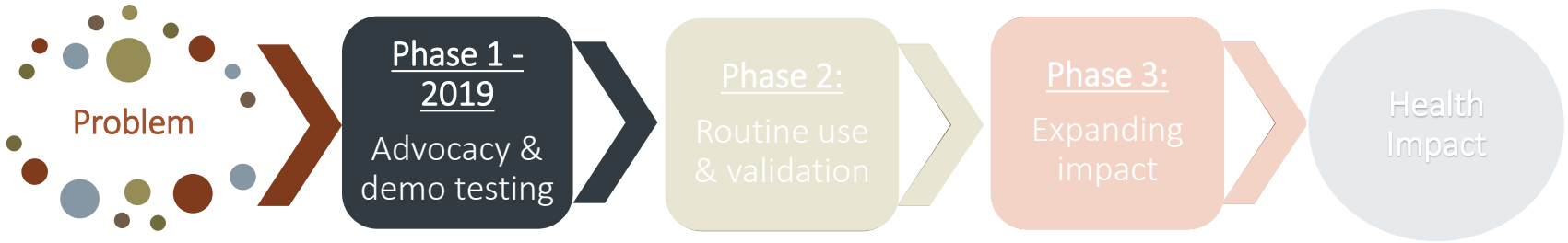
Direct delivery of health products

Access and use of data

Equateur Province
Population 2.6 M
Area > 100,000 km^2



Integrating drones into the NGCA Initiative



Multi-sectoral collaboration

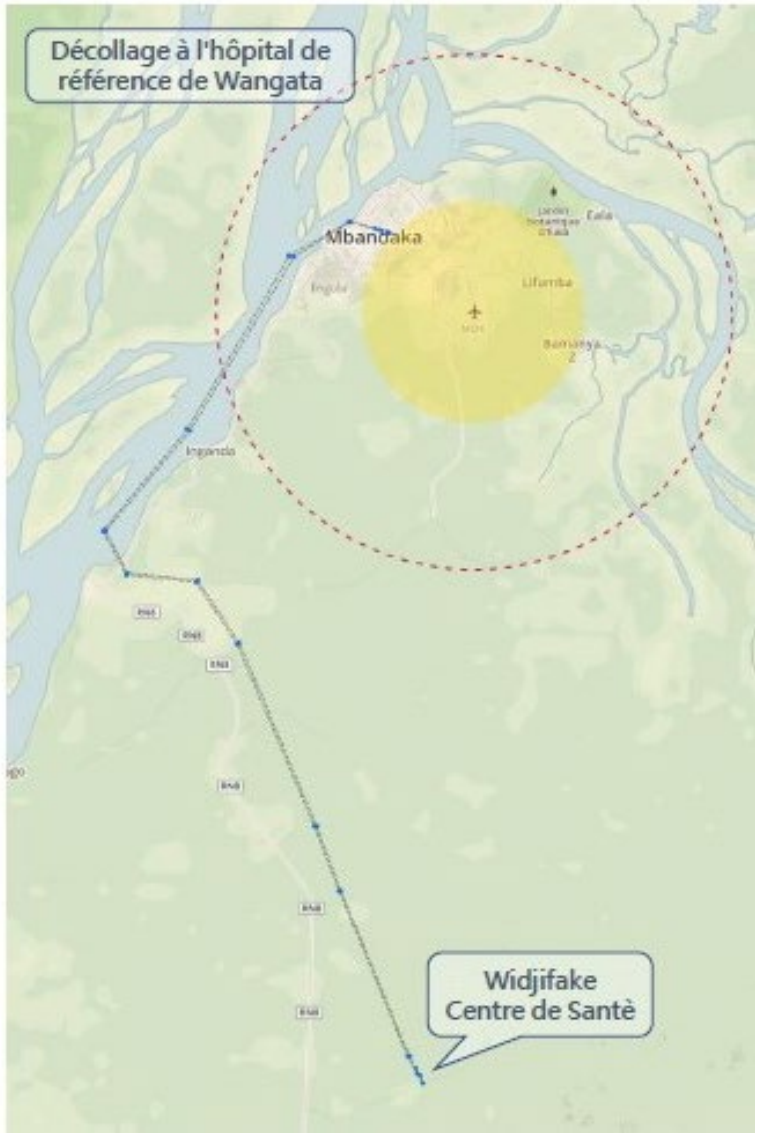
between the DRC MoH, CAA, VillageReach, Gavi and Swoop Aero

Demonstrated two-way transport

of immunization and other medical commodities using drones

Built commitment for Phase 2 scale-up

among stakeholders from all levels



Journey to introduce drones

Phase 1 began with a multi-pronged approach:

Governance

Aviation & Health Regulations

Technology

Acceptability

Evidence Generation

Governance

- ✓ National Drones for Health Commission & Provincial Working Group formed
- ✓ Authorities involved in drone flights and activities
- ✓ Learning visits to other countries with UAV projects
- ✓ Go/No-Go decision framework developed for scale-up
- ✓ Country decision to expand intervention

Photo: Henry Sempangi Sanyulye

Aviation & Health Regulations

- ✓ Civil Aviation approved drone partner
- ✓ Approvals for drone import and use
- ✓ Flight routes approved
- ✓ Direct coordination of flights by Civil Aviation & Air Traffic Control
- ✓ Emergency and communications protocols
- ✓ Standard procedures followed for resupply, transport and reporting via drone

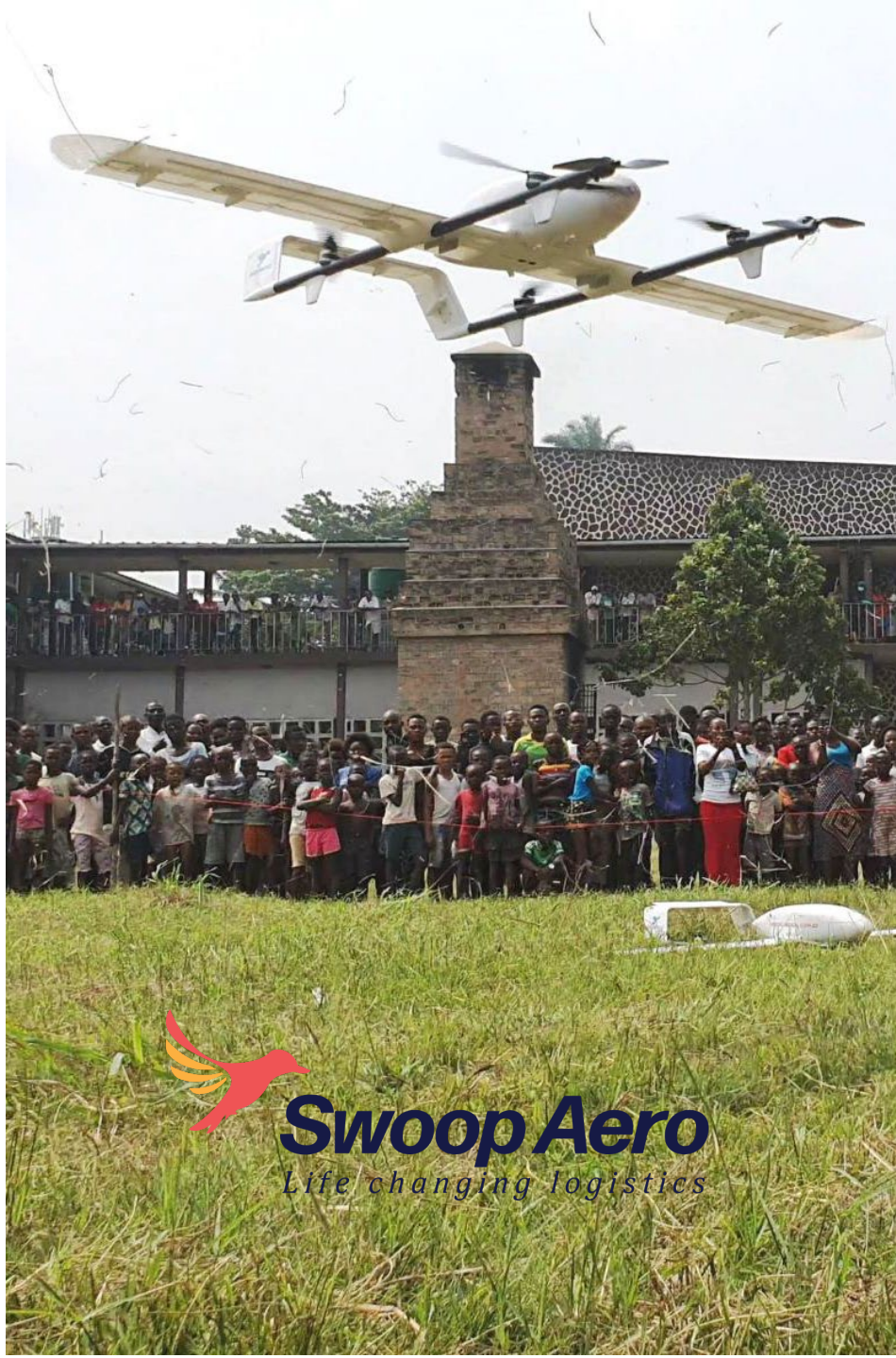
Photo: Henry Sempangi Sanyulye

Acceptability

- ✓ Pre and post-flight stakeholder perceptions study with MoH
  - ✓ Found low level of familiarity but high acceptability of the technology
- ✓ Multi-pronged community sensitization strategy and public communications campaign
- ✓ Babies publicly immunized with drone-delivered vaccines
- ✓ High-level and local ceremonies during drone flights

Technology

- ✓ Global request for proposals for drone partner selection
- ✓ Weeks of preparations and stakeholder coordination prior to flights
- ✓ Test flights conducted before official demonstration flights
- ✓ EPI and health center staff trained on drone operations
- ✓ Preliminary assessment of local capacity



Evidence Generation

- ✓ 50 flights traveling over 2000 km in the air, in 5 days
- ✓ 80 km round-trips, at 115 km/hr, reduced transport time from 3 hrs to ~ 20 min
- ✓ 25 kg of vaccines, syringes delivered for 5 rural health areas to immunize 470 children, plus medicines
- ✓ Cold chain maintained & reverse logistics demonstrated with lab samples, reports, letters, etc.
- ✓ No safety or product concerns, two drones flew at same time on opposite routes
- ✓ Quick adoption by local EPI and health staff

Plans for Scale-up and Integration

How do we get from introduction to integration?

Phase 2 :

Routine use & validation

Planned for 2020

12 months of integrated deliveries to 25 remote areas in Equateur province

- Strengthen enabling environment and build local capacity
- System (re)design
- New flight approvals, import, evaluation strategy, sensitizations
- Generate evidence on performance and costs
- Develop business plan for scale up and sustainability

Phase 3:

Expanding impact

Planned for 2021 & beyond

Expansion beyond Equateur province

- Additional provinces, settings, health commodities, and use cases
- Coalition of partners (public-private partnership)
- Data on health and economic impact

It takes a village… Acknowledgments and thanks

DRC Ministry of Public Health

EPI at national and provincial level

Governor & administrative authorities

DRC Civil Aviation Authority

Ministry of Security and Interior

Provincial Health Division Equateur

Bikoro Health Zone

Widjifake health center staff

Air Traffic Control (RVA)

Community leaders

Community members

Community health promoters

Press and radio outlets

Gavi

Swoop Aero

WeRobotics

Cyclops Air

VillageReach