





DEBRIEFING to the ICAO

DRONE ASSESSMENT

USE OF DRONE IMAGERY STRENGTHENING ASSESSMENT EFFORTS

Elie LENSKI, UNDAC Preparedness & Response Officer





AGENDA







DRONE CONTRIBUTION















DRONE CONTRIBUTION TO AERIAL ASSESSMENTS

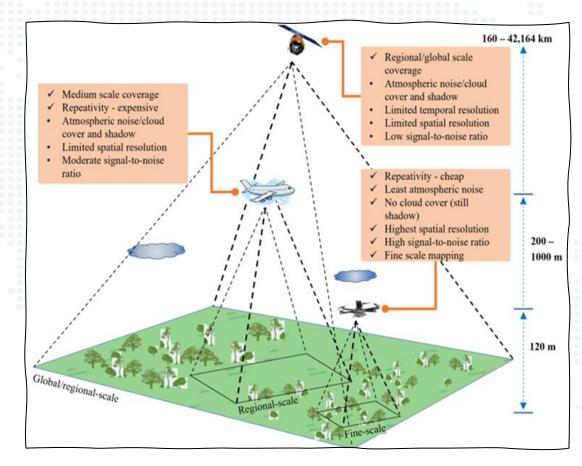


AREAS OF INTEREST

- □ PHYSICAL ACCESS CONSTRAINTS
- ☐ INFRASTRUCTURE DAMAGE
- ENVIRONMENTAL RISKS

MODALITIES

- ✓ SUPPORT COORDINATION
- ✓ STRENGHTEN SHARING
- ✓ UNIFIED METHODOLOGY
- ✓ CONDUCT ASSESSMENT







DRONE CONTRIBUTION TO ASSESSMENTS



REQUESTER



- JOINT ENVIRONMENTAL UNIT
- INFRASTRUCTURE EXPERT
- GOVERNMENT BODIES
- COMMUNITY OF PARTNERS

NEED



- ☐ FLAG RISKS
- DAMAGES
- OVERVIEW
- MAPPING

ADDED VALUE



- **✓** SPEED UP
- **✓** ACCESSIBILITY
- ✓ COST EFFICIENT
- √ GRANULARITY /

RESOLUTION











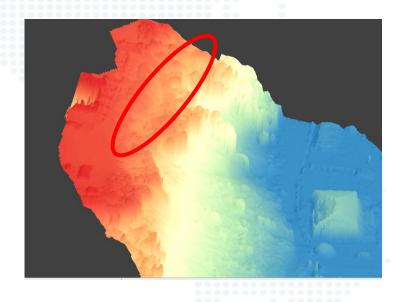


ASSESSMENT OF **PORT VILA CONTAINER TERMINAL**









Aerial image

3D Model

Digital Elevation Model (DEM)







ASSESSMENT OF LANDSLIDES RISK





As of 06 Jan 202









DRONE ASSESSMENT: **DAM BURST RISK**



- Hard to reach area
- Risk of secondary / tertiary hazard







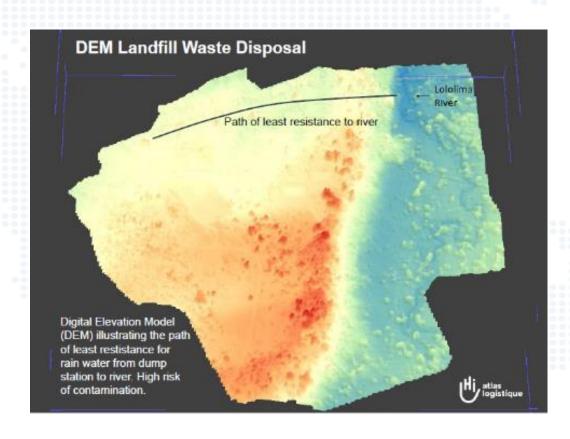




Drone Assessment: **DUMPING STATION**











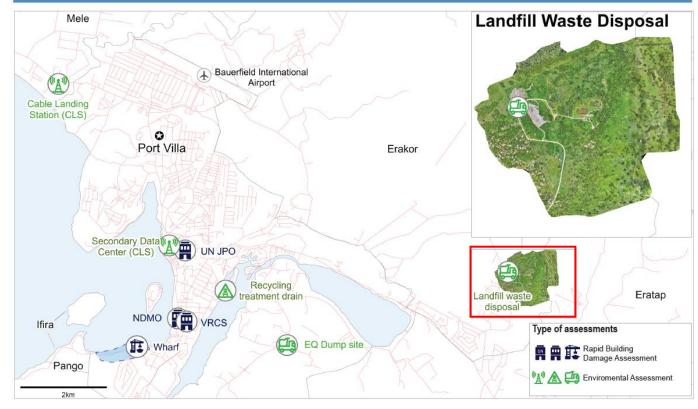
TECHNICAL CONSIDERATIONS: DUMPING STATION



- 1/1 scale of orthomosaic
- 100% processed offline
- Produced in 24h



As of 06 Jan 2025

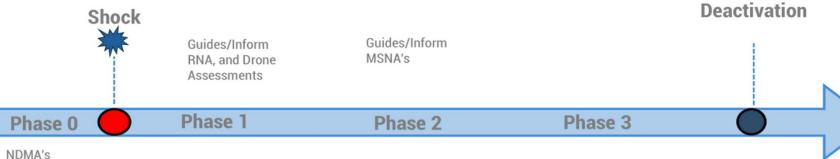






Aerial Assessment Coordination & Delivery





Stakeholder

Donors **OCHA**

Assessment

Product

Activity

Actors

Other

Assessment

Impact Estimation

Preliminary Impact Analysis (Damage, Access, Pop, Env)

Daily coord. meeting

Direct Observation via Manned Aircraft (Plane or Helicopter)

A&A Cell, ATF, AWG, **IMWG**

Estimated Impact

JRC, WFP, WMO,

UNOSAT)

Modelling (e.g., PDC,

Method/Tools

Mapping of Actors, and capacity

DO Questionnaire. tablets or phones.

cameras

Registration of actors and capacity Comprehensive

Analysis product: Damage, Access, Pop, Env., Flood,

site suitability analysis

Community level drone assessment. Ortho-mapping and/or FMV

Drones, Tablets, Questionnaires, ATF Toolbox, Power Source, Software, Starlink

Monitoring and Evaluation of affected region (Secondary & Tertiary Hazards)

Aircraft, drones, Tablets, Questionnaires, ATF Toolbox, Power Source, Software, Starlink

Handover to NDMA



Atlas Roster with United Nations Disaster Assessment & Coordination







DRONE ASSESSMENT: CHALLENGE & LIMITATIONS



- Weather condition
- Technology limitation: battery autonomy / range / etc.
- National authority approval to fly
- Local authority and community approval to fly
- Coordination: gaps and overlap





ANY SUGGESTION?





Joint Environment Unit Assessment mission, December 30th, 2024 Port Vila, VANUATU

MANY THANKS FOR YOUR ATTENTION!

For any follow-up discussions: e.lenski@atlas-roster.hi.org



