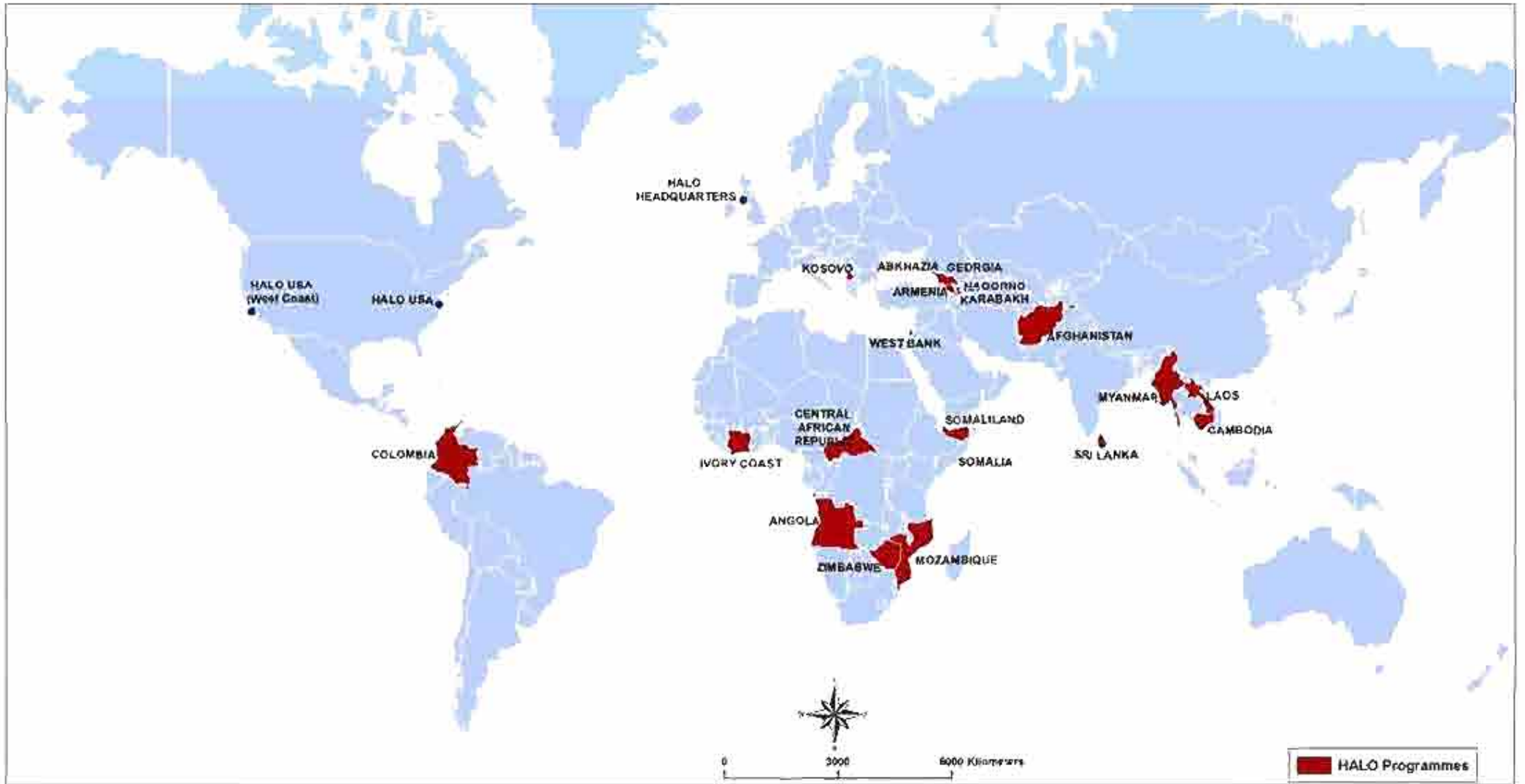




GETTING MINES OUT OF THE GROUND, FOR GOOD.

**Calvin Ruysen
Desk Officer, Southern Africa Region**





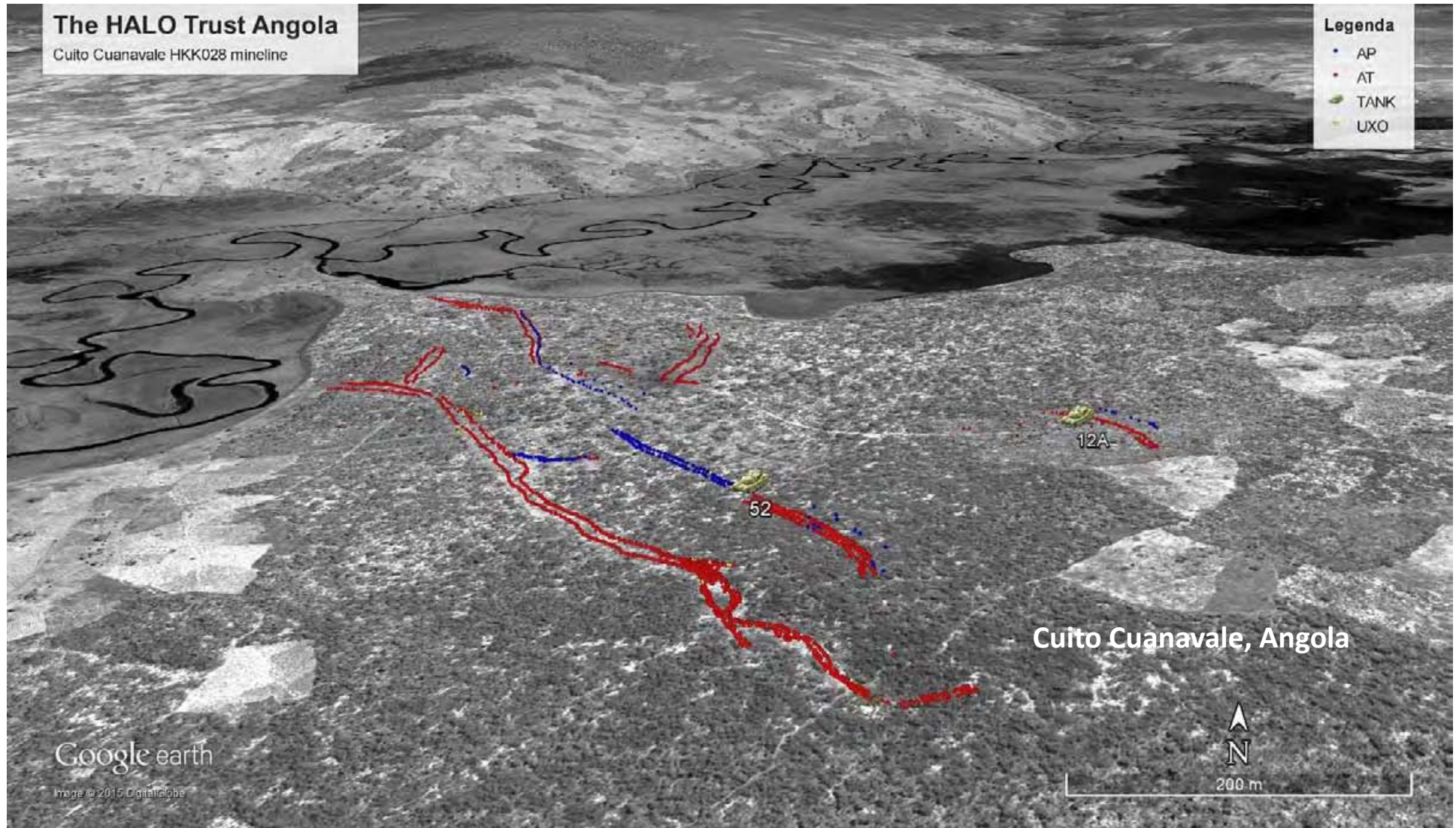
Technical Challenges in Humanitarian Clearance of Anti-Vehicle Mines: A Field Perspective



Anti-Vehicle Mines Cause Civilian Accidents



Structured Minefields





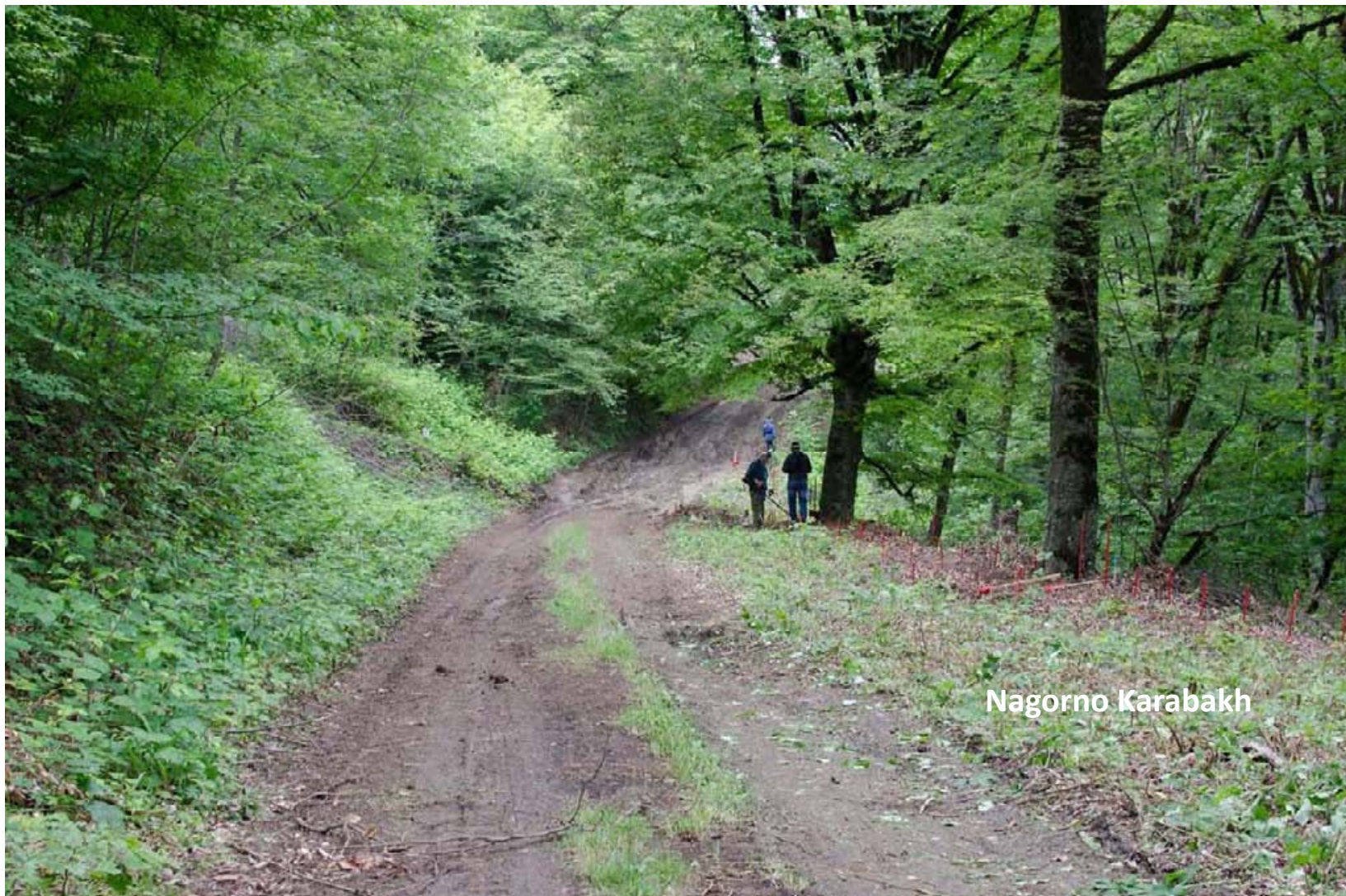
Large Open Areas



Herat, Afghanistan



Roads and Tracks



Nagorno Karabakh

Metal-Cased Anti-Vehicle Mines

- Easy to locate with metal detectors
- Faster, less costly clearance



Minimum-Metal Anti-Vehicle Mines

- Very difficult or impossible to locate with metal detectors
- Slower, more costly clearance

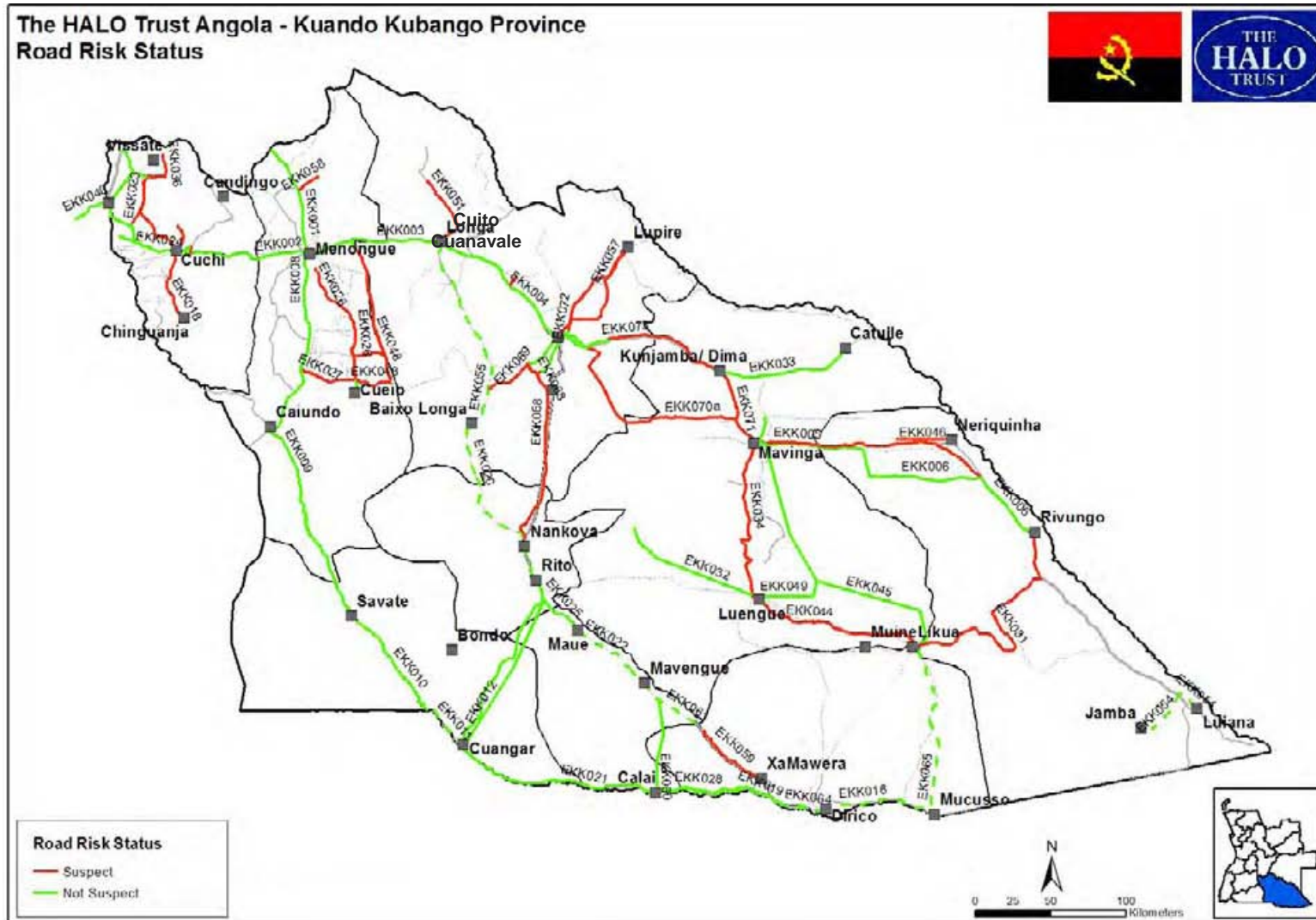




Jebrail Clearance



Roads in Southern Angola





Clearance on Sandy Roads





Beyond Metal Detectors

- Ground-Penetrating Radar



- Gill Bucket



- Rotary Mine Comb





Alternative Techniques

- Explosive Trace Detection



- Tillers and Flails



- Other Prototypes



Impact of Clearance





Minimum Metal Anti-Vehicle Mines: A significant Technical Challenge

