AI-Powered Landslide Early Warning System for Jabal Marra

Location: Tersin Village, Jabal Marra, Central Darfur, Sudan

Background:

A massive landslide in Tersin Village, Jabal Marra, on 31 August 2025, killed over 1,000 people. Heavy rainfall and unstable slopes caused this disaster. Limited access and no early warning systems worsened the impact. AI-driven predictive monitoring can reduce casualties and strengthen community preparedness.

Objectives:

1. Implement an AI-based landslide monitoring and alert system.
2. Train 100 local responders in disaster response.
3. Deliver SMS and mobile alerts to 10,000 residents in high-risk areas.

Key Activities:

Install IoT rain gauges and soil movement sensors.

Use satellite imagery and AI models to identify high-risk zones.

Develop a mobile alert system with AI-driven predictive notifications.

Conduct community awareness and preparedness workshops.

Expected Outcomes:

Reduce landslide-related fatalities by 70%.

Increase speed of community response by 50%.

Improve awareness and preparedness by 80%.

Potential Risks:

Access limitations due to rough terrain and ongoing conflict.

Dependence on technology in low-infrastructure areas.

Potential delays in sensor deployment or data transmission.

Budget Estimate:

$50,000 – equipment, training, and system development.