EXECUTIVE SUMMARY & OVERALL RISK VERDICT

SITE UNDER ANALYSIS

Location hidden for privacy



Project: Farm Development

Coordinates: Coordinates hidden for privacy

Generated: 14 Nov 2026, 10:32 am

Data: Open-Meteo ERA5 · USGS · Open-Elevation · OpenStreetMap/Nominatim | Standard: No national code applied

ALGORITHMIC RISK ASSESSMENT:

Statistical probability from public datasets (Open-Meteo, USGS, Open-Elevation) - not field-verified measurements.

QUICK RISK INSIGHTS

FLOOD / HEAVY-RAIN RISK

MEDIUM

80mm+ rain in 4 of 10 years

16 days over 80mm / 10 yrs

RECENT SEISMICITY

High

USGS 10-yr history level

44 quakes M3+ in 10 yrs, max M 5.4

ELEVATION ASL

3352.5m

Slope: 34.0°

Terrain: Steep

OVERALL RISK VERDICT

Moderate Risk Probability - Precautionary Assessment Recommended

Moderate-to-elevated risk indicators detected. Risk Score: 61/100. Main drivers: High recent seismic activity; Moderate heavy-rain/flood indicator; Steep terrain (34°). Engineering precautions advisable - consult a licensed civil/structural engineer. The seismic level reflects only the 10-year earthquake record, not a hazard map.

KEY RISK INDICATOR TILES - PUBLIC-DATASET DERIVED

FLOOD / HEAVY RAIN

MEDIUM RISK

16 days over 80mm / 10yr

Annual avg: 4106mm

ERA5 rain-day screen - not a flood model

ELEVATION & SLOPE

3352.5m ASL

Slope: 34.0°

SRTM-based DEM

Open-Elevation (SRTM)

RECENT SEISMICITY

High

USGS 10-yr history level

44 quakes M3+ in 10 yrs, max M 5.4

USGS catalogue

SOIL & MOISTURE

Not assessed

Rain-moisture index: 0.85

High rainfall

ERA5 rainfall (no soil map)

SAMPLE REPORT

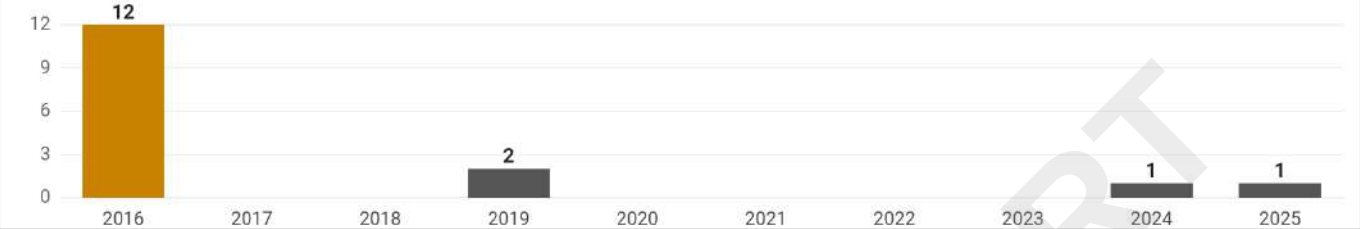
10-YEAR HISTORICAL ANALYSIS - PRECIPITATION & SEISMIC DATA

SITE: · PROJECT: FARM · RISK: MEDIUM (61/100)

HEAVY-RAIN DAYS PER YEAR - 10-YEAR ARCHIVE (Open-Meteo ERA5)

Days per year with precipitation >80mm/day. A screening indicator on a ~25 km grid, not a flood model.

Total days over 80mm (10yr): 16 · Level: MEDIUM · Years affected: 4 of 10 · Avg annual precip: 4106mm



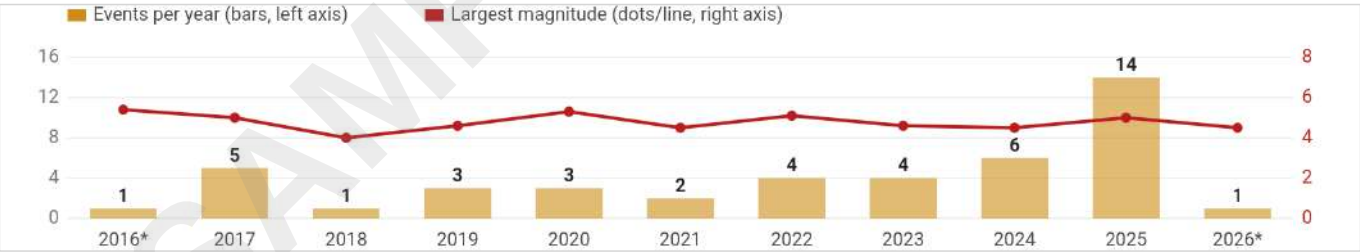
HEAVY-RAIN EVENT LOG - ERA5 ARCHIVE

Year	Event Type	Description	Days	Severity	Source
2016	Major Heavy-Rain Season	12 days over 80 mm. Peak: 142.4 mm/day.	12 days	MODERATE	Open-Meteo ERA5
2019	Heavy-Rain Day Recorded	2 days over 80 mm. Peak: 108 mm/day.	2 days	MODERATE	Open-Meteo ERA5
2025	Heavy-Rain Day Recorded	1 day over 80 mm. Peak: 94.5 mm/day.	1 day	MINOR	Open-Meteo ERA5
2024	Heavy-Rain Day Recorded	1 day over 80 mm. Peak: 81.3 mm/day.	1 day	MINOR	Open-Meteo ERA5

SEISMIC ACTIVITY - USGS DATA (LAST 10 YEARS, 100km RADIUS)

Magnitude 3.0+ · Source: USGS FDSNWS API · 44 events (all returned by USGS, not capped)

Total events: 44 · M4+: 44 · Max magnitude: M 5.4 · Hazard level: High (USGS history-based)



* first and last year are partial years. USGS under-records small quakes (below about M4) in many regions.

LARGEST EARTHQUAKES - USGS CATALOGUE (6 OF 44 SHOWN)

Date	Mag	Depth	Location (USGS)	Dist	Level
2016-11-27	M 5.4	10km		32 km	MODERATE
2020-09-15	M 5.3	10km		91 km	MODERATE
2022-07-31	M 5.1	10km		51 km	MODERATE
2025-02-27	M 5.0	10km		88 km	MODERATE
2017-12-08	M 5.0	10km		63 km	MODERATE
2022-10-19	M 4.9	24km		78 km	LIGHT

Table lists individual events. The seismic level groups aftershocks with their mainshock, so it is not a simple event count.

SAMPLE REPORT

KEY SITE FACTS

Elevation / slope	3352.5 m / 34.0°
Average annual rainfall	4106 mm
Rainfall-moisture index (proxy)	0.85 (rain-derived, not satellite NDVI)
Recent seismicity	High
Average max / min temperature	7.9°C / 1.5°C

HEAT & COLD STRESS

HEAT STRESS

LOW

Avg max 7.9°C, peak 16.2°C. Manageable range - standard thermal design and the local concrete code cover depth apply.

COLD STRESS

MODERATE

Coldest recorded -17.5°C (avg min 1.5°C). Sub-zero conditions occur: check local frost depth, protect water pipes and use freeze-thaw-resistant concrete where exposed.

DATA AVAILABILITY	90%	All primary data sources responded. This shows data availability only, not accuracy; outputs remain statistical estimates.

REGULATORY & LEGAL FLAGS

- ! Seismic compliance advisory per the applicable local seismic code - earthquake-resistant construction strongly recommended
- - Moderate heavy-rain/flood indicator - Verify flood-zone and permit status with the local authority
- - River, flash-flood and landslide/mudflow hazards are NOT modelled (rain data is a ~25 km grid) - check local hazard maps and flood history
- ! Steep terrain (slope 34°) - slope-stability / landslide assessment advisable before design
- - No national building code is applied in this report. Confirm which seismic/structural provisions the local authority enforces.

SAMPLE REPORT

SITE: · PROJECT: FARM · RISK SCORE: 61/100 · DATE: 14 November 2026

ENGINEERING RECOMMENDATIONS - FARM PROJECT

1

Crop & Water Planning

High-rainfall site: choose crops tolerant of wet soils and plan around the wettest months shown in the report.

2

Drainage & Land Shaping

Install field drains, bunds and diversion channels sized for peak runoff; consider raised beds on wet ground.

3

Soil Management

No soil map is used for this location. Test the soil before crop and fertiliser decisions.

4

Frost, Heat & Slope

Sloping ground erodes in heavy rain: use contour farming, terraces or cover crops and avoid bare soil in the wet season. Check crop suitability with the local agriculture office.

PRE-CONSTRUCTION PROFESSIONAL CONSULTATION CHECKLIST

[ ]	Soil testing laboratory - soil texture, pH, salinity and nutrient analysis before crop and fertiliser decisions
[ ]	Local land registry - title, agricultural land-use status and encumbrance search
[ ]	Water source and irrigation permit - confirm groundwater / canal access rights with the local water authority
[ ]	Local agriculture extension office - suitable crops, sowing windows and frost / heat risk for this area
[ ]	Drainage and flood status - confirm local flood history and field-drain design
[ ]	Slope and erosion plan - terracing, contour bunds or cover crops on sloping ground
[ ]	Farm structures (barn, store, pump house) - if built, a structural engineer for seismic design per local code

SAMPLE REPORT

© 2026 Thoiba Trader · Geo Prithvi Report Land Intelligence · geo.thoibatrader.com | Statistical probability estimates - not a legal or engineering certificate

DATA SOURCES, ATTRIBUTION & LEGAL DISCLAIMER

DATA SOURCES: Weather data by Open-Meteo.com (CC BY 4.0), based on Copernicus ERA5 reanalysis (open-meteo.com). Elevation - SRTM-based DEM via Open-Elevation (SRTM). Earthquake - USGS FDSNWS API. Seismic level - derived from USGS 10-year earthquake history (no national hazard map applied). Geocoding - (c) OpenStreetMap contributors / Nominatim (ODbL).

LIMITATION OF LIABILITY: This report uses publicly available data. If any data is found inaccurate, the developer (Thoiba Trader / Geo Prithvi Report) bears no responsibility, as all data is sourced from third-party public data services (Open-Meteo, USGS, Open-Elevation, OpenStreetMap).

NOT A LEGAL OR ENGINEERING CERTIFICATE: This report does not constitute a legal, financial, geotechnical, or structural engineering certificate. Thoiba Trader shall not be held liable for any financial loss, construction damage, or legal dispute arising from reliance on this report.

All risk scores are statistical probabilities derived from public climate, earthquake and elevation datasets - not ground-truth field measurements. For legal land due diligence, consult: (1) the local land registry, (2) a Licensed Geotechnical Engineer, (3) a Legal Advocate specialising in property law.

For investment-grade decisions, commission a licensed geotechnical engineer and obtain the local meteorological service station data for 30+ year local rainfall analysis.

USGS Earthquakes | Open-Meteo ERA5 | OpenStreetMap | Open-Elevation

SAMPLE REPORT