

METHODOLOGY BRIEF · PLATFORM OVERVIEW

Methodology Brief you can *explain*.

KurimaSense turns satellite and ground-truth data into agricultural intelligence calibrated for Zimbabwe — delivered with an explicit confidence score on every number. This brief explains where the data comes from, how it is calibrated, and how to read what we produce.

We would rather show our work than ask for your trust. This brief sets out the **data, calibration, and confidence scoring** behind every number we produce — at a credible level of detail, without disclosing proprietary specifics.

Principles

Explainability over prediction

Every output traces back to the inputs that produced it. We would rather show our work than ask for blind trust.

Determinism over hand-waving

Where a number is uncertain, we say so — and quantify it — rather than presenting a single confident figure.

Trust over novelty

We do not ship claims we cannot defend. Confidence and humility read as more credible than bravado.

Calm over urgency

Decisions about harvests, credit, and cover are made over seasons, not seconds. The product is built to match.

Data sources & provenance

Satellite — optical

Open Sentinel-2 and Landsat surface reflectance for NDVI and related vegetation indices, at field resolution.

Satellite — radar

Sentinel-1 C-band radar for cloud-resilient observation and soil-moisture proxies during the rainy season.

Weather

Reanalysis and forecast data for rainfall, temperature, and evapotranspiration, compared against multi-year normals.

Ground truth

Field boundaries, planting dates, crop, and variety logged by farmers and agronomists on the KurimaSense platform.

Agronomic priors

Local crop calendars, Natural Region characteristics, and prior-season outcomes used to anchor the models.

How confidence scores are earned

01

Ingest

Per-field and per-zone signals are assembled from satellite, weather, and ground-truth sources.

02

Calibrate

Signals are tuned to the specific Natural Region, crop, and variety — not a generic global baseline.

03

Score

Each output is paired with a confidence band derived from how strongly the inputs agree and how complete the data coverage is. Thin or conflicting data widens the band — visibly.

Calibrated for Zimbabwe

Global agtech platforms are built on American maize and Brazilian soya datasets. They do not know what Compound D is, cannot tell Natural Region II from Natural Region IV, and have effectively no training data for tobacco. KurimaSense is calibrated to the Natural Regions and to local crops — tobacco, maize, cotton, soya — using local agronomic priors and prior-season outcomes.

What we produce

Pre-harvest yield forecasts

Growing-zone yield estimates with confidence bands, for buyers, processors, and grain marketers.

Field-level risk scoring

Default-probability signals for smallholder agricultural lending, explainable down to the input.

Parametric insurance triggers

Index-based triggers and independent verification for automated payouts and reduced basis risk.

The farmer data layer

Field monitoring and an AI agronomist for farmers — the validated ground truth the platform is built on.

Limitations & maturity

- Outputs are labelled estimates with confidence bands — not guarantees. Results vary with weather, pests, and management.
- KurimaSense is early-stage. Where ground-truth coverage is thin, the confidence score reflects it rather than hiding it.
- Forecasts are versioned: any number can be traced back to the inputs and model version that produced it.
- Field and account data is access-controlled and is not sold to third parties.

Book a briefing

Message us on WhatsApp at +263 78 377 1054 and we will walk you through the methodology and your use case directly.

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