

ForestGuardKE

Real-Time Satellite Forest Monitoring.

(TRACK 2)

405 FOUND

+254 716 117 922

THE TEAM

Munira - Front end Dev.
Daniel - Backend Dev
Jeanne - Data Scientist
Lorna - Researcher/Story teller

PROBLEM STATEMENT

Slow detection and slow response allow illegal logging, charcoal burning, encroachment, and even early-stage wildfires that often go unnoticed until the damage is already baked in.

The existing blind spot is where monitoring is manual, inconsistent, underfunded, and heavily dependent on rangers physically covering huge territories.

We are creating a system that attacks this blind spot by providing constant, automated satellite surveillance- creating a “live map” of forest vulnerability that institutions and communities living next to forests can actually act on.

Through countless efforts by Green Belt Movement, sustainability isn’t built in boardrooms; it’s built through local participation. Through the system, real-time information makes the community active protectors and supports enforcement and policy pressure.

PROPOSED SOLUTION

Using satellite data, we track every tree in real time. If a tree is cut down, alerts are sent immediately. Our dashboard provides insights across location, time of year, and annual trends, helping protect and analyze their forests efficiently.

ForestGuard leverages satellite imagery and AI to monitor forests in real time.

Every tree is tracked, and if a tree is cut down, the system sends instant alerts to forest managers. Our platform also generates comprehensive reports with insights across locations, seasons, and year-long trends, helping stakeholders understand forest health, identify patterns, and make informed decisions.

The innovation? Introducing real-time satellite monitoring, allowing authorities to track every tree remotely, instantly detect illegal cutting, and generate actionable insights across the entire forest landscape.

By combining AI, satellite imagery, and interactive reporting, our solution provides continuous, scalable, and data-driven forest management, something currently unavailable at this scale in Kenya.

IMPACT & FEASIBILITY

Sharper, faster protection: Early detection of illegal logging, charcoal kilns, and wildfires prevents large-scale forest loss before it starts.

- **Healthier ecosystems:** Continuous monitoring maintains canopy cover, protects watersheds, and supports biodiversity—the kind of holistic restoration GBM aims for.
- **Data-driven conservation:** Agencies get real-time, high-frequency data that improves planning, enforcement, and restoration.
- **Empowered local defenders:** Community Forest Associations (CFAs) gain verified alerts they can act on immediately.

IMPACT & FEASIBILITY

- Practical Implementation plan
- **Phase 1 - Pilot**- First actual integration of system which provides working proof of concept with real alerts, validated by rangers and community members.
- **Phase 2 - Expansion to multiple Forest Blocks** -Creating interconnected monitoring of several forests + community-tech collaboration.
- **Phase 3 - Institutional Integration** - Onboarding KFS regional offices, environmental NGOs, and WFM/GBM field teams.
- On scaling, the Green Belt Movement would use the system as their monitoring + accountability arm by deploying it in every forest they rehabilitate to measure survival, catch interference, and document impact for donors.
- Wangari Mathai Movement would use it as a civic engagement tool for digital activism within our communities and a data source for policy-driven campaigns.