ECODAIRY.AI

Optimizing dairy cattle while fighting climate change

Climate and Cows

Did you know?

Every time a cow burps, it's like starting a car.

With 15.8 million dairy cows in Kenya, that's like having a quarter of Germany's cars running in our atmosphere.

Based on annual feed intake, dairy cows lose approximately **5-7% of their gross energy intake (GEI)** in the form of methane emissions.

This percentage represents the energy lost solely as methane, which is one of the primary inefficiencies in feed energy conversion. (C. Arndt et al.)

Efforts to reduce methane emissions have gained momentum in recent years, with the Paris Agreement calling for a reduction of agricultural methane emissions by 24-47% by mid-century.

Kenya, a signatory this agreement, has pledged to reduce GHG emissions, but progress remains limited.

BREAKING POINT

Environmental Responsibilities **VS** **Profitable Production**

We lack the tools to optimize both simultaneously, leading to either reduced profits or excessive emissions.

14.5%
Global GHG Contribution by Agriculture

~80%
Livestock Methane Contribution

3.1B
Pounds of CH4 by 2036

30%
Annual Increase in Feed cost in the last year

2.1%
Annual Increase in Global Dairy Demand by 2036

GAMECHANGER

Farm Daily metrics

Weather conditions

Methane Tracking

Daily Optimized Feed reccomendations

Reduced Methane emission

3%

Annual methane reduction

53.8%

Increase in Milk production for the Dairy Industry

TARGETED HORIZONS

**Total Addressable Market (TAM)
Kenya's Dairy Industry**

· Over 17 million dairy cattle

· Annual milk production of 5.2 billion liters

· Dairy industry valued at over 2.2 billion KES

**Serviceable addressable market (SAM)
Tech-enabled farms**

·Estimated 30% of dairy farms use some form of farm management technology

·Represents over 5.1 million dairy cattle and 1.56 billion Liters of annual milk production

Serviceable Obtainable Market (SOM): Initial target regions

·Focusing on 3-4 key dairy-producing counties in Kenya

·Estimated 1M Dairy farms and 2.5M dairy cattle (14.7% TAM)

·Milk production of 1.5B L of annual milk production (28.8% TAM)

COMPETITIVE EDGE

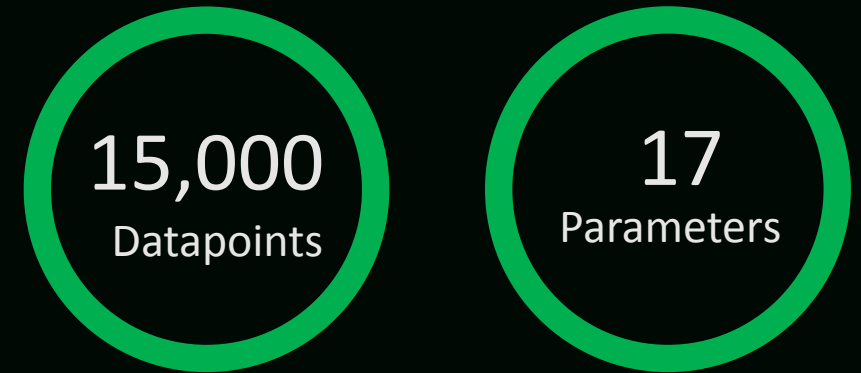**Connectera** **Zelp** **Cargill** **DigiCow Africa** **Mfarm Kenya**

Feature	Ecodairy AI	Global Players	Local Players
Methane Reduction	✓✓✓	✓	✗
Feed Optimization	✓✓✓	✓✓	✗
Cost-Effectiveness	✓✓✓	✗	✓✓
Local Market Fit	✓✓✓	✗	✓✓✓
AI/ML Implementation	✓✓✓	✓✓	✗
Offline Capability	✓✓	✗	✓✓
Hardware Requirements	✓✓✓	✗	✓✓
Environmental Impact Tracking	✓✓✓	✓	✗

OUR FUTURE

Digital Foundations

Smart Operations

Advanced Features

Simple mobile app for basic farm data collection (milk, feed, costs)

Focus on immediate economic benefits through basic analytics

Partnership with dairy cooperatives for distribution and trust-building

Integration with M-PESA and cooperative payment systems

Feed optimization recommendations based on real data

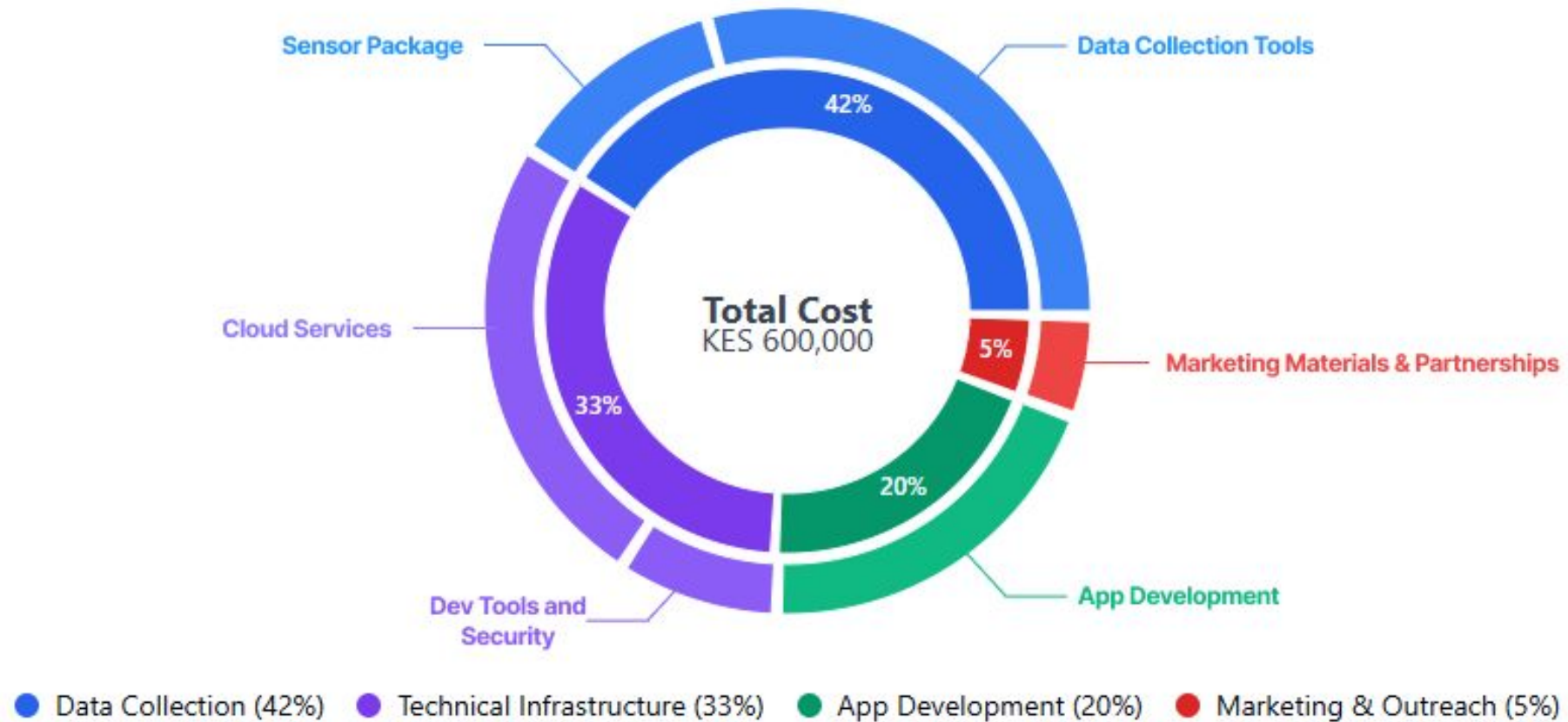Focus on cost reduction and yield improvement

AI-powered predictions for health and yield

Advanced environmental impact tracking

Market integration (feed suppliers, vets, milk buyers)

Potential carbon credit integration

Sensor Package

Data Collection Tools

42%

Cloud Services

Total Cost
KES 600,000

5%

Marketing Materials & Partnerships

33%

20%

App Development

Dev Tools and
Security

● Data Collection (42%) ● Technical Infrastructure (33%) ● App Development (20%) ● Marketing & Outreach (5%)
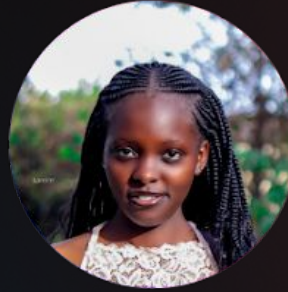
We're minimizing costs by using cloud pay-as-you-go services, starting with a

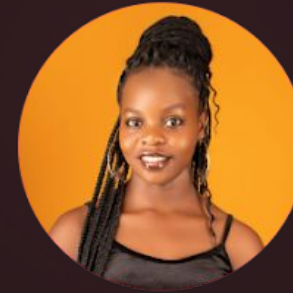PWA for broad device access, and affordable Arduino sensors for data collection.

The Team

Precious Wafula

Computer Science Graduate
Data Science specialist

Cynthia Chege

Computer Science Graduate
AI, ML Developer

Christa Marriane

Computer Science Graduate
Data Preprocessing Specialist

Alloys Kennedy

Computer Science Student
Mathematics and Statistics Specialist

Perminus Mugumo

Computer Science Student
Data Scientist Specialist

Victor Wilfred

Computer Science Student
UI/UX with a ML Background

Screen 1 — Landing Page

EcoDairy.AI
Powered by Artificial Intelligence

How It Works Impact Login Start Free Trial

AI-Powered Feed Management for Sustainable Dairy Farming

Revolutionizing dairy farming in Kenya through AI-optimized feed formulations that reduce methane emissions while maximizing milk production and cattle health.

Start Optimizing Today Watch Demo

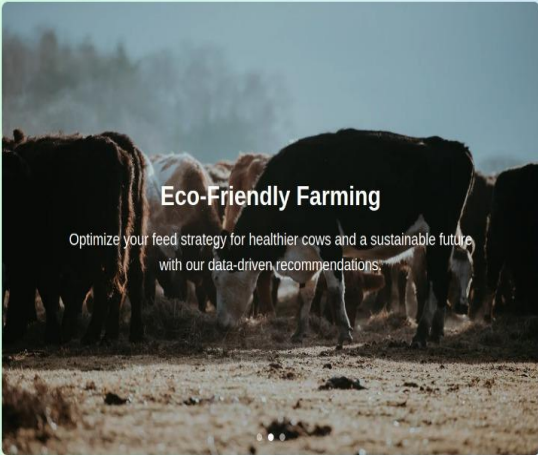**30%** Methane Reduction **15%** Milk Yield Increase **20%** Feed Cost Savings

Eco-Friendly Farming
Optimize your feed strategy for healthier cows and a sustainable future with our data-driven recommendations.

Screen 2 — Smart Feed Advisor

EcoDairy.AI

AI
Get Feed Plan

Application
Dashboard
Statistics
Daily Data Recording

Stored Recommendations
Bessie
Daisy
Molly

Farm Management
Add Cow
Add Farm

Notifications
Notifications 3

User Profile

Smart Feed Advisor
Current recommendations and analysis
Select Different Cow

Nutrient-Rich Feed Blend
Type | Amount | Actions
Mixed Hay | 7.6 kg

Feed Additive
Type | Amount | Actions
Essential Oils | 30 g

Predicted Milk Yield
29.4 Liters

Predicted Methane Emission
69.5 Grams

Comparative Metrics
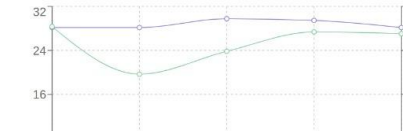
Milk Yield
Current 20 L ↑47.0% Predicted 29.4 L
0 — 40

Methane Emission
Current 113 g ↓38.5% Predicted 69.5 g
0 — 500

Recommendation Summary
Based on Daisy's injured status and early lactation stage, we recommend Mixed Hay at 7.6kg/day supplemented with Essential Oils. This combination should improve the milk yield while reducing methane emissions. Regular monitoring is advised.

Milk Yield and Methane Emission Trend
32 / 100
24 / 75
16 / 50

Screen 3 — Dashboard

EcoDairy.AI

AI
Get Feed Plan

Application
Dashboard
Statistics
Daily Data Recording

Stored Recommendations
Bessie
Daisy
Molly

Farm Management
Add Cow
Add Farm

Notifications
Notifications 3

User Profile

Hello Guest
Your stats today

Longest Streak 4 days
Current Streak 0
Subscription Status Free Upgrade

AI Feed Plan Record Today's Data

Overview | Trends & Analytics | Cows & Data | IoT & Notifications | Reports

IoT Notifications
Real-time updates from methane sensors connected to cows in the barn
All systems operational
Monitoring 1 connected device
Last update: a few seconds ago ago

Average Methane Emissions
112 g/day
-4% from last month
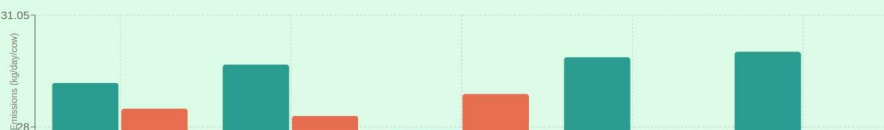
Average Milk Yield
28.5 L/day
+6% from last month

Weather Impact Alert
High temperatures expected this week
Increased temperatures may lead to heat stress. Consider adjusting feeding times and increasing water availability.

Methane Emissions vs Milk Production
September 2024 Weekly Measurements
■ Milk Production ■ Methane Emissions
31.05
28

Screen 4 — Pricing

Ecodairy.AI

Choose Your Plan

Select the perfect plan to optimize your dairy farm management

Continue to free trial

Monthly ⚪ Annual Save 10%

Basic
Digital Farm Assistant
KES 500 /month
Perfect for small farms with 1-5 cows
✓ Basic production tracking (milk records)
✓ Simple feed calculator
✓ Basic health records
✓ SMS alerts/reminders
Get started

Professional Most Popular
Farm Manager Pro
KES 1500 /month
Ideal for medium farms with 5-15 cows
✓ Everything in Basic, plus:
✓ Advanced analytics
✓ Feed optimization tools
✓ Profit/loss tracking
✓ Market price updates
✓ Basic veterinary advisory

Enterprise
Complete Farm Solution
KES 3000 /month
Designed for large farms with 15+ cows
✓ Everything in Professional, plus:
✓ Priority marketplace access
✓ Advanced veterinary support
✓ AI-powered insights
✓ Export reports
✓ Multiple farm management

Thank You

Until you dig a hole, you plant a tree, you water it and make it survive,

you haven't done a thing. You are just talking.

~ Wangari Maathai ~