CASE STUDY

Carbon Credit Monitoring System

A Zoho Creator-Based Digital Solution for Carbon Project Monitoring

CLIENT	Planethos Environmental Services
PLATFORM	Zoho Creator
SOLUTION TYPE	Centralized Project Monitoring & Management
KEY AREAS	Beneficiary • Survey • Stove • KPT • IoT • Analytics & Reporting

FROM BENEFICIARY REGISTRATION TO PROJECT MONITORING

One connected digital workflow for field operations, monitoring, and reporting.

Overview

Planethos Environmental Services required a structured digital solution to manage activities associated with carbon-related project operations. The Zoho Creator-based Carbon Credit Monitoring System brings beneficiary management, surveys, location capture, verification, stove distribution, Kitchen Performance Tests (KPT), IoT monitoring, data processing, analytics, and reporting into a connected platform.

CORE OBJECTIVE Replace fragmented and manual processes with a structured workflow that improves visibility, traceability, and control.

Company Introduction

Planethos Environmental Services is the client organization for this project. The project involves multiple operational stages, including beneficiary surveys, verification, stove distribution, KPT records, IoT-based monitoring, data processing, and reporting. The system was designed to connect these activities within one streamlined process.

Project Overview

PARTICULAR	DETAILS
Client	Planethos Environmental Services
Platform	Zoho Creator
Project	Carbon Credit Monitoring System
Solution Type	Centralized Project Monitoring & Management
Key Areas	Beneficiary, Survey, Stove, KPT, IoT, Analytics & Reporting

Business Requirement

The project required a centralized system capable of managing information from initial beneficiary registration through project monitoring and analysis.

- Centralized beneficiary management
- Digital field survey management
- GPS and location capture
- Survey verification and approval
- Stove distribution tracking
- Stove acceptance and rejection management
- Kitchen Performance Test (KPT) management
- IoT device integration
- IoT data collection and validation
- Project monitoring and calculations
- Dashboards and analytics
- Operational and management reporting

Problem Statement and Key Challenges

The project combines different information types, from beneficiary surveys and geographical data to stove distribution, KPT records, and IoT-generated data. Without a centralized digital workflow, these activities can be difficult to coordinate and monitor consistently.

- Manual handling of project information
- Difficulty maintaining connected beneficiary records
- Limited visibility into survey approval status
- Challenges tracking stove distribution and acceptance
- Separate management of KPT information
- Handling and validating incoming IoT data
- Difficulty monitoring project performance
- Time-consuming reporting and analysis

Key requirement: Establish one connected system to capture, process, monitor, and report project information.

Solution Discovery and Evaluation

After reviewing the business requirements, a centralized application approach was proposed using Zoho Creator. Rather than creating isolated forms, the solution was structured around the project's operational flow, connecting beneficiary information with surveys, verification, stove distribution, KPT, IoT monitoring, processing, and analytics.

The application structure includes Beneficiary Management, Approval Management, Stove Management, KPT Management, IoT Management, Carbon Credit Monitoring, Analytics, and Reports.

Solution Approach

Centralized Data Management

A centralized database maintains project information and relationships between beneficiaries, surveys, stoves, KPT records, IoT devices, and monitoring data. This allows relevant activities to be traced through the project lifecycle.

Digital Field Data Collection

Field users can digitally capture beneficiary and household information through the survey process. Location details can be linked to the relevant beneficiary record.

Workflow-Based Approval

Survey submissions follow a defined review process.

Survey Submitted
↓
Pending Review
↓
Verification
↓
Approved / Rejected / Pending

Connected Project Modules

The modules are connected so that information can flow from one project stage to the next, reducing disconnected data handling and providing a more complete view of activities.

Key Features and Capabilities

1. Beneficiary Management

A centralized database manages project beneficiaries and connects their records with surveys, stove information, KPT records, IoT devices, and other project activities.

2. Digital Survey and GPS Capture

Field users can capture household and project information digitally, including geographical details such as latitude, longitude, village, district, and state.

3. Survey Review and Approval

Submitted surveys can be reviewed and assigned statuses such as Pending, Approved, or Rejected. Approval and rejection information can be retained for traceability.

4. Stove Distribution Management

For approved beneficiaries, the system supports distribution tracking, installation status, supporting information, and acceptance or rejection.

5. Kitchen Performance Test (KPT)

KPT records collect information needed to evaluate kitchen and stove performance and remain associated with the relevant beneficiary and stove.

6. KPT Data Processing

A structured data process supports entry, validation, configured calculation rules, performance metrics, and project analysis. Formulas depend on the methodology and requirements provided by the client.

7. IoT Integration

The proposed integration flow connects IoT-enabled devices and an IoT platform/API with Zoho Creator for data validation, processing, and analytics.

8. IoT Data Validation

Validation can identify missing data, duplicate records, invalid device IDs or timestamps, unmapped devices, abnormal readings, and synchronization failures.

9. Carbon Credit Monitoring

The monitoring area can consolidate beneficiary activity, stove usage, KPT completion, IoT device activity, data availability and quality, performance indicators, and carbon-credit-related metrics.

10. Dashboard and Analytics

Dashboards can provide views for beneficiaries, stoves, KPT, IoT devices, and project performance, using KPI cards, charts, trend analysis, maps, and location-based analysis.

End-to-End Business Workflow

The complete project workflow is structured as follows:

Beneficiary Registration

↓

Beneficiary Survey

↓

Location / GPS Capture

↓

Survey Review

↓

Approval / Rejection / Pending

↓

Stove Distribution

↓

Stove Acceptance / Rejection

↓

KPT Data Collection

↓

IoT Data Collection

↓

Data Processing & Calculation

↓

Analytics & Reporting

This workflow connects the major stages and enables information to be traced from the initial beneficiary survey through monitoring and final analysis.

Automation and Integration

Zoho Creator workflows can be used to reduce repetitive manual activities and maintain consistency across the process.

- Automatic generation of unique IDs
- Automatic status updates
- Reviewer notifications
- Approval and rejection notifications
- Movement of approved beneficiaries to the next stage
- Stove status updates
- Acceptance and rejection workflows
- KPT linkage
- IoT data import and validation
- Automated calculations
- Dashboard data updates

Notifications and Process Alerts

The system can generate notifications for important workflow events, helping users stay informed about activities that require attention.

- New survey submission and surveys pending review
- Survey approval or rejection
- Stove distribution and stove acceptance pending
- Stove acceptance or rejection
- KPT pending or completed
- IoT data not received

Reporting and Management Visibility

The solution supports reporting for operational users, project managers, and management. Reports can cover:

- Beneficiary information and survey status
- Approval and rejection
- Stove distribution and acceptance

- KPT records
- IoT devices and IoT data quality
- Location-wise information
- Project performance and carbon credit monitoring
- Monthly management reporting

Business Benefits

- **Centralized Information:** Project information can be maintained in one connected system rather than across separate processes.
- **Improved Process Visibility:** Users and stakeholders can track beneficiaries, surveys, stoves, KPT activities, and IoT data.
- **Reduced Manual Effort:** Automation can reduce repetitive tasks such as status updates, notifications, imports, and calculations.
- **Better Data Traceability:** Information remains connected from beneficiary registration through monitoring.
- **Faster Monitoring and Reporting:** Dashboards and reports provide structured access to project information.
- **Integrated Monitoring:** Beneficiary, stove, KPT, and IoT information can be viewed as part of a connected project ecosystem.

Project Outcome

The solution is designed to provide Planethos Environmental Services with a centralized platform for managing and monitoring the complete project lifecycle. It brings together digital beneficiary registration, online surveys, GPS tracking, verification, approval, stove management, KPT, IoT integration, data processing, monitoring, analytics, and reporting.

Beneficiary → Survey → Stove → Distribution → KPT → IoT Device → IoT Data → Calculations → Analytics

Conclusion

The Carbon Credit Monitoring System demonstrates how Zoho Creator can be used to build a centralized, workflow-driven solution for complex project operations. By connecting beneficiary management, field surveys, approval workflows, stove distribution, KPT activities, IoT integration, data validation, analytics, and reporting, the solution establishes a structured end-to-end process focused on visibility, traceability, automation, and reporting across the project lifecycle.

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