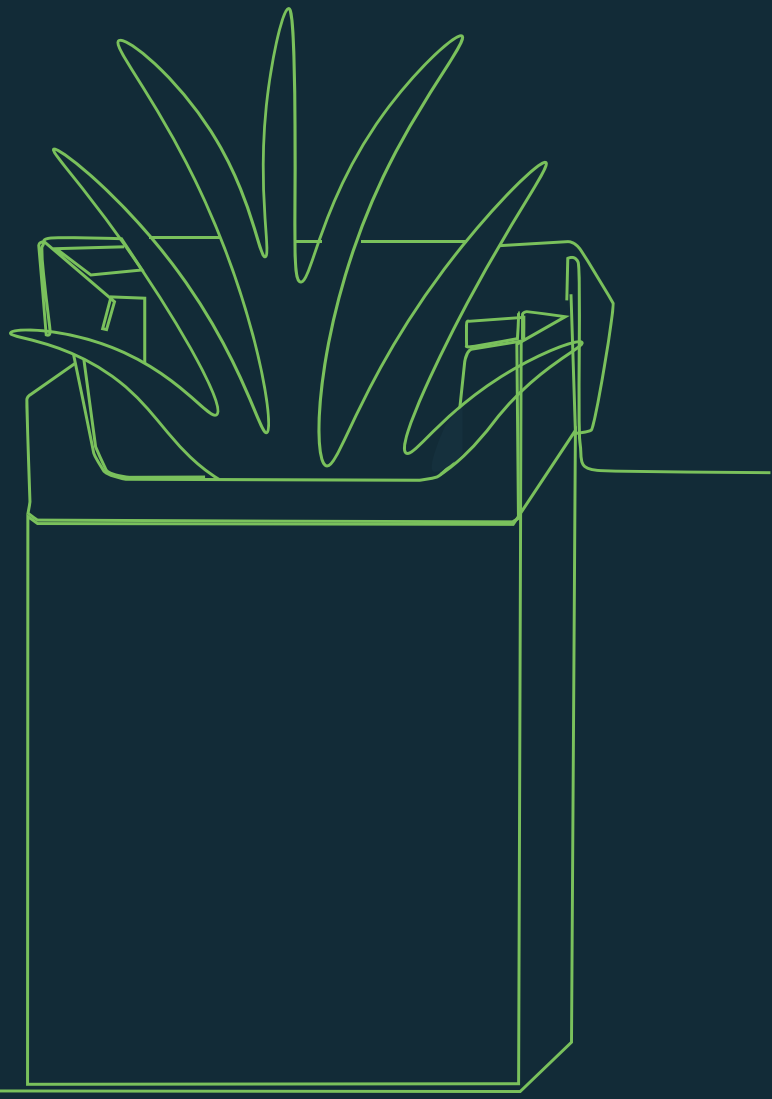
Cropin

Transforming Tradition: Godfrey Phillips India's Digital Metamorphosis in the Tobacco Realm



Introduction

Established in 1933, Godfrey Phillips India (GPI) dominates the Indian Fast-Moving Consumer Goods (FMCG) landscape, crafting premium tobacco experiences with iconic cigarette brands like Four Square, Red & White, Cavenders and Marlboro (through exclusive partnership). GPI is a subsidiary of Modi Enterprises, a conglomerate with diversified assets.

GPI's impact extends beyond the commercial realm. GPI initiated the Sustainable Tobacco Program (STP) to promote eco-friendly Good Agricultural Practices (GAP) for tobacco cultivation with reduced chemicals. The STP aims at the overall socio-economic development of the farming community. Under the Agricultural Labor Practices (ALP) program GPI actively eradicates child labor and uplifts farm labor practices. Under CSR community development initiatives like building RO plants and check-dams in villages, ecosystem biodiversity plans, etc., showcase the commitment of GPI to sustainable development.

GPI's leaf division in Guntur ensures unparalleled control over the tobacco sourcing process, guaranteeing end-to-end traceability and adherence to sustainability standards. For GPI, it is not just about business figures; it's about the legacy, responsibility, and influence it has cultivated in the tobacco industry.

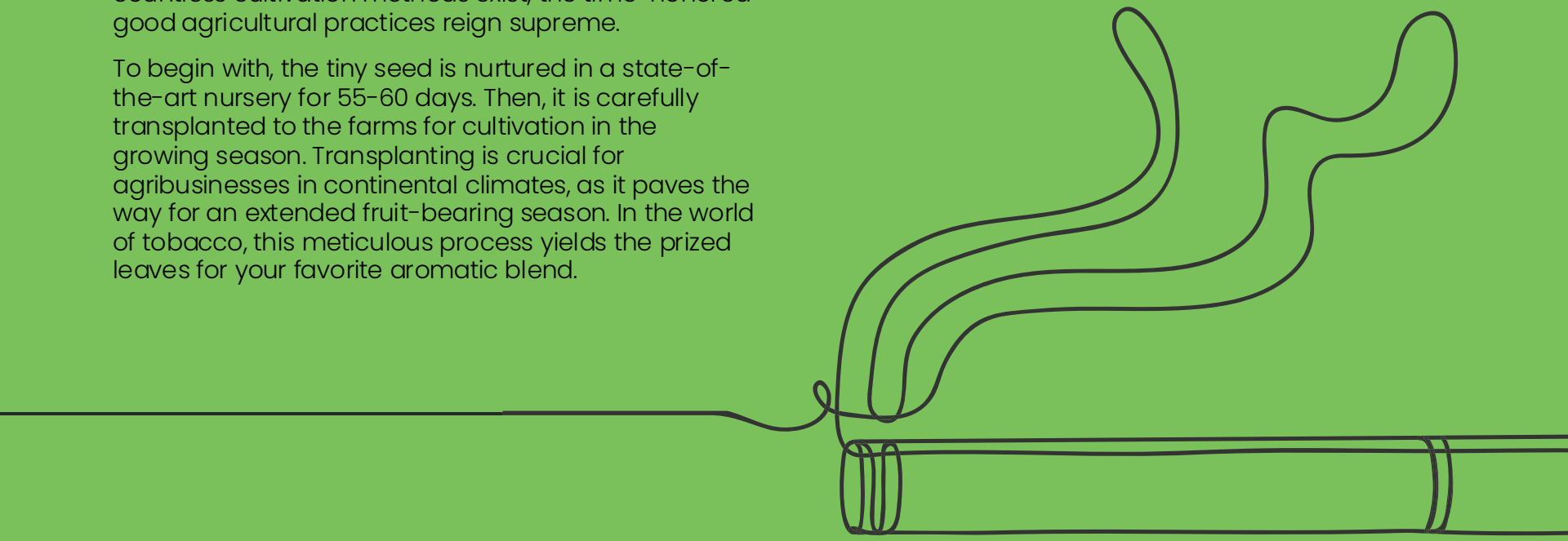
While GPI's integration of legacy and corporate social responsibility within the tobacco industry presented significant challenges, the company has embarked on a journey to overcome them. This narrative will delve into the complexities encountered and explore the innovative digital solutions GPI has deployed in its leaf division to navigate these hurdles.

- **Industry:** Consumer Packaged Goods
- **Location:** India (Andhra Pradesh)
- **Crop:** Tobacco
- **Solution Area:** Digitization; Implementation and monitoring of Sustainable Tobacco Production; Transparency from seed selection to harvest; Cost optimization; Record CSR activities for validation
- **Product Used:** Cropin Grow

From Seed to Smoke

The humble tobacco leaf from the Solanaceae or nightshade family embarks on a fascinating journey before reaching the consumer's fingertips. While countless cultivation methods exist, the time-honored good agricultural practices reign supreme.

To begin with, the tiny seed is nurtured in a state-of-the-art nursery for 55-60 days. Then, it is carefully transplanted to the farms for cultivation in the growing season. Transplanting is crucial for agribusinesses in continental climates, as it paves the way for an extended fruit-bearing season. In the world of tobacco, this meticulous process yields the prized leaves for your favorite aromatic blend.



Navigating Tobacco Cultivation: Towards Efficiency, Transparency and Sustainability

India's tobacco industry operates within a nuanced landscape. Strict government regulations designed to optimize production and quality permeate every step of the process. Farmers, who play a crucial role in this journey, function within a specific structure.

Given the stringent compliance regulations governing tobacco production, customers of GPI demand processed leaves that adhere to Sustainable Tobacco Production (STP) mandates. These mandates prioritize sustainable practices aimed at minimizing environmental impact, people safety and overall socio-economic growth of the farming community while minimizing health risks to consumers.

GPI set out to empower the entire value chain with clear objectives: to enhance efficiency, transparency, and sustainability across all processes, from seed selection to harvest collection.

To meet STP standards, GPI ensures that farmers refrain from using unrecommended CPAs (Crop Protection Agents). Additionally, after pesticide application, farmers are required to display placards during the re-entry interval to prevent anyone from entering the field. Responsible disposal of empty pesticide containers and proper storage of leftover pesticides (CPAs) are also enforced.

As part of its Corporate Social Responsibility (CSR) initiatives, GPI facilitates the collection of empty pesticide containers through the provision of CPA disposal bins, which are then disposed off responsibly by GPI.

Under its sustainability initiative, GPI promotes the cultivation of eucalyptus trees for the construction of wooden barns to ensure that wood comes from sustainable sources causing no damage to primary and conserved or reserved forests, which are essential in the tobacco leaf curing process. Furthermore, GPI monitors and promotes Agriculture Labor Practice (ALP) fair treatment of laborers by ensuring that farmers do not employ or recruit child labor and do not engage in forced labor.

These pursuits led GPI to explore the transformative potential of technology in revolutionizing tobacco cultivation in India.

GPI Embraces Technology for Sustainable Tobacco Cultivation in India

Driving Sustainable Growth: Godfrey Phillips India (GPI), a leading player in the tobacco industry, sought to elevate its operations beyond mere scale. The company embarked on a journey towards sustainable and ethical practices, encountering several challenges.

Before Cropin	After Cropin
Paper-based data management: Data collection relied on manual methods, which were prone to errors and inefficiencies, while being laborious and time-consuming	Digitization improved efficiency and traceability. It plugged data loss and eased data collection. Near real-time data was available to make decisions
Unorganized operations: Traditional methods lacked structure and consistency	Monitored adoption of the package of practices
Yield estimation inaccuracies: Reliable yield forecasting was difficult	Area audits improved the accuracy of yield estimation
Limited field-level transparency: Visibility of on-farm activities was limited	Documented all farm activities related to the crop, environment, and people improving visibility

GPI envisioned a future with real-time monitoring of GAP and ALP compliance and personalized support for farmers based on field data, weather patterns, and more.

Seeking a user-friendly and secure technology solution, GPI forged a now decade-old partnership with a leading Software-as-a-Service (SaaS) player. Cropin entered as a key partner, streamlining GPI's transformation process from 2014.

Goal 1:

The first order of business: tackling discrepancies.

To monitor field officers' activities and ensure adoption of the package of practices and traceability, GPI had to streamline the hitherto unorganized operations. GPI aimed to do away with rounded-off land estimates and paper trails and ensure accuracy in yield prediction. Management wanted clarity on pest and disease infestations to ensure consistency in the quality of tobacco produced every season.

- It became crucial to replace pen, paper, and MS Excel sheets with a farm management application. Farmers had to be empowered with knowledge, data-driven insights and alerts on pests and diseases to maximize their yields. The land acreage information provided by the farmers was used by GPI to calculate yield estimations. It led to high discrepancies. Area audits were conducted (geo-fencing or geotagging) directly on the platform, effectively rectifying the issue.
- The transformation was aimed at more than efficiency. The traceability of every leaf from nursery to final harvest had to be tracked with meticulous detail.

Goal 2:

Compliance and sustainability to become a tangible goal, not just a distant dream

To track the progress of its GAP and ALP compliance GPI had to document all farm activities related to crop, environment and people including CSR activities. This necessitated:

- Complete visibility into farm activities to track GAP and ALP compliance. Some benchmarks included - water conservation efforts, elimination of land refills, no child labor and forced labor, freedom of association, and proper sanitation.
- Management was required to record its CSR activities for validation.

Goal 3:

The final goal: Cost of production for farmers and a foolproof system of reporting.

To optimize expenses for farmers, GPI had to control costs. For this, they needed a breakdown of costs at plot level. This required an understanding of the following key concerns:

- How much money was spent?
- How much agri-inputs were used?

Manual recording of the cost of production was followed. As documentation was done on pen and paper, report generation was a challenge.

The Results:

Cropin Transforms Farming Operations for GPI

Cropin Grow, the farm management app on Cropin platform, enabled accurate area audits, farmer KYC (know-your-customer), ensuring the generation of secure and easily accessible data for GPI. The platform enabled tracking of operational details such as the transplantation of seedlings from nurseries to main fields and mapped individual farmers to their fields. Cropin configured the compliance forms in local language (Telugu) and trained 400 field technicians to digitally capture all this information seamlessly.

Custom workflows designed in Cropin Grow allowed GPI to trace seedlings effortlessly from the nursery to the main field and vice-versa. This feature provided a comprehensive solution for tracking and managing any issues arising in the main fields back to their nursery of origin and the associated farmers. The establishment of a complete nursery-to-field traceability system ensured transparency and accountability in the agricultural process.

Cultivable area of the farms based on area audits enabled GPI to determine the acreage under harvest. This data improved the accuracy of yield prediction for the season. Digital surveillance kept a watchful eye over the fields, providing early warning against pests & diseases and enabling swift, targeted interventions.

In the 60-day growth period in nurseries, field technicians diligently followed custom checklists created in Cropin Grow to ensure all necessary measures were in place, aiming for a germination rate of over 95%. In the event of pest or disease infestation, including common issues like ants, farmers could easily raise alerts to the management. The streamlined communication process empowered management to provide prompt instructions to field technicians, fostering a proactive approach to address challenges in tobacco cultivation.

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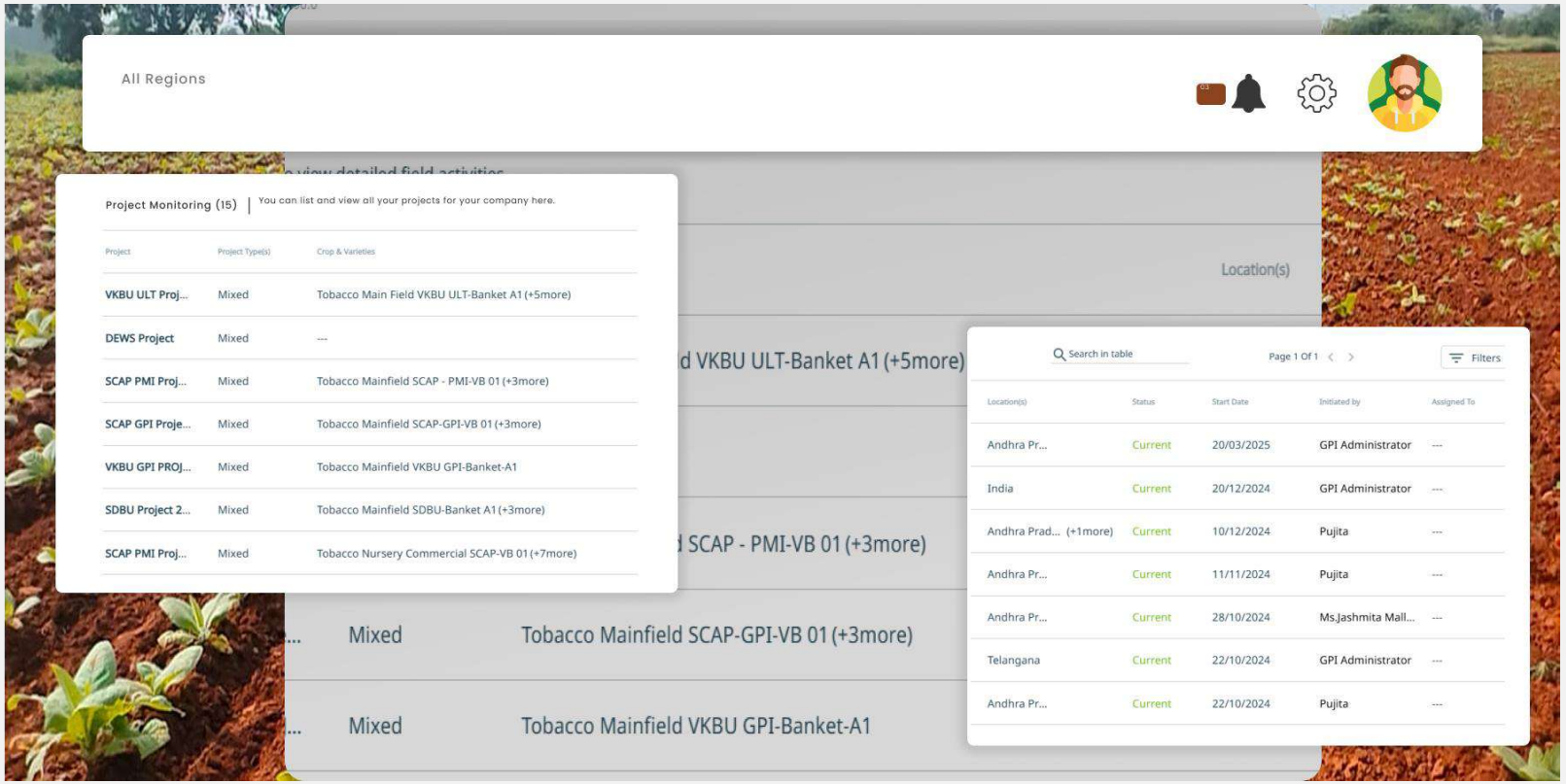
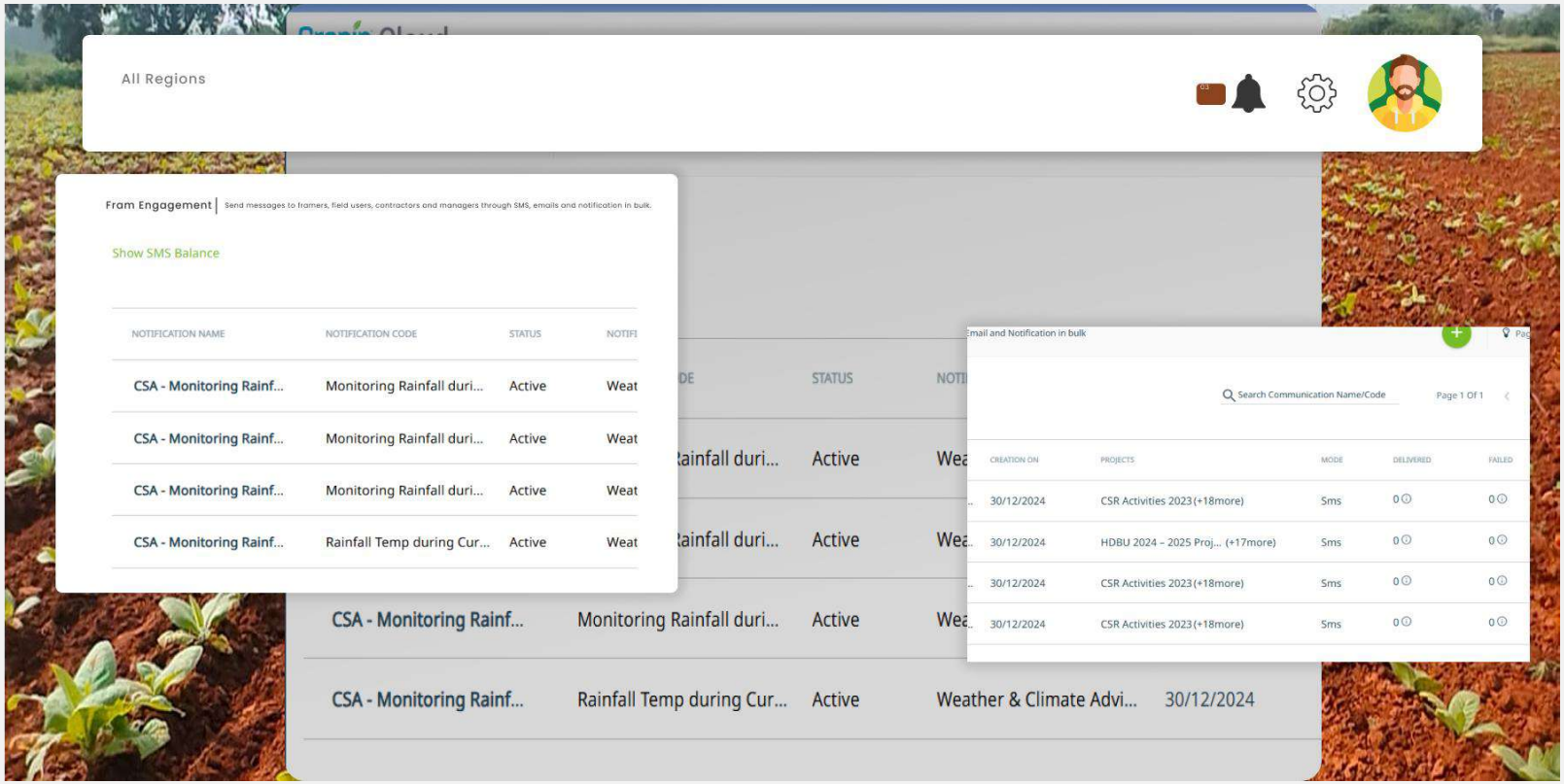
Farm Management with Cropin Grow



Key Features

- Farmer KYC
- Tailor-made survey forms for farmer practices and compliance check
- Area audit - Geotag farm plots
- Set up time-bound workflows and tasks for the field team based on the transplantation date
- Monitor input usage
- Monitor crop health
- Set pest and disease alerts
- Manage alerts and activity log
- Traceability
- Yield predictability
- Customized survey forms for risk management

Key Benefits



- Time and cost-saving
- Remote farm management with ease and confidence
- Capturing all STP-related (Crop, Environment, and People) information as per the schedule
- 360-degree analysis and feedback to stakeholders
- Facilitated speedy decision-making based on data and insights
- Significantly enabled the implementation of proactive, timely action plans to ensure compliance
- Winning customer confidence and an enhanced image for both GPI and Cropin

Cropin ensures the GPI legacy continues

Cropin customized farmer and user survey forms to capture essential details to align with GAP and ALP. The meticulous monitoring of adherence ensured the seamless integration of eco-friendly practices into the cultivation process. Field technicians played a crucial role, visiting farms, conducting interviews with farmers and laborers working on the farm, and diligently filling out these forms.

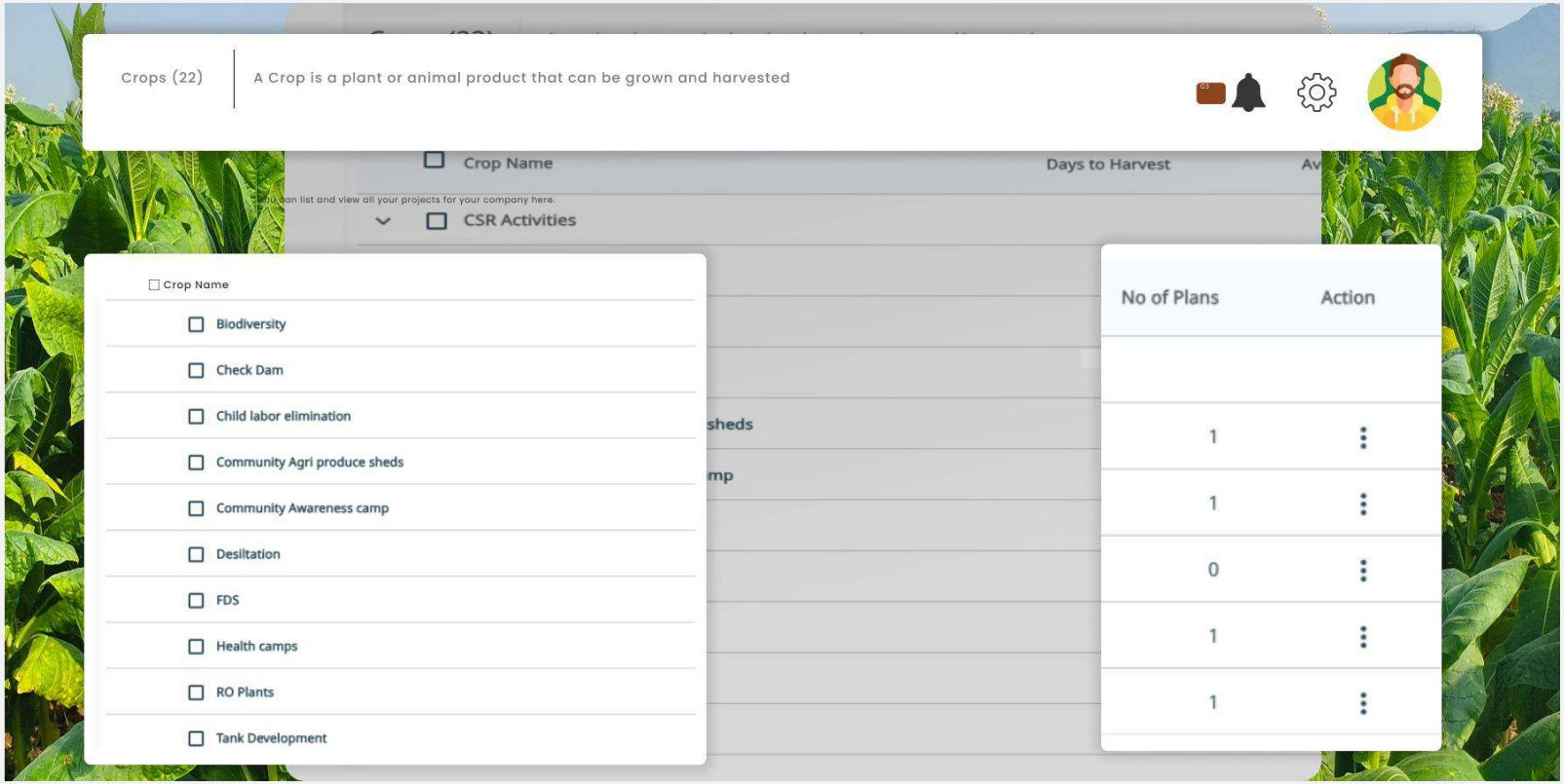
The commitment to eradicating child labor, a cornerstone of GPI's values, has found a champion in technology. Real-time field monitoring and robust reporting systems guaranteed fair labor practices. GPI has utilized the Cropin Grow app to pinpoint the geo-location of water pollution sources, areas where child labor is identified, and other pertinent compliance related information.

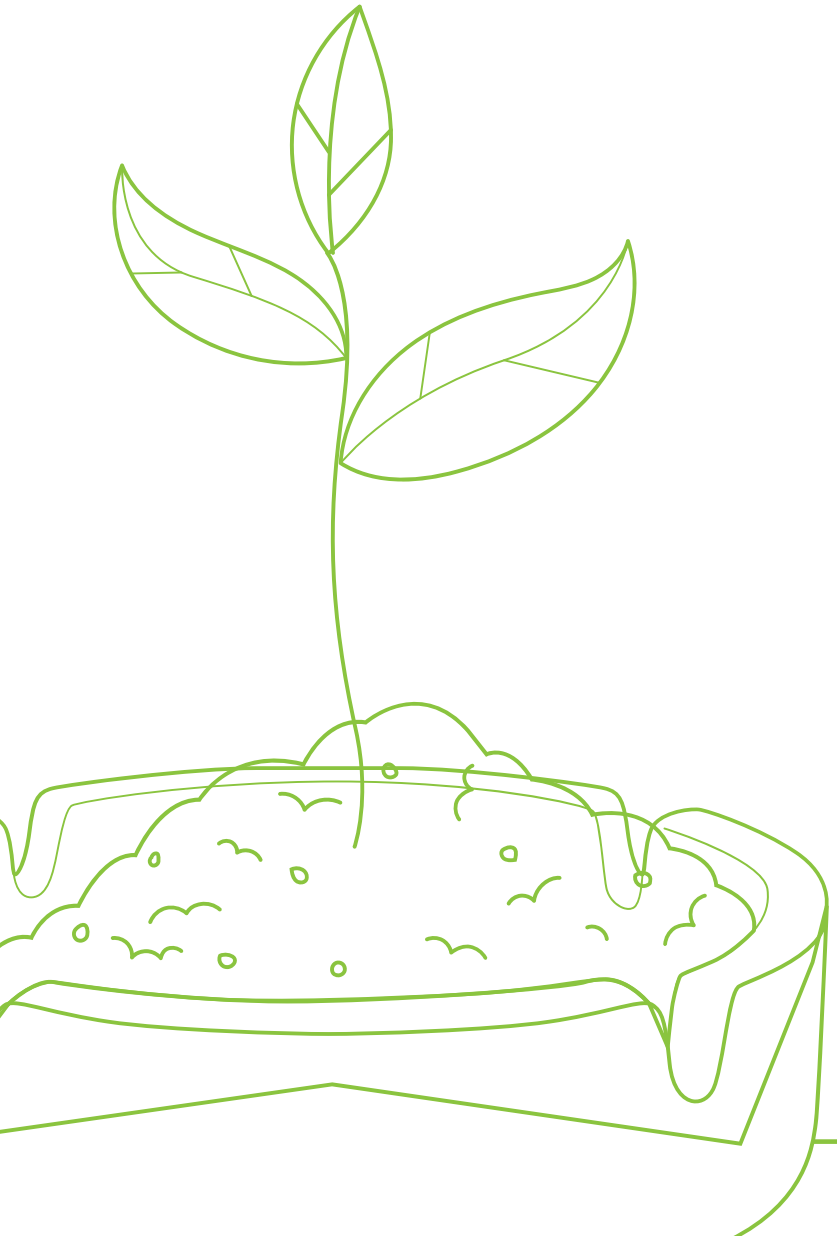
Compliance with Cropin Grow

Key features:

- Capturing farmer training records as per GAP and ALP
- Immediate notification to management in case of ALP issues (Prompt action and Non-conformities)
- Customization of the app for training on all aspects of STP

List of CSR activities captured with Cropin Grow





Cost control with Cropin Grow freeing up resources for what truly matters

Cropin Grow offers a detailed breakdown of costs at the plot level. The dedicated labor, materials and machinery segments enabled GPI to precisely calculate production costs. The app captured the per-hour cost of a tractor and the per-kilogram cost of production, which helped GPI optimize production costs for the farmer.

Reports generated through Cropin Grow

- Traceability
- Reverse traceability
- Farmers profiles
- Nursery health
- All information related to STP (Crop, Environment and People)

These downloadable reports served as validation for audits, assessments and other purposes.

The Impact till date

- Improved credibility with buyers, resulting in better business
- Total compliance on forced or child labor
- All aspects of CSR captured- geotag, expenses, etc.
- Cost of Production accurately captured
- 100% Digitization of leaf operations

115,333
Number of Assets

2,500,000+
Number of unique data points captured is over

31,357
Number of farmer profiles captured

31,357
Number of farming families positively impacted

116,000+
Number of plots geo-tagged and surveyed:

400
Number of field technicians trained:

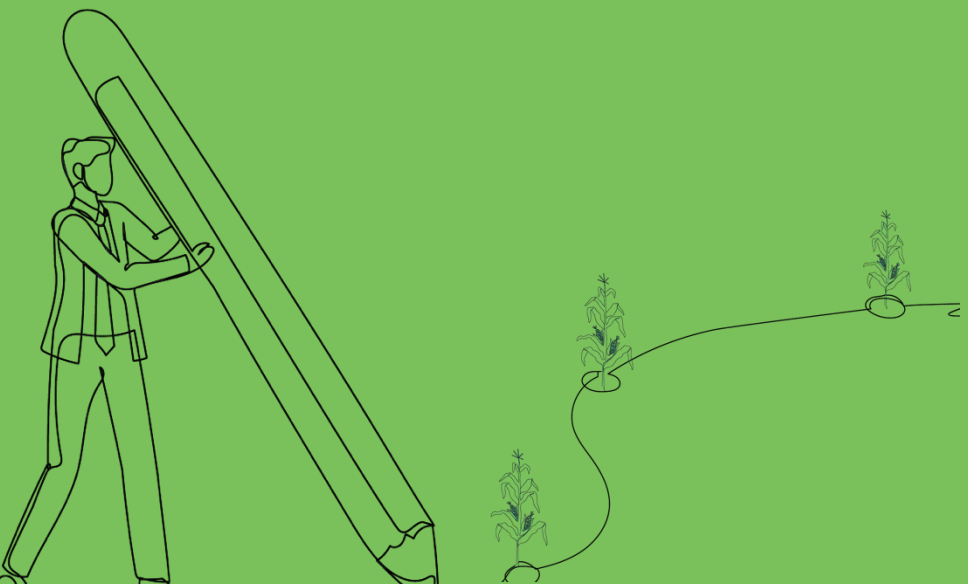
All alerts raised were addressed and closed

Branching Out: Future Collaborative Roadmap for Diversified Crop Expansion

GPI is delighted with the robust support system provided by Cropin, to enable their change management. Cropin consistently demonstrated a commitment to enable swift and effective field-level engagement to ease digital transformation. Their acumen to train field technicians earned them GPI's trust and satisfaction.

The positive experience has sparked discussions between GPI and Cropin on the potential expansion of further leveraging the platform in the future. They are exploring opportunities for broader collaborations, setting the stage for future growth and innovation.

> "GPI says: "Cropin's expertise, dedication, and enthusiastic attitude to take on any challenges have helped us to come out with solutions even to the most complex issues, which has given a cutting edge to GPI in the tobacco industry."



Cropin

Founded in 2010, Cropin is the world's most advanced AI Platform for Food and Agriculture. Cropin Cloud, the world's first industry cloud for agriculture, has computed 10% of the world's cultivable lands. Implemented by over 250+ enterprises, Cropin empowers stakeholders to make informed decisions that enhance farming efficiency, productivity, and sustainability. Our teams are spread across India, The United States, Italy, The Netherlands, and Brazil. We have digitized 30 million acres of farmlands and positively impacted over 7 million farmers worldwide. Our crop knowledge graph, spanning 350 crops and 10,000 varieties in 103 countries, powers the Cropin Cloud. We are at the forefront of uniting agribusinesses, development agencies, international organizations, and governments to leverage Agtech systems to transform global food systems and attain climate goals. Cropin is backed by Google, Bill & Melinda Gates Foundation, ABC Impact, and Chiratae Ventures, among other notable investors.