



GEOTRACEABILITY

Area of Focus: Traceability and supply chain management systems

How it Works: GeoTraceability, a private agribusiness technology company, leverages GPS mapping—integrated into a customized GIS—to help clients meet traceability demands in the marketplace. In Ghana, Armajaro Trading Ltd. have used the technology to map over 48,000 ha and feed this information into a GIS for employees (and a web-based platform for clients) with unique information needs and levels of access. Each farmer receives a unique farmer ID/code, linked to his/her cocoa certification ID. The process begins with the administration of a field-based questionnaire delivered on-farm by trained field surveyors, capturing information such as pesticide use, land tenure, planting date, and key farm and community infrastructure information. To speed data entry and reduce errors, GeoTraceability uses calibrated, scannable paper questionnaires (similar to those used in standardized tests in the U.S.). The surveyors use handheld Garmin GPS devices to accurately map the boundaries of farms, and the data is stored in the GPS and uploaded weekly into the database. Each surveyor is paid per farmer mapped and a premium for quality data and properly completed forms. An auditor re-maps 1 percent of every surveyor's farms for quality assurance; Armajaro's goal is to re-map all farms annually.

Technology used: Customized GIS, Garmin GPS (for mapping), barcode scanners, calibrated (i.e. 'scannable') survey forms

Implementer/Funder: GeoTraceability is a private technology company

Fees: There are no fees for farmers. GeoTraceability charges clients to customize the database and establish the GIS, and there is a software licensing fee per laptop. Costs vary according to the context, but the cost range for cocoa in Ghana is between \$5-25 USD/hectare.

Primary Markets: Africa (offices in Ghana and Kenya), Southeast Asia (office in Malaysia), Latin America

Users: GeoTraceability's primary client is Armajaro Trading Ltd. GeoTraceability recently became an independent company and is building up its client base across multiple commodities. As of January 2013, GeoTraceability has mapped 27,000 cocoa farmers in Ghana, covering 48,000 ha across 15 districts; global figures equal 64,000 farmers in 7 countries

Business Model: GeoTraceability is a private company with 15 full-time staff, mostly based in the countries of operation. It charges for its GIS customization, the TMS licenses, and then a fixed fee per ha/mapped. It uses a cloud-based system (managed by staff in Canada) to maximize efficiency.

Impact: Using GeoTraceability, Armajaro is able to quickly determine which cocoa plantations are the oldest to prioritize and target replanting efforts. Armajaro also discovered that actual average cocoa farm size is considerably smaller (1.6 ha) than assumed (3 ha). Although these farmers had higher yields on smaller plots than originally thought, they were also more land/resource constrained. Armajaro is also investing in mapping 3,000 cotton farms. Previously, cotton farmers received inputs on credit based on area planted (e.g. 1 ha = 3 bags fertilizers) but farmers vastly overestimated their farm size and struggled to repay input loans at season's end. Now, farmers only get the volume of inputs they need and Armajaro is more confident it will recoup the advances. They anticipate that farmers will receive greater net payouts at the end of the season, which in turn will improve relations and nurture performance incentives.

For more information: <https://www.geotraceability.com/>

Sources: Interviews with GeoTraceability and Armajaro staff, August 2012, updates provided January 2013.

DISCLAIMER

The views expressed in this publication do not necessarily reflect the views of the U.S. Agency for International Development or the U.S. Government.

This profile is supported by USAID's Fostering Agriculture Competitiveness Employing Information Communication Technologies (FACET) project under the Financial Integration, Economic Leveraging, Broad-Based Dissemination and Support Leaders with Associates award (FIELD-Support LWA). It was written by Anna Garloch of ACDI/VOCA (agarloch@acdivoca.org). FACET offers on-demand field support to help missions with the challenges of using these ICT interventions in agricultural development. To learn more about field support options, contact Judy Payne, ICT Advisor, (jpayne@usaid.gov).

Last updated January 2013