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Case Study 18

Ag FinTech

SatSource: Farm-Level Intelligence Powering Scalable Agricultural Credit in India

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Location: Delhi, India

Agricultural finance in India faces a persistent structural challenge. While agriculture supports a large share of livelihoods and national food security, formal credit systems struggle to serve small and marginal farmers consistently. This is not due to lack of demand or policy support, but to information asymmetry. Banks are required to make lending decisions with limited, fragmented inputs: self-declared crop information, inconsistent land records, and manual field verification. These methods are slow, costly, and increasingly unreliable in a climate-volatile environment. As a result, lenders face long turnaround times for Kisan Credit Card loans, low approval rates for new-to-credit farmers, and portfolio stress during adverse seasons. The system is reactive by design. The core problem is simple: banks cannot see the farm at scale.

SatSource was built to make farms visible, measurable, and comparable at population scale. At its core, SatSource converts satellite imagery, climate signals, and agronomic patterns into a standardised Farm Score and Farm Report that can be directly used in lending decisions. Each farm is assessed consistently across geographies using the same logic, enabling lenders to scale without scaling manual operations. A typical SatSource Farm Report includes verified farm boundaries and land use, cropping history across the last six seasons, crop identification and performance assessment, cropping intensity and irrigation condition, rainfall and groundwater stress indicators, regional agricultural potential benchmarking, and a consolidated, interpretable risk view for lending. Importantly, the output is not a black-box score.

Each Farm Score is accompanied by a transparent breakdown of contributing factors, allowing credit officers, risk teams, and regulators to understand why a farm is scored the way it is.

SatSource is deployed as an execution-first intelligence layer rather than a standalone analytics tool. Banks integrate SatSource via APIs into their existing lending workflows. During loan origination or renewal, the Farm Score and Farm Report are automatically pulled into the credit assessment process. Credit officers no longer rely solely on declarations or field visits; they make decisions with a verified view of farm behaviour over time. This design enables three critical shifts: from collateral-driven to productivity-driven lending, from manual verification to automated assessment, and from reactive risk management to proactive monitoring. As a result, lending decisions become faster, more consistent, and more defensible.

Loan processing time reduced from weeks to less than one day

SatSource is currently operational across more than eight states, covering over 230 districts and 0.228 million villages. To date, 0.63 million farm plots have been analysed, 0.42 million hectares assessed, and more than 60,000 farmer accounts evaluated, with the majority of coverage among small and marginal farmers cultivating less than two hectares. Across partner banks and financial institutions, SatSource has delivered measurable outcomes.

Disclaimer: "SatSource" in this document refers to the case study as published by IndiaAI under the above-mentioned Compendium of Casebook on Real-World Impact of AI in Agriculture (Case Study No. 18, pp. 43–44).

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Loan processing time has reduced from weeks to less than one day. Approval rates increased by up to 50%, particularly for new-to-credit farmers. Field verification costs dropped by up to 80%, and portfolio quality improved through early identification of stress before default events. These gains allow banks to expand outreach without increasing operational risk.

Climate risk is embedded directly into credit decisions through continuous monitoring of crop health, rainfall deviation, and water stress. Lenders can detect early signs of climate-induced stress, adjust exposure strategies proactively, design climate-aligned lending products, and reduce shock-driven defaults during adverse seasons. By integrating climate intelligence at the farm level, SatSource shifts agricultural finance from a reactive model to one that is climate-responsive by design.

SatSource is built as a Digital Public Infrastructure-aligned service. Its integration with the Unified Lending Interface allows farm intelligence to be accessed through a standardised national rail, reducing onboarding friction and enabling interoperability across institutions. The platform functions as a shared intelligence layer for agricultural finance, similar to how digital payment and identity systems transformed financial inclusion in India. Strategic collaborations with development finance and agri-finance partners further support the transition toward affordable, cash-flow-based lending for underserved farmer segments.

SatSource demonstrates how planet-scale intelligence, when embedded into national systems with execution discipline and citizen-first principles, can unlock economic growth while strengthening climate resilience. By turning farms into transparent, auditable data assets, the system enables credit decisions based on capability, resilience, and performance rather than paperwork or proximity. This establishes a foundation for inclusive, climate-smart agricultural finance at scale.

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SATSURE

Click here to read the complete case study as published by IndiaAI in the Compendium of Casebook on Real-World Impact of AI in Agriculture.

Discover how SatSure's Agri-banking solutions can transform lending and risk decisions: https://www.satsure.co/solutions/banking/ | Contact: info@satsure.co