

Why data may be agriculture's most underrated input

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We talk a lot about agricultural inputs. Land, labor, seed, fertilizer, water, machinery. Walk into any agri conference and you'll hear debates about input costs, input efficiency, input availability. But there's one input that rarely gets its own session, and yet it's quietly reshaping every decision made across the value chain.

Data.

I know, I know. "Data is the new oil" has been said so many times it barely registers anymore. But stay with me, because what's happening in agriculture right now is genuinely different from the broader digital economy conversation. This is about whether a rice processor in the Mekong Delta, a sugar mill in Maharashtra, or a dairy cooperative in Tamil Nadu can actually make better decisions tomorrow than they did today, and whether data is the thing that gets them there.

The Connection Nobody's Talking About

Deloitte puts the potential at a 20 per cent reduction in input costs and yield improvements of up to 30 per cent through better use of agricultural data. Those are significant numbers in a sector where margins are tight and unpredictability is baked into the business model.

But here's what I find more interesting than the yield numbers. The real opportunity isn't just on the farm. It's in the connections between the farm and everything downstream. Weather data linked to harvest planning. Harvest volumes feeding factory scheduling. Factory throughput tied to customer demand signals traveling back up the chain. Each connection builds on the last, and the intelligence that emerges from a connected system is something no single data source could produce alone.

I think of it like pieces sitting in separate boxes. Each piece has a function. But connect them and you start building something that actually works.

Asia Has More Skin in This Game Than It Realizes

Across Asia, the infrastructure for this connectivity is arriving, sometimes faster than organizations are ready for. IoT sensors in fields and processing facilities. Satellite imagery at costs that were unthinkable a decade ago. Government-led data frameworks like India's AgriStack actively creating the conditions for information to move across organizational boundaries.

And this matters here more than almost anywhere else, because Asian agriculture carries a structural complexity that most Western frameworks simply don't account for. Fragmented landholdings. Contract farming models that stretch across multiple intermediaries. Monsoon-driven seasonal cycles that compress decision windows to days, sometimes hours. These aren't just operational challenges, they're data challenges. Getting the right information to the right person at the right moment is genuinely hard in this context.

Which is exactly why the organizations that figure it out will have a meaningful edge over those that don't.

You Don't Need to Boil the Ocean

One concern I hear often is that data-driven agriculture is really only accessible to large, well-resourced players. That the investment required, in technology, talent, infrastructure, puts it out of reach for cooperatives, mid-sized processors, or smallholder aggregators.

I'd push back on that.

There's no required starting point here. Some organizations begin with spreadsheets and structured record-keeping and that's a perfectly valid first step. It evolves into digitization, then analytics, then predictive decision-making over time. The path isn't the same for everyone, and it shouldn't be. A sugar cooperative in Tamil Nadu is solving a different problem than a large grain trader in Vietnam. But both can start where they are, with what they have. The important thing is to start.

The Boring Work That Actually Matters

Here's something I wish more people would say out loud: the technology is not the hard part.

Organizations invest in analytics platforms, AI tools, dashboards, and then discover that the underlying data is fragmented, inconsistent, or sitting in silos that don't talk to each other. The intelligence they expected never materializes, not because the tools failed but because the foundation wasn't there.

The work that actually makes data useful, collecting it reliably, cleaning it, integrating it across systems, establishing who can access what and when, is unglamorous. It doesn't feature in keynotes. But it's the difference between an organization that generates enormous volumes of raw information and one that actually uses information to make better decisions.

Data pipelines, governance frameworks, interoperability standards, these aren't exciting topics. They are, however, the reason some organizations are pulling ahead while others are still waiting for their technology investments to deliver.

A Different Kind of Input

What makes data genuinely distinct from every other agricultural input is what happens when you use it.

Fertilizer is applied and it's gone. Fuel is burned. Water is irrigated into the ground. Each traditional input is consumed at the moment of use. Data doesn't work that way. The same dataset can support irrigation planning, yield forecasting, logistics scheduling, factory throughput, sustainability reporting, and buyer communication, sometimes simultaneously. Its value doesn't diminish with use. If anything, it grows as more decisions draw from it.

Agriculture's history has been built on better seeds, better chemistry, better machinery. Each innovation added a layer of productivity that the previous generation couldn't have imagined. I think better data connections are next in that line, not as a replacement for agronomic expertise, but as the layer that makes every other input work harder.

That's worth paying attention to. Especially here in Asia, where the scale of the opportunity and the complexity of the context make it one of the more consequential conversations in the sector right now.