

Digital Disruption in Nepal's Agriculture: The journey of two agribusinesses

Pallavi Dhakal
November 2024



Small and medium-sized enterprises (SMEs) form the backbone of economies worldwide, and Nepal is no exception. SMEs in Nepal contribute a solid 22% to the GDP and employ around 1.7 million people (Rastra Bank, 2020/21). Among these, agri-SMEs stand out because Nepal is still largely an agrarian country, with around 62% of the population working in agriculture. These agri-SMEs are key to creating jobs, generating income, and providing food security.

The digital revolution is transforming agri-food businesses globally, changing how food is produced, processed, sold and consumed. Recognizing this potential, the FCDO-funded Commercial Agriculture for Smallholders and Agribusiness (CASA) Programme is empowering agri-SMEs to innovate in supply chain management and effectively utilise farmer data.

This story highlights two Nepali businesses, Sujal Dairy and Paicho Pasal, as they use digital tools to make their farms and businesses run smoother and also explore challenges they have faced along the way.

STREAMLINING FARM EARNINGS DIGITALLY

Gopal Giri, a farmer from the small town of Sisuwa in Pokhara, owns 22 cows and has been supplying milk to Sujal Dairy for over a year. Feeling a buzz in his pocket, he pulls out his phone – it is an SMS from Sujal Dairy detailing his earnings for the day from selling 130 litres of milk, including the fat and solids-not-fat (SNF) content. Alongside Gopal, other local farmers in his village contribute to the daily delivery of around 16,000 litres to the processing company, which sources milk from over 20,000 smallholder dairy farmers across Nepal.

“One of the things we farmers insisted on from Sujal was for a digital system to tally SNF and fat content accurately, without discrepancies. Before, we had to rely on handwritten receipts, which were hard to trust. Now, as soon as I deliver milk, I get an SMS,” Gopal explains. “The system is transparent and knowing the fat content helps me adjust cattle feed for optimal production.”



Solids-not-fat (SNF) content is digitally calculated after collection of milk

Meanwhile, in Chatrakot, Gulmi, Meena Tondon squats under a tin pagoda at the vegetable collection centre for Paicho Pasal, an agribusiness that aggregates and sells agricultural products sourced from small-holder farmers in Nepal. Meena is here to collect all sorts of vegetables from the farmers. For her, manual record-keeping and handwritten tokens are a thing of the past now. With her mobile app, she inputs the collected vegetables, and the rates are automatically calculated. Farmers receive instant SMS notifications of their sales, and at the end of the day, the app tallies the total collection. She prints a summary using a small, battery-operated thermal printer, takes a photo of the receipt, and submits it via Facebook Messenger.



Digitally computed summary of vegetables collected



Meena in her vegetable garden

(Photos @Pallavi Dhakal / CASA, Swisscontact)

There are more than 30 farmers that come to the collection centre from our village. Listing each item and providing handwritten tokens to each one of them was time-consuming and made people wait longer", says Meena. She adds, "The mobile app has significantly reduced waiting time and made my work much easier."

However, it took a while for Meena to get used to this system. Even with training, she needed that one-on-one support to feel confident. And it was not just Meena. Others who switched from paper to digital systems, whether on the farm or in the office, felt the same way. More of these challenges are explored in the section below.

NAVIGATING THE CHALLENGES OF DIGITAL TRANSFORMATION

Both Sujal Dairy and Paicho Pasal have adopted specialised supply chain management software with support from the CASA Programme, addressing their unique challenges. Their goal is to establish a seamless data capture system that enhances efficiency and transparency across their supply chains – from procurement to sales – while maintaining a digital database to support data-driven business decisions. However, the path to digitalisation has not been easy and has been fraught with challenges that they continue to navigate, for example:

- **Prioritising the digital push:** Many small businesses prioritise immediate operational needs over long-term digital investments. While recognizing the potential benefits of digital transformation, the initial costs often pose a significant barrier. CASA's financial support on a cost-share basis for Paicho Pasal and Sujal Dairy's digital setup has facilitated their digital journeys. This enabled a gradual integration of digital tools into their operations. And today, recognising digitalisation as an ongoing process, they have been continually enhancing their capabilities and exploring new opportunities.
- **Finding a digital starting point:** SMEs often struggle to pinpoint which areas of their business would benefit most from digitalisation. CASA identified key operational and growth challenges faced by these

companies. While this initial assessment was not digitally focused, it provided a crucial framework for designing customised digital solutions that directly addressed the businesses' specific needs. For instance, Paicho Pasal, handling over 15,000 farm deliveries and around 2,000 daily bills, was overwhelmed by manual processes. Today, by going digital, Paicho Pasal claims to have reduced paper usage by 60%.

- **Digital literacy and skilled workforce:** Poor internet connectivity, especially in rural Nepal, and low digital literacy hinder smooth operations. Data security and privacy are added challenges. Sujal Dairy struggled with uploading data to a central cloud system and collaborated with network providers to resolve the issue. Training staff is also time-consuming and costly, particularly with high staff turnover. For instance, Paicho Pasal faced significant challenges in training ground staff, many of whom were unfamiliar with smartphones. They also faced difficulties finding a suitable digital solution within Nepal.

“Despite exploring options with four different companies, we couldn't find a system that aligned with the complexities of the agricultural sector. A dearth of local developers with in-depth agri-tech expertise forced us to seek solutions from providers from India,” adds Dhurba Neupane, Managing Director of Paicho Pasal.

CASA helped partners boost their digital skills through staff training, and now they are in turn training others within their supply chain. Paicho's IT team trained about 80 local collectors, who then taught farmers how to use the system. They have covered about 90% of the farmers within their network, with the IT team handling around 15% of the training.



- **Data accuracy and utilisation challenges:** For both partners, ensuring the accuracy and reliability of digital data is crucial for effective decision-making. Regularly verifying data through ground-level checks is essential but resource-intensive. Despite these challenges, the available data are being leveraged to inform strategic choices. CASA's support to Paicho in setting up procurement, record-keeping, and accounting systems has enabled them to track the types and amounts of vegetables and goods in their value chain, monitor farmer credits, and make informed production decisions during periods of undersupply or oversupply.

Ramesh Subedi from Sujal Dairy explains how they have used existing data: “We used to work with cooperatives, but our expansion required direct sourcing from farmers. Shifting from cooperatives to company-owned chilling centres made it essential to create farmer profiles with details like cow ownership and milk production patterns. These data help us monitor milk production, identify seasonal trends, offer farmers tailored feed recommendations, and troubleshoot milk supply issues. We've now digitally profiled around 2400 farmers.”

PAVING THE WAY FORWARD

The journey to digitalisation for Sujal Dairy and Paicho Pasal has been transformative, despite its challenges. Both businesses have significantly enhanced efficiency and productivity by automating tasks and gaining greater supply chain visibility. These advancements have also improved financial transparency, opening doors to new investment opportunities, as exemplified by Paicho Pasal's partnership with True North Associates, a private equity and venture capitalist firm that is helping Paicho to go public.

While Nepal's agri-SME sector is just beginning to embrace digital technology, the growth potential is enormous. Continued investment in digital infrastructure and capacity building is crucial to fully benefit from this transformation. The success stories of Sujal Dairy and Paicho Pasal show that digitalisation is not only beneficial for agribusinesses but also an ongoing journey that requires constant adaptation and innovation.



Commercial Agriculture for Smallholders and Agribusiness



www.casaprogramme.com



[linkedin.com/company/casa-programme](https://www.linkedin.com/company/casa-programme)

