

IPAGE

USING IMPACT DATA FOR
COMMERCIAL GROWTH



A programme by



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PHOTOGRAPHY CREDITS:

International Trade Center's photographers for the cover picture and iPage team members.



KEY HIGHLIGHTS

iPAGE, an impact enterprise supported by Biniyog Briddhi (B-Briddhi), developed its impact measurement and management (IMM) system in three phases. Each phase had its benefits:

- **Phase 1:** *Initial IMM system development through the Voucher Scheme (VS) and Impact Ready Matching Fund (IRMF) programmes*
Benefits: *USD 100,000+ and a better end-customer understanding to inform operational decision-making*
- **Phase 2:** *Buildout of a tech-enabled internal dashboard to aggregate, visualise, and analyse impact data collected from smallholder farmers*
Benefits: *Improved product roadmap, targeted farmer support strategies, and internalisation of impact thinking among employees*
- **Phase 3:** *Monetisation of impact data through increased INGO and business partnerships*
Benefits: *Stronger market positioning, additional stable revenue streams, and more precise (impact) reporting to funders*

iPAGE has achieved significant results for the 10,200+ smallholder farmers they've served so far:

- **19% reduced cost of production** from soil-test-based fertiliser and optimised pest and disease management
- **8-12% improved crop yields** from better seed selection and training on climate-smart agricultural practices
- **8-15% additional income** from direct sales to large marketplace buyers
- **35% additional profitability** from optimised farming practices
- **2 million kg eqv CO₂ per year** in reduced Greenhouse Gas (GHG) emissions

SOWING THE SEEDS FOR IMPACT

Founded in 2018 by a young team, iPAGE has matured into a success story within the nascent Bangladesh entrepreneurship ecosystem. Attempting to serve as many of the estimated 6.7 million smallholder farmers in Bangladesh¹ is no small feat, and one that Co-Founder and CEO Mashrur Shurid understands firsthand: **born into a family of farmers, Mashrur and his team set out to design technology that could transform farmer livelihoods and reduce the environmental impact of the agricultural industry.**

Beyond the fields of Bangladesh, **smallholder farmers face universal problems: a lack of actionable data to better cultivate crops on their soil**, purchase farm inputs, understand changing weather patterns, leverage new climate-smart farming techniques, adopt new technologies, and predict market demand. Moreover, **smallholder farmers typically lack reliable access to support services**, which are usually provided by government extension workers, though they remain too few. Collectively, these problems affect an estimated 900 million smallholder farmers across the Global South. **In Bangladesh, which ranks as the 7th most climate-vulnerable nation, these problems are magnified**, as approximately 70% of the country's 178 million people earn their living from agricultural activities. This landscape created fertile ground for iPAGE to launch its impact-driven operations.

¹ Unless otherwise stated, all statistics come from iPage's latest investor pitch deck

Leveraging their proprietary hardware and software systems, **iPAGE addresses this data inequity problem pervasive across the agricultural sector by empowering smallholder farmers to make more informed decisions.** Whereas farmers relied on traditional agricultural practices and their instincts to forecast the weather or choose a suitable crop variety, now, after receiving support from iPAGE, they are equipped with data to understand their soil, select the suitable crop variety, and the optimum amount of fertilizer and pest control required for their land. **Such information enables these farmers to optimise their farm practices, improve their chances of earning more income from cultivating higher-yielding crops, and limit soil degradation, a key part of staying resilient amidst the growing climate crisis.**

To deliver these benefits to farmers, iPAGE has developed an agricultural information dissemination system that uses real-time data on soil (generated from soil testing devices), weather (caused by portable weather stations), and historical farming practices. The system analyses data from those inputs and generates site and crop-specific agricultural recommendations delivered to farmers as 'prescriptions' via mobile phone. To generate the recommendations, iPAGE utilises several proprietary agronomic algorithms, scientific know-how, and academic research approaches. iPAGE also complements these prescriptions by deploying field staff to provide agronomic training services and direct channels for farmers to purchase inputs and sell crops at the market through external partners.

The traceable data generated throughout this end-to-end intervention not only enables farmers to make better decisions but also benefits other ecosystem players, such as banks, agricultural insurers, buyers, and input retailers. By tapping into the 150+ data points iPAGE has amassed from supporting over 10,200 farmers thus far, these players can more precisely and quantifiably understand what is happening across the agricultural industry to better mobilize their services to farmers already using iPAGE's services. This creates win-win synergies: iPAGE improves farmer efficiency from its support systems while, at the same time, improving their connectivity by linking them with financial partners to reduce capital costs, mechanization partners to reduce labor costs, and input partners to reduce production costs. When iPAGE facilitates these connections, they earn commissions; meanwhile, farmers increase their incomes with more support services provided to them, and external partners either boost their sales or save costs.

VOUCHER SCHEME (VS) AND IMPACT READY MATCHING FUND (IRMF) PARTICIPATION

When iPAGE initially built its proprietary tools for farmers, it struggled without an informed understanding of customer demand and measurable insights into how its product development roadmap could deliver additional benefits to farmers. **"In our early days, we didn't have any idea of how to record, analyse, and articulate change data. There was no impact thinking behind iPAGE back then,"** Mashrur explained. Because of this, iPAGE was poorly equipped to understand the impact they could create and how they could optimise commercial-impact integration based on their results, both of which influenced on operational decision-making.



Without a strong understanding of their impact, iPAGE failed to articulate their impact value and was rejected by the Biniyog Briddhi (B-Briddhi) [Impact Ready Matching Fund \(IRMF\) Programme](#) after first applying in 2020. Despite this, iPAGE re-applied the following year and gained acceptance into the foundational [Impact Management Voucher Scheme \(VS\)](#) Programme. By working closely with [Truvalu](#), a local Service Provider trained in the B-Briddhi [Train-the-Trainer Programme](#), VS helped open Mashrur's eyes to impact measurement and management (IMM), which he previously poorly understood. **iPAGE benefitted from an actionable programme that taught them what impact data to collect, how to collect and analyse it to show progress towards achieving a particular objective, and how to improve business strategy by using impact data for informed decision-making.** Understanding foundational IMM concepts in VS also helped iPAGE realise that developing a robust IMM system could help them attract more finance, which eventually shifted their attention to the IRMF Programme.

Without specific spending allocation requirements, IRMF presented a pathway for iPAGE to integrate their IMM framework within their internal processes beyond a theoretical level and begin to **operationalise** it by collecting impact data, testing and see how it made sense for them. While VS afforded iPAGE the opportunity to develop an IMM framework, **IRMF granted them financial incentives and additional hands-on support to operationalise that framework over a 10–14-month timeframe.** As laid out in their IRMF contract, **iPAGE was required to complete a series of IMM-specific deliverables to earn financial payments divided into three installments matched up to USD 100,000 in total** from their recent external fundraising. These specific IMM deliverables included the development of a Theory of Change (ToC) and a set of measurable impact indicators (Tranche 1), the collection of data to show progress towards the achievement of those indicators (Tranche 2), and the production of an impact report for internal learning and external communication (Tranche 3).

iPAGE's participation in the VS and IRMF Programmes coined what they now refer to as “**Phase 1**” of their IMM system development. Because of their results-based financial incentive-driven structure, the VS and IRMF Programmes helped Mashrur structure his understanding of how to develop iPAGE's IMM system in a useful manner beyond reporting for funders. **According to iPAGE, the fact that many other impact-driven startups worldwide build their IMM system using the VS and IRMF curriculums offered them credibility to start leveraging insights from IMM data for operational decision-making.**

iPAGE learned invaluable lessons during their IRMF journey. Tranche 2, specifically, allowed iPAGE to leverage its operational capacity as a tech-enabled company into building an **efficient process to collect, aggregate, and visualise impact data in real time.** In a few months, the **iPAGE tech team successfully transformed its Excel-based manual impact data collection process into an IoT-based cloud system** that allows field staff to



transparently collect impact data from farmers being served ~300km away in northern Bangladesh, transport it in real-time to their Dhaka-based HQ at the backend, and then use that data regularly for deep analysis. Doing so has saved iPAGE time and reduced the risk of data manipulation.

In this process, **iPAGE also learned that data collection tools should be so simple that the farmers they serve (and even their children) can feel comfortable submitting information to iPAGE field staff.** This learning fed iPAGE's plans to deploy an application where a lead farmer can input impact data directly into the iPAGE mobile system rather than having field staff do it on their behalf. This would help empower farmers further, save time and costs from utilising field staff, and ensure that data comes directly from end-users.

IRMF offers a unique opportunity for impactpreneurs in Bangladesh, aiding the growth of startups through mentorship, resources, and financing. This initiative has been instrumental in promoting entrepreneurship, generating jobs, and driving innovation, ultimately enhancing Bangladesh's startup ecosystem.

Mashrur Shurid, iPAGE Co-Founder and CEO



EXTERNAL IMPACT REPORTING AND INTEGRATING IMPACT DATA INTO INTERNAL PROCESSES

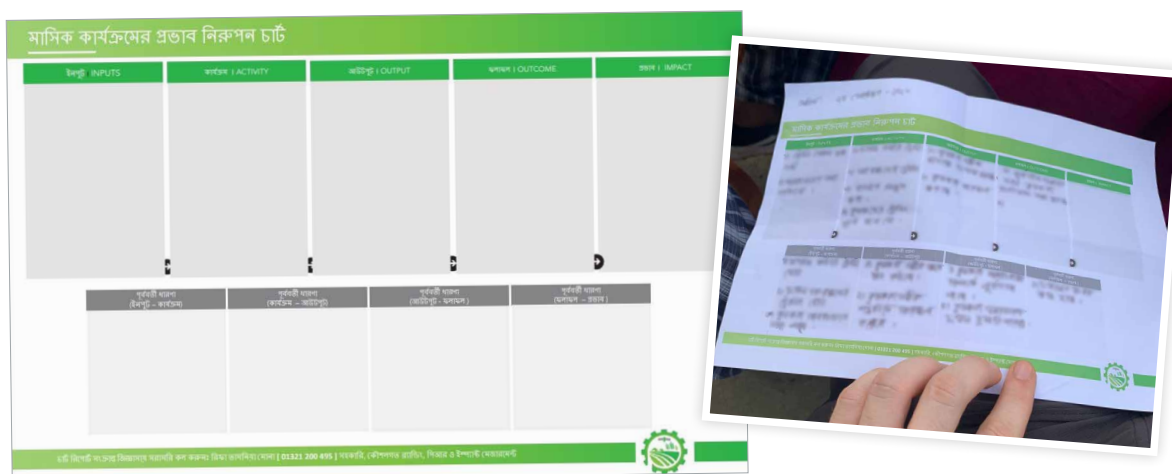
If VS and IRMF participation planted the seeds for iPAGE's IMM system development, "Phase 2" represented its next evolutionary growth. For iPAGE, the trove of impact data points per farmer that they became capable of capturing has been a powerful resource for shaping their product development process. Inspired by their new IMM framework, the iPAGE tech team prioritised the development of an internal dashboard to aggregate and visualise impact data collected by field staff. Now fully developed, **this dashboard allows iPAGE to see, in real time, filterable data on social and environmental impact indicators, such as the percentage of additional farmer profitability from optimised farming or the amount of Greenhouse Gas (GHG) emissions reduced from the percentage decrease in urea fertilizer usage.** Other advanced features include the ability to display data on both an aggregate and per-farmer level, and segment data by geographical location and gender, among other variables. With such a dashboard, it becomes far easier for iPAGE to use insights harvested from their impact data to better strategize their field operations and improve targeted farmer support through better agricultural prescriptions, training, and resources (such as inputs) provided through external B2B partners.

Externally, if an impact investor now approaches iPAGE and asks, for example, what the participation rate is of female farmers in training modules conducted by field staff in a particular community, iPAGE can pull up the data on their backend system and report on it quickly. **The sophistication of their IMM system also enables them to take a proactive rather than reactive approach to impact reporting.** Sticking with the same example, iPAGE can provide investors with nuanced insights regarding the participation engagement rates of male vs. female farmers on specific training modules (such as pre-harvest modules), for example, by showing that female farmers are more likely to attend because they convey messages about the training to their husbands or sons, who are also farming

in the field, and decide to participate in the training on their behalf. Access to such rich impact data allows iPAGE to provide investors with additional insights that have implications on cost efficiency and gender targeting, in this case. According to Mashrur, impact reporting generated from iPAGE's IMM system signals to investors that they're **"...in the impact game, understand the game, are serious in the game, and that they'll get to the bottom of it."**

Internally, because they rely on field staff to collect impact data, iPAGE developed a 'Blank Format ToC' tool that's being used to ensure all employees understand their IMM framework. **This tool helps field staff grasp the why and what of impact data collection instead of just the how by displaying a high-level vision of iPAGE's impact journey.** The full tool contains definitions and examples of the relevant components of their ToC and equips employees with an understanding of how their actions contribute towards iPAGE's overall impact objectives.

Template copy of iPAGE's Blank Format ToC



For example, within the 'Activity' section of the ToC template, iPAGE would provide an example of how logging into the office and punching into value cards should not be reported as an activity by field staff, nor should standing among farmers. Instead, an activity must be precise and quantifiable. To that end, iPAGE uses the tool to instruct field staff to go beyond reporting that "training programmes have been conducted" and capture more detailed location and gender-specific data, such as "training programme for 300 female farmers in Gaibandha conducted on Saturday," for example.

Ultimately, iPAGE turned the Blank Format ToC into a powerful onboarding tool that helps employees understand why and how iPAGE wants to capture specific data points, under which type of format, in which columns, and why this format exists, to begin with. Any new team member who joins iPAGE, whether in the HQ or as field staff, must internalise this Blank Format ToC to understand that iPAGE is not just an agri-fintech company disbursing finance to farmers, an agri-input company selling inputs to farmers, or an agri-market company selling farmer produce to the market; instead, **iPAGE is an agricultural data company democratizing data, promoting the value of actionable data, and leveraging it to create a sustainable and tangible change for farmer livelihoods.**



FUTURE OUTLOOK: MONETISING IMPACT INSIGHTS

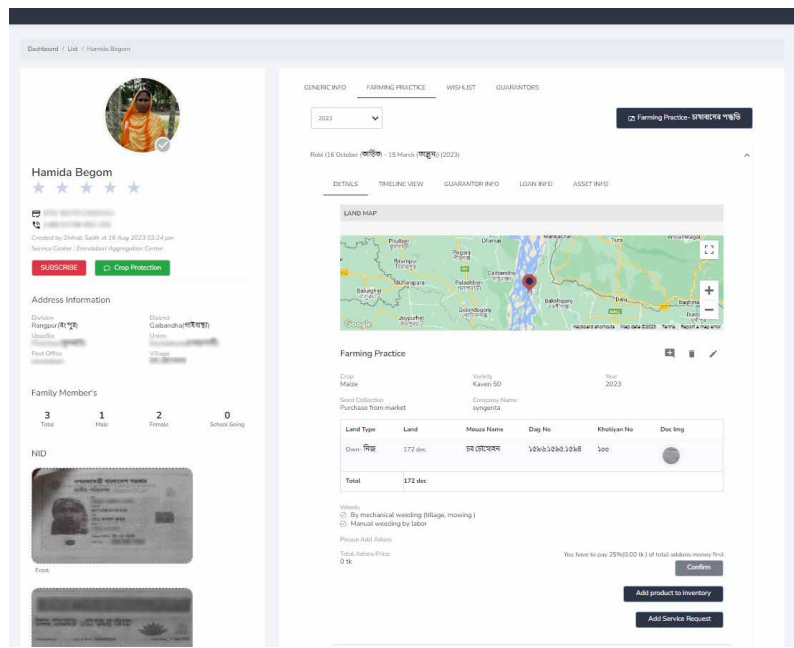
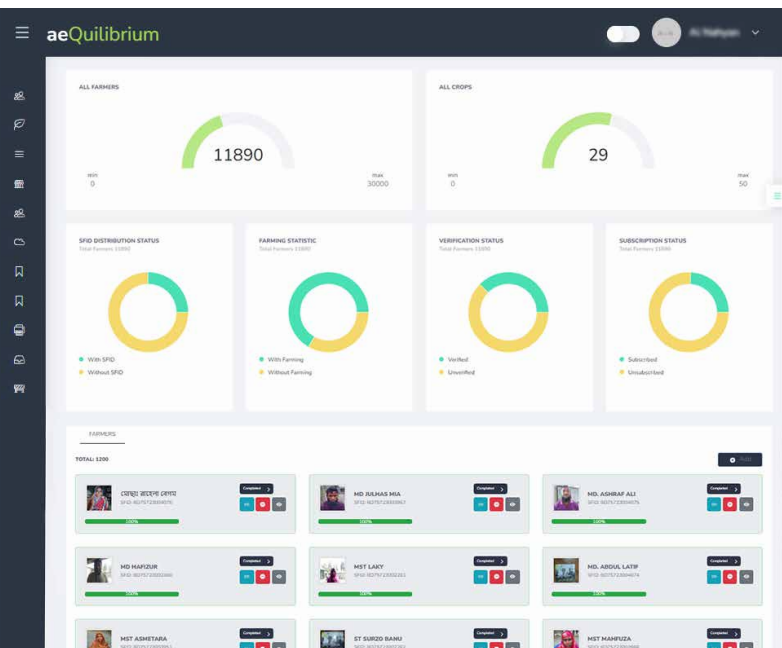
After speaking with numerous B2B partners, iPAGE concluded that they could unlock **an opportunity to develop their IMM system further by monetising the impact insights they generate from smallholder farmer data**. Consequently, iPAGE has begun developing tailored impact dashboards for B2B partners with specific data points they request. According to Mashrur, this is the logical **“Phase 3”** evolution of iPAGE’s IMM system development, reflected by their ability to harvest monetary value from impact insights and position iPAGE to democratise their data with other ecosystem players strategically.

What value can IMM insights offer to other ecosystem actors? iPAGE can now, for example, secure new revenue from B2B partners, resource support, and non-financial partnerships. **Through unique impact data dashboards, iPAGE partners can access real-time information by paying iPAGE through a subscription model**. In the future, iPAGE plans to leverage its impact data to sell on the voluntary carbon market. **This would help iPAGE connect carbon creditors to their farmers and help cross-subsidize their advisory operations**.

An illustrative example highlights how the **Phase 1** and **Phase 2** development of iPAGE’s IMM system helped them recognise the opportunity to expand into voluntary carbon markets. Within their IMM system, iPAGE captures data from farmers about how much urea nitrogen-based fertilizer they use for a particular seed. Before participating in IRMF, iPAGE needed the data capabilities to understand which fertilizers were being used optimally and were only able to identify if farmers were spending, say, 15% of their total cost of production on fertilizer. After IRMF, however, iPAGE discovered a new method to track which specific types of fertilizer farmers use during the planting season and what quantifiable support they’ve received to optimise its usage.

Equipped with data on farmer usage of urea fertilizer, iPAGE reasoned that their fertilizer optimisation also translates into GHG emissions potential avoided over time. This deeper level of traceability and understanding of when a farmer applies fertilizer and how much they used to apply before and after working with iPAGE can be utilised to onboard a particular farmer to the voluntary carbon market. **iPAGE now has two partners supporting them with analysing fertilizer data to see how they can report, audit, and register farmers’ land and start providing the benefits of carbon credits to the farmers**.

In turn, iPAGE now understands that their potential to earn USD 2-3 commission per farmer per season from facilitating sales of carbon credits can help subsidize their cost of providing farmers with advisory support. Excitingly, iPAGE’s ability to exploit this future opportunity would justify extending free support to farmers for 1-2 seasons and capacitate them to adopt climate-smart farming techniques and improved technology. As a



result, **iPAGE is focusing its field operations on registering farmers to the voluntary carbon markets.** To this end, they recently added a feature that allows farmers' fields to be tagged with longitude and latitude information directly. In sum, farmer disaggregated data is not only helping iPAGE capitalize on an additional revenue stream but has also inspired iPAGE to incorporate new product features such as establishing GPS location data of farms necessary for the voluntary carbon market.

Within the next five years, iPAGE aspires to become the ChatGPT for agricultural data, particularly for smallholder farmers in Bangladesh and beyond. **They are on pace to serve 1.5% of all smallholder farmers in Bangladesh by 2025, equating to 100,000 farmers, up from the 10,200+ they've served thus far.** Built on the proprietary hardware and software systems they've developed in concert with an advanced IMM system, **iPAGE now has the competitive moat to do so and the impact mission to transform the agricultural landscape for the years to come.**

In Bangladesh, where 85% of farmers are unbanked, iPAGE's innovative data-driven KYC service emerges as a strategic solution for private banks facing challenges in reaching this underserved population. With iPage's support, we can now streamline the identification process for eligible customer-farmers, facilitating targeted loan disbursements within an integrated agricultural service framework. This initiative not only showcases the scalability of data-driven solutions but also exemplifies the transformative impact they can have on financial inclusion for farmers.

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