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Fostering and Scaling Innovation

Lessons from the Sahaj Challenge Fund

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Executive Summary

The Sahaj Challenge Fund

A cornerstone of NAMDP II, the Sahaj Challenge Fund (SCF) was designed to catalyse private sector innovation by co- financing initiatives that address systemic market challenges. It was one of the key approaches used by NAMDP II to support innovation. The fund supported a range of innovations, from incremental improvements to bold, radical solutions, across sectors such as logistics, post-harvest management, energy efficiency and audit practices, product diversification, product quality improvement, and product standardisation. By offering financial and technical assistance, the Challenge Fund sought to reduce risks for businesses, enabling them to experiment with new models and technologies.

The Fund operated through multiple funding rounds, each tailored to address specific market gaps and challenges. Early rounds focused on foundational issues like improving value chains and developing market linkages, while later rounds aimed to support more ambitious innovations such as energy efficiency solutions and high-value product development as a service. This phased approach allowed the Fund to gradually build capacity within the private sector, aligning interventions with evolving market conditions and systemic reforms.

For decades, development agencies have used competitive funds to nudge firms toward new products, services and business models. Whether branded as challenge funds, outcome prizes or impact windows, the logic has been the same: put risk-sharing money on the table and let private actors innovate.

The limitations of these approaches have been familiar too. In thin markets, an isolated cash injection rarely survives first contact with weak regulations, shaky support services or scarce follow-on capital. Finance could launch an innovation; it rarely carries it to scale.

Nepal's SCF offered a fresh look at what happens when that insight is taken seriously. Housed inside NAMDP II—a wider programme already working on quality standards, business-development services and credit links—SCF's modest grants and coaching were reinforced by local delivery partners, pathways to commercial finance, and work to support an enabling business environment. Packaging tweaks, new product lines and cold chain solutions did not just pass a pilot test; they entered the market and kept going after donor cash stepped back.

Despite the complexity of fostering innovation in underdeveloped markets, the SCF provided a rich repository of lessons—both from its successes and challenges—on how we could design and implement challenge funds and similar market-driven initiatives. This paper takes a critical look at the Challenge Fund's work, distilling lessons for anyone aiming to turn catalytic capital into lasting, market-wide change.

The core lesson is that innovation thrives not on finance alone but through alignment with context, technical assistance, continuous learning and systemic integration.

Introduction

Nepal Agricultural Market Development Programme (NAMDP II)

The Nepal Agricultural Market Development Programme (NAMDP II), also called Sahaj, was a flagship initiative to bring systemic changes in Nepal's agricultural markets. Funded by the Swiss Agency for Development and Cooperation (SDC) and implemented by Swisscontact and CEAPRED with local partners, NAMDP II aimed to make smallholder farmers and agribusinesses more competitive by removing key market barriers. Using market systems development principles, NAMDP II improved value chains, strengthened services, and promoted sustainable farming practices.

1,670+
new full-time equivalent jobs created against a target of 1,000 (68% above target)

with
40%
discriminated group (DG) men

and
30%
women employed, driving inclusive local economic growth.

40,000+
farmers achieved increased income against a target of 20,000 (105% above target)

with
46%
discriminated group (DG) men

and
46%
women benefiting, demonstrating strong and inclusive economic impact.

NPR 957 million
increase in farm income against a target of NPR 300 million (219% of target), more than double the expected impact.

*as of June 2025

Purpose and Objectives

This paper is designed to share the lessons learned from the SCF's experience, providing actionable insights that other innovation funds can build on. Organised around four key lessons, it captures the successes, setbacks, and practical knowledge gained throughout the SCF's implementation:

Understanding Innovation:

Framework and Applications:

Explores the different types of innovation supported by the SCF and their role in addressing market challenges.

The Critical Role of Context:

Aligning Innovation with Market Realities:

Analyses how systemic barriers and local market conditions influenced the success of different types of innovation.

Beyond the Finance:

Unlocking private sector potential:

Examines the flexible and dynamic non-financial support that SCF took in supporting businesses to pilot innovations.

Thinking Systemically:

Shows how SCF's investments connected to a wider strategy that was focused on systemic change, and why this matters.

By focusing on these themes, this paper seeks to move beyond theory, offering concrete lessons that can inform the design and execution of future Challenge Funds and similar initiatives. It is a resource for practitioners, donors, and policymakers aiming to foster innovation and systemic change in challenging contexts.

Understanding Innovation:

Framework and Applications

Innovation isn't a monolith. It takes various forms, each suited to particular contexts and challenges. There is a huge body of literature on innovation, with a wide range of definitions and frameworks, but for this study, we will rely on the Henderson-Clark Innovation Model[1], which defines Innovations across four broad categories:

Incremental Innovation

These involve small, gradual improvements to existing processes or products. Often arising in stable or moderately dynamic environments, incremental innovations focus on enhancing efficiency or quality without significant disruption. Incremental innovations might include adopting new agricultural practices or improving post-harvest handling to reduce losses. These tend to be low risk but yield immediate, tangible benefits.

Modular Innovation

Introducing a new feature or component that plugs into a stable system. This isolates complexity at the integration point, so support focuses on technical setup and user training. (e.g. An off-grid solar provider adds a prepaid mobile-payment module to its standard solar home systems, enabling pay-as-you-go service without redesigning the core hardware.)

Architectural Innovation

Changing how established elements connect to create new value flows—without reinventing every piece. These require careful coordination across stakeholders and process adjustments. (e.g. A network of women's savings groups links up with a micro-insurer via a shared digital platform, letting members automatically top up insurance premiums from their group accounts. The groups and insurer remain the same; it's the connection that creates fresh benefits.)

Radical Innovation

These are transformative changes that replace both components and their links, often creating entirely new business models. For example, launching a mobile-money wallet service in rural areas with no prior digital-payment options. These breakthroughs demand deep expertise, significant investment and a ready market—and they are quite rare. (e.g. : Launching a drone-based medical supply delivery service in remote districts, establishing new logistics, regulatory and payment systems from scratch.)

[1] Henderson and Clark, 1990

The Critical Role of Context:

Aligning Innovation with Market Realities

The success of any innovation depends heavily on understanding the local market context and systemic barriers. Different types of innovation—incremental, modular, architectural, or radical—need to be carefully matched to the market's readiness and infrastructure.

The NAMDP II Challenge Fund's journey into fostering innovation provides an opportunity to examine how each type manifested in practice. By examining incremental, modular, architectural, and radical innovations in real-world scenarios, we can understand not only their potential but also the challenges encountered in adoption and scaling.

Incremental Innovation

Goras and Ritika Dairy introduced three practical tech upgrades to their existing systems: retort machines that sterilised milk drinks for a longer shelf life, and in-mould labelled cups that sealed and branded their lassi product range in one step. These additions refined—not reinvented—the production process, yet they unlocked clear gains: less spoilage on the milk drinks, higher sales thanks to better product quality, and extra fridge space from retailers impressed by the consistent branding. Together, the tweaks helped the dairies reach shops that had never stocked their short-life products before. Because these changes were built directly on their established operations and carried minimal technical or market risk, they exemplified incremental innovation, delivering clear, immediate benefits through modest adjustments to familiar systems.

Intervention

The Sahaj Challenge Fund provided matching grants and also identified and funded technical experts to support Goras and Ritika to develop the new products.

Outcomes

The upgrades paid off quickly. Within three months, both dairies won a 25 percent increase in shelf-space allocation, and their labelled product lines achieved a 10 percent sales uplift compared to unbranded offerings. Over 80 percent of deliveries arrived in the approved cartons, maintaining product integrity and reinforcing consumer recognition.

Challenges

Despite these gains, Goras and Ritika struggled to cover their share of packaging costs once incentives lapsed, limiting the perceived value of the upgrades.

Lesson

Even low-risk, incremental innovations require deliberate coordination across the value chain. Matching grants must be paired with stakeholder alignment, downstream incentives and consumer education to protect intended benefits. Only by convening every link—from producers to distributors to end users—can simple tweaks achieve their full impact.

Modular Innovation

Aadhunik Dairy processed 700 litres of milk daily, producing a single product, Kanchan Cheese—a local variety. Despite its modest operations, Aadhunik Dairy saw the potential to diversify and expand its product portfolio to include premium cheeses like Cheddar and Gouda, which had growing market demand in urban centres like Kathmandu Valley. Aadhunik Nepal Dairy kept its basic milk-collection and cheese-making set- up but added two new “modules”: specialised equipment for Cheddar and Gouda, and an on-site, temporary food technologist from the Senior Expert Contact programme. Because these pieces plugged into the existing plant—rather than replacing it—this counted as modular innovation. The upgrade let the firm move beyond one local variety (Kanchan cheese) to a small portfolio aimed at Kathmandu’s premium market.

Intervention

SCF co-financed the new vats, presses and maturation room and paid for a technical expert’s six-week coaching stint. Training covered recipes, hygiene routines and moisture testing; the fund also brokered a co-branding deal with Nepal Dairy so the products could launch under an established label while Aadhunik built its own.

Outcomes

Within a year, the dairy was buying triple the raw milk, giving nearby farmers a larger and steadier outlet. Cheddar and Gouda lines now stock major Kathmandu retailers under three labels—Nepal Dairy Cheddar, Nepal Dairy Gouda and Aadhunik’s own Chitre Cheese—meeting rising demand for mid-priced, higher-quality cheese.

Challenges

Upgrading the plant exposed three practical hurdles. First, producing Cheddar and Gouda demanded tighter hygiene and longer maturation; staff needed time and mentoring to meet those standards reliably. Second, tripling raw-milk intake strained working capital until the new cheeses began to sell in volume. Third, urban retailers were cautious: until quality was proven, they stocked only small lots, slowing early revenue. Addressing these issues (through phased coaching, short-term credit and an interim co-branding arrangement) was essential before the new line could perform to expectation.

Lesson

A modular upgrade can open lucrative niches, but they only pay off when firms also plan for skills, working capital early market trust. Pairing finance with technical coaching and a credible route to market can turn a modular innovation into a viable growth path.

Architectural Innovation

Case Study: Mandala Agrifresh

Mandala Agrifresh's introduction of Modified Atmosphere Packaging (MAP) bags initially appeared to be a straightforward improvement in post-harvest management, but in practice, it required a fundamental shift in Nepal's fresh produce supply chain.

MAP bags are specialised storage bags that regulate oxygen and carbon dioxide levels to slow the ripening process, extending the shelf life of perishable produce. While this technology is widely used in more developed agricultural markets, it was new to Nepal, requiring adjustments in storage practices, transportation logistics, and market behaviour to integrate effectively. Because its adoption necessitated changes across multiple levels of the supply chain, this intervention represents an architectural innovation rather than just an incremental improvement.

Intervention

With support from the SCF, Mandala Agrifresh piloted MAP bags to reduce post-harvest losses and extend the shelf life of fresh produce. However, the intervention required far more than simply distributing the bags. To integrate the technology effectively, Mandala had to redesign supply chain processes, ensuring that farmers and traders were trained in proper packaging and handling techniques. The longer shelf life of produce enabled traders and wholesalers to adjust their logistics strategies, allowing goods to reach more distant markets without compromising quality. At the retail level, businesses had to adapt their pricing and stocking strategies to account for improved product durability.

Outcomes

The intervention led to a 20% reduction in post-harvest losses among participating farmers, while

"With the use of MAP bags, which preserve freshness effectively, farmers can harvest the greens a day earlier in the evening, pack them in MAP bags, and sell them the next morning without the hassle of waking up early. It's been a game-changer for their routine and productivity."

Rajendra Kadariya,
Agriculture Officer of Birtamod Municipality

produce sold through Mandala's network achieved a 15% price increase, reflecting its longer market viability and improved quality. Beyond direct beneficiaries, the intervention triggered broader behavioural shifts, with other traders and suppliers recognising the value of MAP bags and gradually incorporating them into their own operations. This demonstrated the potential for wider market adoption and systemic impact beyond Mandala's immediate network.

Challenges

Despite its advantages, the transition was not seamless. Adoption barriers emerged, as many farmers and traders were hesitant to move away from traditional packaging methods, often due to familiarity and cost considerations. Infrastructure limitations—such as gaps in cold chain logistics—meant that while MAP bags improved storage at the farm and trader levels, inefficiencies further along the supply chain sometimes negated their benefits. Market awareness was also a challenge, as consumers had limited understanding of the value of better-preserved produce, reducing immediate demand for premium-quality goods.

Lesson

Mandala Agrifresh's experience illustrates that architectural innovations require more than just technological adoption—they depend on reconfiguring supply chains, market practices, and behavioural norms. While MAP bags provided a clear advantage in reducing waste and improving quality, their successful integration demanded shifts across multiple layers of the agricultural system. This case highlights how even seemingly simple innovations can become architectural when they require coordination and adaptation across different market actors, reinforcing the need for systemic alignment when introducing new solutions.

Radical Innovation

Case Study: Upaya City Cargo

Upaya City Cargo's PronGo cold chain solution is an example of radical innovation designed to transform Nepal's agricultural logistics sector. The solution aimed to address critical gaps in cold chain infrastructure for transporting perishable goods, particularly dairy products, by introducing portable refrigeration units tailored for mid-mile logistics. With support from the SCF, Upaya introduced PronGo bags and boxes to test what seemed like a value addition in the market, offering a specialised service previously unavailable in the market.

"Despite the significant 30-40% post-harvest loss due to the lack of a cold chain, traders did not perceive additional benefits from using PronGo boxes. We highlighted improved product quality, extended shelf life, and reduced losses, even offering discounted or free boxes during testing. However, traders remained unconvinced, as they continue to profit from the remaining 60% of the product."

Mr. Nawang Sherpa,
Manager of Upaya City Cargo

Intervention

The Challenge Fund enabled Upaya to design and deploy the PronGo system, which included portable chilled and frozen units capable of maintaining optimal temperatures for up to eight hours. To support these units, recharge stations were installed in key locations, and Upaya's digital logistics platform was modified to facilitate PronGo bookings. The intervention also included product trials and demonstrations targeted at small and medium-sized enterprises (SMEs) in the agricultural sector, particularly dairy producers.

Outcomes

Despite its potential, PronGo faced significant challenges in gaining traction. While some businesses expressed interest, the high cost of using PronGo compared to informal transport options limited uptake among SMEs. Demand for mid-mile cold chain logistics was lower than expected, as many SMEs either relied on their own transport or considered cold chain services unnecessary for their operations.

Feedback from trial users highlighted opportunities for adaptation. By mid-2023, it became clear that PronGo held greater promise for last-mile (i.e. intra-city) delivery, where its flexibility and reliability better addressed consumer-facing needs. However, the mid-mile logistics model, central to its original design, failed to demonstrate broad viability.

Challenges

PronGo faced several challenges that limited its success as a mid-mile logistics solution. A major issue was demand mismatch, as SMEs often viewed cold chain logistics as a luxury rather than a necessity. Many opted for cheaper informal transport options, which were perceived as adequate for their needs.

Additionally, systemic barriers undermined the scalability of the PronGo model. High energy costs and limited access to reliable recharge stations made the solution impractical for many businesses. These infrastructure gaps added to the logistical inefficiencies that already plagued the sector, further discouraging adoption.

Beyond systemic issues, PronGo also encountered design and business model challenges. Many agribusinesses preferred to purchase the PronGo boxes outright rather than rent them, misaligning with Upaya's service-based model and limiting demand. Furthermore, the requirement to return boxes to recharge stations proved inconvenient, with users suggesting that a direct plug-in charging system would have been more practical. These usability and business model constraints further reduced uptake, highlighting the need for early user feedback in product and service design.

Finally, market readiness remained low, as many businesses either lacked awareness of the potential benefits or didn't perceive sufficient value to justify the

cost. This combination of factors created significant hurdles for scaling the innovation in its original form.

Lesson

PronGo's experience underscores the risks of radical innovation when design and business model choices do not align with market preferences. While the concept addressed a real gap in cold chain logistics, the service model proved less attractive to users than anticipated, and design limitations reduced its practicality.

More broadly, the case highlights the importance of market research and user-centred design in early-stage innovation. The preference for box ownership over rentals and the need for a more flexible charging solution suggest that a deeper understanding of business behaviour and logistics constraints could have influenced a more adaptable product and service offering.

Crucially, PronGo's struggles demonstrate that fragile markets are particularly resistant to radical change, especially when systemic conditions—such as infrastructure, financing, and established business practices—are not yet ready to support a new model. In such contexts, even well-designed innovations require time to take root. Time needs to be allowed for behavioural shifts, policy alignment, and complementary investments to take place.

Lessons Learned

Incremental Innovations

Small adjustments often hinge on getting everyone on the same page. When Goras and Ritika Dairy introduced new labels, cups and branded bottles, they enjoyed a 25 percent boost in shelf space and a 10 percent lift in sales — offering co-branding workshops, coordinating incentives down the chain and running simple consumer-awareness efforts helped protect those benefits. While grants can cover upfront costs, organising stakeholders and building awareness can make incremental changes stick.

Modular Innovation

Adding a discrete, plug-in capability to an existing operation—whether a piece of equipment, a digital tool or a service—can open a specific, higher-value segment that was previously out of reach (for example, a new product tier, a stricter quality grade or a different route-to-market). But the bolt-on must be matched by skills, working capital and early market confidence. Aadhunik's new cheese line worked once staff mastered stricter hygiene, short-term credit smoothed the higher milk bill, and a co-branding deal convinced retailers to stock the unfamiliar products. For practitioners, that means coupling equipment finance with hands-on coaching, access to bridging finance and a trusted sales channel, so the module becomes a business, not a stranded asset.

Architectural Innovation

Reshaping an entire chain relies on shared ownership. Mandala's MAP bags extended shelf life, but broad uptake came only after experts, cooperatives and traders trained together in joint sessions and pooled orders to lower costs. When everyone learns the new process at once—and shares in both costs and gains—the system rewiring holds. Facilitating co-creation workshops to map roles, agree on shared metrics and align financing can help cement more ambitious shifts.

Radical Innovation

Transformative pilots carry high stakes and unknowns. Upaya's PronGo service initially stumbled under wrong pricing and delivery assumptions until the team adopted rapid, small-scale trials. By treating each radical idea as a set of testable hypotheses—on price, service model or target segment—and running tight "build–measure–learn" sprints, teams gather critical user feedback before scaling. This approach surfaces misalignments early, guides timely pivots (for instance, from mid-mile to last-mile focus) and de-risks investments in genuinely new models.

Takeaway

Innovation never happens in isolation—its success hinges on alignment with local conditions, market dynamics and behaviours. Incremental innovations can unlock quick wins, but even incremental changes depend on peer influence, trust-building and incentives, as Goras and Ritika Dairy discovered with their packaging overhaul. Modular innovations only stick once integration challenges are solved, as Aadhunik Nepal Dairy's move into Cheddar and Gouda showed—equipment upgrades worked because they were paired with hands-on coaching, adequate working capital and early market credibility

through co-branding. Architectural innovation demands joint design, shared incentives and coordinated training, as Mandala's MAP-bag rollout proved. And bold, radical innovations carry high risk unless infrastructure gaps, regulatory hurdles and business-model fit are tested and addressed.

For Challenge Funds to drive lasting impact, context must guide innovation strategy. Interventions work best when they are rooted in a deep understanding of existing constraints:

Assess market readiness early

Test incentives, pricing and demand factors with small pilots before scaling to avoid misalignment.

Leverage trusted institutions

Partner with industry bodies, cooperatives or Chambers of Commerce to build credibility and reach.

Plan for integration hurdles

Map the skills, infrastructure and support required for any new tool or service to become part of everyday routines.

Embed iterative learning

Structure pilots as rapid experiments with clear decision points to surface misfits and guide pivots.

Ultimately, context should shape how Challenge Funds select and support innovations. A well-designed intervention matches the type of innovation to the level of systemic readiness, ensuring both immediate feasibility and long-term transformation.

Support Beyond Finance:

Unlocking Private Sector Potential

Small and growing agribusinesses in Nepal face fragile infrastructure, opaque markets, technical gaps and deep-seated risk aversion; capital alone cannot remove these barriers. Even when financing arrives, ventures often lack the expertise to refine value propositions or secure premium buyers—pilots stall, assets underperform.

Imagine a challenge fund as the development-sector counterpart to a savvy venture-capital (VC) firm. A VC doesn't simply release funds; it embeds expertise, presses management on strategy, connects founders to customers and investors, and refines operations—all to drive down scaling risk. In the same way, the Sahaj Challenge Fund paired catalytic grants with embedded support—strategic mentorship, technical deep dives and curated market linkages—to accelerate learning and build market confidence that grants alone could not spark.

The Fund treated each partnership as a dynamic engagement. It began with business-model refinement and rapid feasibility checks. As new barriers emerged—technical, commercial or organisational—it introduced market connections, specialist workshops and pilot validations. By adapting support in real time, the Fund demonstrated that non-financial interventions must evolve alongside the ventures they aim to catalyse.

Tactics

Rather than a fixed offering, the Fund deployed a range of tactics tailored to the partner's capacity, context and emerging challenges. These included:

Business-Model & Plan Refinement

The team stress-tested assumptions on costs, pricing and customer segments before any capital flowed, helping ventures sharpen propositions and uncover knowledge gaps.

Technical Deep Dives

Sector-specific expertise was delivered through hands-on trainings and on-site mentoring, tailored to each venture's operational realities.

Feasibility Research & Pilot Validation

Rapid, low-cost trials conducted to generate proof points on performance and willingness to pay, thereby de-risking larger investments.

Market & Network Facilitation

Leveraging NAMDP II's credibility and partnerships from its other work, the Fund orchestrated introductions to buyers, distributors and financiers, accelerating market entry and building trust.

Operational & Channel Support

The team advised on logistics redesign, sales-channel optimisation and HR planning to ensure ventures could scale smoothly—often through site visits, peer exchanges and bespoke toolkits.

At every step, the team tracked progress against milestones, solicited partner feedback and adjusted the mix or intensity of these tactics—ensuring support evolved in lockstep with each venture's journey.

Case Study: Mandala Agrifresh

Mandala Agrifresh aimed to bring MAP bags—plastic enclosures that control gas composition to extend vegetable shelf life—to Nepal's smallholder markets. The Sahaj Challenge Fund underwrote 60 percent of pilot costs (roughly NPR 1.75 million of a NPR 4.37 million budget[2]), released in two tranches: the first to deploy 300 bags, the second unlocked once adoption thresholds were met. To date, Mandala has sold over 13,700 MAP bags to traders, collectors and farmers across Koshi Province.

Piloting & Feedback

In the initial phase, Mandala rolled out 300 bags in five cooperatives and conducted 17 orientation sessions, training over 100 farmers and logistics staff on handling protocols.
After each session, the team gathered farmer feedback via short interviews and usage logs. The common refrain: farmers saw shelf-life benefits but baulked at up-front costs and unfamiliar handling requirements.

Adaptation & Pivot

Responding to those insights, Mandala and its partners shifted tactics. They leveraged the Small Irrigation Project (SIP) network to stage 12 cooperative-led demonstrations— each drawing 20–30 farmers—and introduced a pre-paid bulk-order system with volume discounts and flexible delivery. These moves reduced financial barriers and allowed farmers to experience MAP-bag benefits with minimal risk.

Outcomes & Takeaway

Within six months of the pivot, Mandala recorded NPR 1.2 million in MAP-bag and ethylene-absorber sachet sales. Farmers reported a 20 percent drop in post-harvest losses and captured a 15 percent price premium on quality-graded produce. Crucially, neighbouring traders began adopting MAP practices, signalling that targeted adaptations in outreach and sales design can transform a pilot product into a sustainable market proposition.

[2] 1 CHF = NPR 174 (as of August 2025)

Case Study: RUDK

Rastriya Urja Dakshata Kendra (RUDK) developed a two-tier energy-audit service: an initial, low-fee "walkthrough" assessment to pinpoint easy wins (LED retrofits, motor maintenance) and a comprehensive, detailed audit for deeper efficiency measures. In Round 5, the Sahaj Challenge Fund underwrote NPR 3.78 million of RUDK's NPR 7.50 million project budget, enabling branch setup, staff training and pilot services—while RUDK covered the remainder.

Piloting & Feedback

In the first quarter, RUDK conducted 39 walkthrough audits (against a 22-audit target) and three sensitisation sessions. After each walkthrough, technicians collected client feedback via a brief survey. Businesses applauded quick savings opportunities but baulked at the NPR 250,000 cost of a full audit.

Targeted Adaptation

Responding to these insights, RUDK refined both delivery and reporting:

- **On-the-Spot Debriefs:** Post-walkthrough, clients joined a concise, co-hosted debrief with the local Chamber of Industries, reviewing a five-slide executive summary rather than a lengthy report.
- **Simplified Reports:** Detailed findings were distilled into layman-friendly formats for management and technical appendices for operations teams.

Re-test & Conversion

This leaner approach nearly tripled uptake: conversion to paid, detailed audits rose from roughly 20 percent to over 50 percent, and RUDK completed five of its eight targeted full audits within seven and a half months.

Outcomes

Seven of 21 audited firms opted for the paid service, generating NPR 1.1 million in revenue. Clients reported annual electricity savings of 10–15 percent and thermal-fuel reductions of 15–25 percent. Peer referrals and unsolicited inquiries doubled the pipeline for both audit tiers—creating a self-sustaining demand model.

Lessons

A few key lessons emerge on how hands-on assistance must be shaped and adjusted to unlock private-sector innovation:

Iterate, Don't Preset

Support models must grow from real-time feedback rather than fixed plans. Both Mandala and RUDK teams tested initial assistance packages, gathered rapid insights from users, and then refined their tactics—whether shifting from workshops to on-site debriefs or from pilot grants to direct-sales channels—proving that flexibility drives uptake.

Match Depth to Need

Early ventures benefit from light-touch interventions—model stress tests or low-fee pilots—to build confidence. As they scale, deeper inputs—detailed audits, technical deep dives or expert workshops—become critical. Sequencing support in step with each partner's growth ensures resources tackle the right challenge at the right time.

Use What's Already There

Instead of creating new channels, the Fund tapped existing networks—SIP's cooperatives for Mandala, the Chamber of Industries for RUDK—to extend reach and build credibility. This approach reduced costs and sped up market entry.

Reduce Risk at Every Step

From subsidised trials to simplified reports, each intervention eased a different kind of risk—financial, technical, operational, or reputational. By systematically lowering barriers, the Fund helped ventures move from grant-supported experiments to sustainable revenue streams

Thinking Systemically

Even well-designed pilots tend to fade when grant funding runs dry and no local actor is primed to carry the work forward. Time-bound awards kick-start experiments, but without clear exit plans, services—whether technical assistance clinics or pilot product roll-outs—often lose momentum once subsidies end (Pompa 2013)[1]. Projects can slip into dependency on subsidies if local partners aren't co-investors from Day 1 (OPML 2017)[2], and rapid commercial successes sometimes overshadow longer-term goals around inclusion or policy reform (OECD 2023)[3]. In practice, Challenge Funds that lack hand-over strategies, blended finance pathways or regulatory follow-through end up proving what's possible without ever embedding it in the market (Tan & Samdin 2023). Systemic change cannot be an optional extra—it is the foundation that allows pilots to scale, endure and include. Challenge Funds can spark innovation, but without being embedded in a broader strategy, promising pilots often stall as soon as grants end or policy gaps reappear. A systemic approach helps us to:

Align with Incentives and Capabilities

Effective interventions work with, not against, the motivations and resources of private and public actors. That means diagnosing where firms already invest time and money, then designing pilots that enhance, rather than replace, their existing operations.

Strengthen Market Functions, Not Just Actors

Beyond training individual businesses, systemic approaches tackle the rules, norms and services that underpin market performance—such as financial intermediation, information flows and quality standards. Embedding pilots within these functions creates self-reinforcing mechanisms for scale.

Foster Adaptive Learning by All Players

Market systems evolve through feedback loops. Structured peer exchanges, real-time data sharing and joint problem-solving forums help firms, regulators and service providers iterate together. By building these platforms into Challenge Funds, programmes move from one-off tests to living, learning ecosystems.

Leverage Existing Networks and Institutions

Working through cooperatives, chambers of commerce, local financiers, and advocacy bodies taps established trust and reach—reducing transaction costs and speeding adoption. These institutional anchors also serve as natural hosts for handover once external funding ends.

SCF operated as one tool in NAMDP II's broader effort to make agricultural markets work better. That positioning mattered. Because the Fund was part of NAMDP II's overall strategy—alongside policy reform, service-delivery support and other market-building instruments—it never acted in isolation. Grant calls were drafted while staff were already working with provincial agencies on standards, trade rules and other "rules of the game", so promising pilots were less likely to stall for want of approvals. Winners co-invested more than half of the total pilot budgets, signalling commitment. In short, the Fund supplied risk capital and learning loops, while NAMDP II's policy work, institutional partnerships and finance links cleared a path for successful pilots to grow without further donor money—illustrating why a challenge fund delivers most when it is woven into a wider market-systems programme, not bolted on beside it.

Call to Action—Embed, Don't Isolate

Whether you are structuring a challenge fund, a pay-for-results facility or an impact-investment window, remember: the instrument is only a means to an end. Our evidence shows that new ideas take hold only when the funding mechanism is rooted in the policy, institutional and financial landscape it aims to improve. Without that grounding, even strong pilots stall once grants finish or regulations tighten or change.

- Map the system first. Identify policy bottlenecks, service gaps and financing constraints before you launch a call.
- Shape each award so a local co-owner—co-operative, chamber or specialist firm—shares the risk and can run the service after the project closes;
- And keep a clear path to follow-on capital—bank credit, pay-as-you-go models or revolving funds—so promising pilots can grow without coming back for more subsidy.

When these three elements are in place, the familiar "pilot → feedback → adapt → scale" cycle can translate proof of concept into sustained market change. If they are missing, even the brightest ideas are likely to stay small, short-lived and grant-dependent.

Conclusion:

Practical Lessons for Future Challenge Funds

NAMDP II's Challenge Fund provided a wealth of insights into how innovation programmes can be designed to deliver meaningful and sustainable impact. While the journey was not without challenges, the programme's experiences underscore several critical lessons for future Challenge Funds:

Look Beyond Disruptive Innovation:

Encourage forms of innovation that are more feasible in the local context, such as incremental, architectural, or radical innovations, rather than aiming solely for disruptive breakthroughs. For example, a business that already produces curd may choose to introduce lassi as a new product. This is a form of modular innovation, where the core production process remains largely the same, but the product offering is diversified. Since the business is already familiar with the dairy market and infrastructure, the risk of adding lassi—a related product with existing demand—is relatively low.

Align Innovations with Local Market Conditions and Systemic Realities

Innovations thrive when they are tailored to the specific needs, capabilities, and constraints of local markets. For example, the uptake of MAP bags by Mandala was gradually increasing, driven by the high demand for high-value agricultural products like Aakbare Chilli (hot chilli). These bags extended the shelf life of the chillies by 7-10 days, making transportation easier and reducing post-harvest loss.

Take a Long-Term Approach to Building Private Sector Capacity:

Capacity-building is a gradual process that requires sustained engagement, technical support, and iterative development. NAMDP II not only funded the private sector for product development but also provided ongoing capacity building support. In the case of Aadhunik dairy, Swiss experts were engaged, and community awareness on quality milk production was promoted to ensure a better supply chain and higher quality product.

Thinking Systemically:

Innovations need the support of broader systemic reforms, including reliable infrastructure and enabling policies, to succeed. In short duration projects of 4-5 years, expecting significant policy change may be overly optimistic, as such reforms often extend beyond the project timeline. However, if infrastructure gaps are not addressed, the uptake and effectiveness of innovation services can remain low. For example, Digitally Enabled Cold Store (DECS) system, an innovative product for monitoring cold storage, faced challenges due to the lack of stable, high-speed internet connectivity and low digital literacy of the users, making it difficult to rely on the system alone.

Final Takeaway

The Sahaj Challenge Fund demonstrated that, while innovation is inherently complex and often unpredictable, it can create real value when programmes are designed with pragmatic, context-appropriate goals and a commitment to learning and adaptation. By fostering strong partnerships, embedding iterative approaches, and addressing systemic challenges, future Challenge Funds can maximise their impact and drive meaningful change in challenging market environments.

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Nepal Agricultural Market Development Programme

The Nepal Agricultural Market Development Programme (NAMDP II), also known as Sahaj, operated under a bilateral agreement between the Government of Switzerland and the Government of Nepal in Koshi Province. Sahaj was a Swiss Agency for Development and Cooperation (SDC) project, implemented by a consortium of Swisscontact (as the lead agency) and the Centre for Environmental and Agricultural Policy Research, Extension and Development (CEAPRED).

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