

THE/NUDGE Prize



Uniting the Ecosystem: Empowering Smallholder Farmers and Solving India's Water Crisis

Smallholder farmers are key to solving India's water crisis, accounting for 86% of farming households. Agricultural consumption accounts for 75-90% of India's freshwater use.

Despite appearing to be a large market for innovative private players, significant barriers exist. These include lopsided incentives due to subsidised and erratic power supply, unregulated groundwater use, and the cultivation of water-intensive crops in unsuitable regions.

This complex problem requires diverse solutions. The DCM Shriram AgWater Challenge has unearthed many, from automated irrigation to biologics and irrigation-as-a-service models. It also provides pathways to patient capital, helping startups acquire customers and build sustainable models.

However, the smallholder farmer market's fragmentation extends beyond size, region, and crop types. It's also cultural. Many farmers view their land as integral to their heritage and livelihood, making them hesitant to adopt collective farming practices or new technologies without immediate benefits.

Market players often misunderstand this, expecting resource-strapped farmers to adopt cost-effective solutions readily. For smallholder farmers, numerous other variables influence decisions. Many consider farming their secondary profession and would rather invest in their primary occupation than in improving an unviable trade. They're suspicious of new players offering to solve old problems and prefer to wait and watch.

The Role of Civil Society and Research Institutes

Research institutions also play a vital role. Focused research in areas like material sciences and sensor technology can support the development of more efficient and applicable agricultural technologies. For instance, sensor efficiency advancements can improve water management, while material sciences can

develop more durable, cost-effective farming tools. Collaboration between technology companies and research institutions ensures innovations are both practical and effective, tailored to smallholder farmers' specific needs.

Civil society organisations are crucial in bridging the trust deficit between technology providers and local farmers. With deep-rooted community connections, they can facilitate the introduction of new technologies, build trust, and provide support and training. Farmers are more likely to adopt new practices when introduced by trusted entities rather than unknown technology providers.

Technology Providers and Patient Capital

While technology providers are at the forefront of developing innovative solutions, their success depends on support from the broader ecosystem. These providers need patient capital, allowing them to refine their technologies and demonstrate effectiveness over time. This long-term investment approach is crucial for acquiring a minimum threshold of customers to create momentum. Additionally, technology providers require a network of partners, including civil society organisations and research institutions, to facilitate technology adoption and establish evidence of change.

The Path Forward: Collaboration and Innovation

To address the water crisis and support smallholder farmers effectively, creating a collaborative ecosystem where all stakeholders work together is essential. The DCM Shriram AgWater Challenge— an initiative by DCM Shriram Foundation & The/Nudge Prize, has served as a melting pot for different interventions, bringing together various players to address this multifaceted issue. By fostering collaboration among technology providers, civil society organisations, research institutions, and investors, the challenge has created a blueprint for tackling complex agricultural problems.

The knowledge generated by the challenge is invaluable for anyone looking to contribute to

this cause. It offers insights into the practicalities of implementing technological solutions in diverse and fragmented agricultural landscapes. For policymakers, this means drafting supportive policies that encourage efficient technology adoption. For investors, it means understanding the need for patient capital and the long-term nature of agricultural innovation. For civil society organisations and researchers, it highlights the importance of trust and practical research in driving adoption.

Solving India's water crisis requires a collective effort. The DCM Shriram AgWater Challenge has demonstrated the power of collaboration and the potential of a supportive ecosystem. As we move forward, it's crucial that all stakeholders work together, leveraging their unique strengths.

Governments can provide policy support to scale proven solutions, while patient capital from investors can help promising startups acquire a critical mass of customers. Research aid can establish evidence of change, further encouraging adoption and policy support. This ecosystem approach ensures that innovative solutions have the best chance of success and widespread implementation.

If you're part of this ecosystem—whether in government, civil society, investment, or research—there are several ways to contribute. Engage with organisations and initiatives mentioned, such as The/Nudge Prize, DCM Shriram Foundation and this AgWater Challenge. Explore opportunities to collaborate, provide funding, or offer your expertise. Together, we can create an environment where innovative solutions thrive and farmers benefit, ultimately securing a sustainable future for India's agriculture.

"This article is one part of an 8-part series covering agricultural water utilisation in India."

