CEMCA

Technical Note

Reframing Lifelong Learning for Farmer (L3F)

Programmatic Directions for Lifelong Learning for Farmers

14 January 2026

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1. Programmatic reframing of Lifelong Learning for Farmers (L3F)

Lifelong Learning for Farmers (L3F) was conceived by COL as a systems intervention rather than a conventional training programme. Piloted in 2004, it embedded learning within farmers' economic and social realities by linking knowledge with credit systems, community institutions, and local decision-making. Over two decades, L3F demonstrated that when human capital is intentionally connected with social and financial capital, learning translates into tangible outcomes—higher incomes, stronger women's agency, and improved financial resilience.

Evidence from India, Kenya, and other contexts shows high returns on investment, significantly lower capacity-building costs through Open and Distance Learning (ODL), and measurable gains for financial institutions and women-led enterprises. Yet the context facing farmers today is fundamentally different.

- Knowledge is no longer scarce; instead, farmers face information overload from digital platforms, extension systems, and private actors. Much of this information is generic, poorly timed, or disconnected from lived realities. The challenge has shifted from access to relevance, trust, and actionability. Farmers now need contextual, credible, and timely decision support aligned with production cycles, risk exposure, and livelihood strategies. This shift makes a programmatic reframing of L3F essential.

- At the same time, agriculture is increasingly shaped by climate variability, market volatility, rapid digitalisation, and changing rural demographics, including the feminisation, and ageing of farming. While L3F's core principles remain robust, its next phase must move beyond pilots and ad-hoc scaling toward a coordinated, scalable programme architecture with clear implementation pathways and stronger institutional convergence.

The National Consultation convened by COL-CEMCA in October 2025 marked a critical inflection point. Stakeholders called for moving decisively from reflection to action through a unified framework. **The deliberations emphasised a three-dimensional approach:**

1. Scaling-up through policy integration
2. scaling-out via new institutional partnerships; and
3. scaling-deep by fostering behavioural change within communities—anchored in participatory and contextual learning.

L3F must, therefore, evolve into an integrated, farmer-centred ecosystem that enables farmers to convert knowledge into decisions, link learning with finance and markets, and respond dynamically to climate and livelihood risks. The blueprint development workshop operationalises this shift by translating collective insights into a co-created future-ready implementation roadmap.

2. Core Design Principle: Information as a Public Good, Decisions as a Private Asset

L3F is anchored in the principle that information must remain a shared public good, while decisions are a private asset shaped by individual contexts, risks, and aspirations. In an environment of information abundance, the value of learning no longer lies in generating new content, but in curating credible knowledge and translating it into timely, locally relevant guidance. L3F therefore prioritises interpretation over instruction, enabling farmers to make informed choices rather than prescribing uniform solutions. Technology serves strictly as an enabler—organising knowledge, reducing uncertainty, and supporting judgement—while preserving farmers' agency in decision-making and livelihood strategies.

3. Towards a potential Theory of Change for L3F V2.0

Lifelong Learning for Farmers (L3F) is premised on a fundamental shift in how learning functions within agrarian economies. In a context characterised by information abundance, climate volatility, market uncertainty, and rapid technological change, the binding constraint is no longer access to knowledge but the ability of farmers and institutions to convert knowledge into timely, context-specific decisions.

The core Theory of Change underpinning L3F is that **information must remain a public good, while decisions are private assets,** shaped by individual risk profiles, livelihood strategies, and household dynamics. When learning systems move beyond content delivery and instead provide credible interpretation, decision prompts, and feedback at critical moments—such as input selection, credit uptake, cropping decisions, marketing, and diversification—farmers improve decision quality and reduce uncertainty.

This conversion of learning into action is only possible when **institutions, rather than projects**, act as intermediaries. Farmer organisations, cooperatives, banks, research systems, government departments, and technology providers collectively form a learning ecosystem that embeds knowledge within financial, market, and governance structures. As farmers make better decisions, outcomes improve; as outcomes improve, institutions gain better data, higher trust, and stronger incentives to invest further in learning systems. This creates reinforcing feedback loops between learning, income stability, institutional performance, and system sustainability.

Over the next decade, L3F seeks to institutionalise this ecosystem approach, enabling farmers to enhance and stabilise incomes, diversify livelihoods, and participate inclusively in value chains, while positioning learning as core public infrastructure in a post-SDG development paradigm.

4. L3F Blueprint Development Workshop on 20 January, 2026 – Objectives & Expected Outcomes

The workshop seeks to:

- Convert the recommendations emerging from the National Consultation into a coherent and actionable strategic framework, with clearly defined governance arrangements, coordination mechanisms, and pathways for scaling up through policy integration and scaling out through institutional partnerships.

- Develop a high-level roadmap outlining priority directions and strategic areas of action that the Commonwealth of Learning, together with partner institutions, can jointly pursue to strengthen and expand L3F.

- Explore how appropriate and emerging technologies can be leveraged to advance lifelong learning for farmers over the next decade, with particular attention to digital enablement, inclusive access, and the evolving technological landscape.

The principal outcome of the Blueprint Development Workshop will be the development of an L3F Strategic Blueprint—a structured guide to enable systematic scaling, institutionalisation, and coordinated implementation of the lifelong learning framework. This blueprint will serve as a core reference for shaping future operational plans, governance structures, and partnership strategies. While the workshop is focused on articulating this guiding framework, the longer-term outcome is to enhance farmers' capacity to participate in and benefit from a dynamic, responsive learning system that consistently supports improved practices, resilience, and livelihoods.

Theme 1: Women, Marginalised Farmers, and Youth — Strategies towards Formal Learning and Inclusion

As agrarian systems undergo structural transformation, questions of inclusion are becoming central to both equity and economic sustainability. Women increasingly manage farms in practice but remain excluded from land rights, finance, leadership, and markets. Marginalised farmers face persistent barriers to formal institutions, while rural youth often view agriculture as economically unattractive despite emerging opportunities along value chains and in digital and service-based roles.

L3F proposes that these challenges cannot be addressed through informal or peripheral learning alone. Instead, the programme invites a shift toward strategies that enable women, marginalised farmers, and youth to access formal, recognised, and institutionally anchored learning pathways. The underlying proposition is that formal learning—when designed to be flexible, contextual, and inclusive—can strengthen agency, improve bargaining power, and enable sustained participation in markets and institutions.

Drawing on earlier discussions on income stability, resilience, and value chain participation, this theme explores how learning systems can support diversification, enterprise development, aggregation, and service-based roles at the household level. It places particular emphasis on treating households, rather than individual farmers, as key units of learning and decision-making, recognising the interdependence of production, care, and income strategies.

Possible directions for exploration include women-centered enterprise and leadership pathways embedded within FPOs and cooperatives; formal skill recognition for marginalised farmers engaged in aggregation, processing, and services; and youth-oriented learning linked to digital roles, logistics, data services, and entrepreneurship. The role of credit, certification, and institutional recognition in enabling inclusion forms a critical part of this discussion.

If learning systems can successfully bridge informal knowledge and formal institutions, L3F could contribute to enhanced women's agency, reduced vulnerability among marginalised farmers, and more viable livelihood trajectories for rural youth. Whether such inclusion accelerates or complicates scale remains an open and necessary question.

Key Discussion Questions

1. **Should households replace individual farmers as the primary unit of learning and intervention?**
   What does a household-centric approach imply for targeting, monitoring, credit appraisal, and market engagement? How would learning systems, financial institutions, and value chains need to adapt, and are existing institutions prepared for this conceptual and operational shift?

2. **How can formal learning pathways be designed without excluding women and marginalised farmers with limited literacy, assets, or voice?**
   What forms of certification, recognition, or modular learning can bridge informal knowledge and formal institutions? Which ministries and institutions should be responsible for enabling access, and what financing mechanisms are required to prevent exclusion?

3. **What institutional mechanisms are needed to recognise and reward women's and marginalised farmers' skills and enterprises?**
   Should recognition be embedded within FPOs, cooperatives, credit systems, or skill missions? How can formal recognition translate into improved access to finance, markets, and leadership roles rather than remaining symbolic?

4. **Are rural youth being prepared for future roles within agriculture—or for livelihoods beyond it, and should this distinction matter?**
   Is exit from farming a failure of learning systems or a legitimate and necessary livelihood outcome? How do digital, service-based, and enterprise roles reshape agriculture itself, and what futures are implicitly being promoted through current learning pathways?

5. **How should inclusion be positioned—as a social objective or as a core economic strategy?**
   Does inclusion slow scale and efficiency, or does exclusion undermine long-term sustainability and resilience? What empirical evidence challenges prevailing assumptions, and who ultimately captures value under exclusionary versus inclusive models?

6. **Are diversification strategies diluting agriculture, or are they essential for survival under rising risk?**
   How should learning systems balance support for productivity with livelihood diversification across farm, off-farm, and informal sector pathways? At what point does diversification strengthen resilience rather than weaken agricultural systems?

7. **Who captures value in digital and service-based roles within agricultural value chains?**
   Do farmers and households retain value, or do platforms and intermediaries appropriate it? What governance, regulatory, and institutional arrangements are required to prevent new forms of extraction and ensure equitable participation?

8 **How can agent-based modelling and systems approach help capture inclusion, behaviour, and heterogeneity?**

Which dimensions of gender, marginality, youth decision-making, and household dynamics can be meaningfully represented through agent-based models? How can such tools inform policy design, learning pathways, and institutional choices without oversimplifying lived realities?

Theme 2: AI and Frontier Technologies for Newer Forms of Learning and Knowledge Acquisition by Farmers

The rapid expansion of AI, data analytics, remote sensing, and digital platforms is fundamentally reshaping how knowledge is generated, disseminated, and consumed in agriculture. While information availability has increased dramatically, farmers increasingly face challenges of overload, low relevance, and weak trust. L3F, therefore, proposes a shift by reframing the role of technology—from content delivery mechanisms to decision-support enablers.

This theme builds directly on earlier discussions around skills, proposing that AI and frontier technologies can support learning not by replacing human judgement, but by augmenting it. The core proposition is that when technology curates credible information, interprets complex signals, and delivers timely nudges aligned with farmers' decision points, learning becomes actionable rather than abstract. In this framing, skills are expressed as improved decision quality rather than course completion or certification.

Potential applications include AI-enabled decision-support systems linked to crop cycles and risk profiles; adaptive learning pathways that evolve with farmer behaviour and outcomes; and feedback loops that allow institutions to learn from aggregated decision data. At the same time, the role of human intermediaries—extension workers, community facilitators, lead farmers, and knowledge managers—remains central in contextualising insights, building trust, and preventing over-reliance on algorithmic recommendations.

The theme also interrogates risks associated with frontier technologies, including algorithmic bias, accountability for decision failures, data ownership, and the potential erosion of farmer agency. It invites deliberation on how public institutions can steward technology use in ways that preserve learning as a public good while respecting decisions as private assets.

If deployed thoughtfully, AI and frontier technologies could enable scalable, cost-effective, and context-sensitive learning ecosystems. Whether current institutional capacities and governance frameworks are adequate for this transition remains a key question for discussion.

Key Discussion Questions

1. **Can AI-driven learning systems enhance farmer judgement without prescribing decisions?**
   Where should the boundary lie between decision support and decision substitution? How can AI-enabled tools be designed to reduce uncertainty while preserving farmer agency, contextual judgement, and autonomy, particularly in high-risk situations related to climate, credit, and markets?

2. **Who should own, govern, and steward agricultural data used for learning and decision support?**
   Should data generated through farmer learning systems be treated as a public good, a shared institutional asset, or a proprietary resource? What governance arrangements are required to ensure data protection, transparency, interoperability, and farmer trust, and which institutions should be responsible for oversight?

3. **What should be the respective roles of public institutions, private platforms, and technology providers?**
   Where should public institutions lead—as stewards, regulators, or providers—and where can private actors add value through innovation and scale? How can risks of platform capture, exclusion, or dependency be mitigated while leveraging private-sector capabilities?

4. **How should accountability be structured when technology-informed decisions lead to losses?**
   Who bears responsibility when AI-enabled advisories fail—farmers, institutions, technology providers, or the state? What legal, regulatory, or risk-sharing mechanisms are necessary to enable experimentation without transferring disproportionate risk to farmers?

5. **Are existing extension and learning systems institutionally prepared for AI-enabled integration at scale?**
   What capacity gaps exist within extension systems, farmer institutions, and ministries to adopt, interpret, and govern AI tools? What concrete investments in skills, infrastructure, and institutional redesign are required to move beyond pilots toward system-wide adoption?

6. **Can AI genuinely support resilience, or does it merely explain failure after the fact?**
   Are we confusing prediction with explanation? How much uncertainty should decision-support systems admit openly, and what happens—politically and institutionally—when predictions fail?

7. **How should AI-enabled lifelong learning be positioned within a post-SDG development paradigm?**
   As development frameworks evolve beyond the SDGs, what role should digital and AI-enabled learning systems play as public infrastructure for agriculture and rural

livelihoods? How can long-term resilience, adaptability, and institutional learning be prioritised over short-term technology deployment?

8 **What strategic pathways should guide the use of frontier technologies over the next decade?**

Which priority areas should be pursued in the short, medium, and long term to leverage AI and emerging technologies for lifelong learning—particularly with respect to inclusive access, digital enablement, and evolving technological landscapes? How can these pathways be translated into concrete actions, lead responsibilities, and sustainable financing models under L3F?

Theme 3: Institutional Convergence for Lifelong Learning and Skill Development among Farmers

A central lesson from L3F implementation is that learning outcomes are strongest when embedded within institutions rather than delivered through stand-alone projects. Yet, farmer learning and skill development in India continue to be fragmented across ministries, programmes, and delivery platforms—spanning agriculture, cooperation, rural development, skilling, finance, and digital governance—with limited coordination or shared accountability.

L3F, therefore proposes institutional convergence at the centre of its programmatic reframing. The underlying proposition is that lifelong learning for farmers can only be scaled and sustained if it is anchored within existing institutional architectures—particularly farmer institutions, cooperative systems, financial institutions, research bodies, and government departments—rather than operating in parallel to them. In this framing, skills are not treated as discrete training outputs, but as system-level capabilities embedded within institutional processes such as credit appraisal, enterprise planning, market engagement, and risk management.

Building on insights from the earlier focus on credit, this theme invites reflection on whether institutions, especially cooperative banks, FPOs, and producer cooperatives—can evolve into active intermediaries within learning ecosystems. Learning-linked credit, enterprise intelligence, and decision-support mechanisms could potentially align incentives for farmers and institutions alike, improving both livelihood outcomes and institutional performance. However, this raises critical questions regarding mandates, capacities, governance, and regulatory boundaries.

The theme also proposes to explore convergence with national initiatives such as the Digital Agriculture Mission, Krishi Decision Support System (DSS), NRLM, and cooperative reform agendas. The role of different ministries—Agriculture, Cooperation, Rural Development, Skill Development, and Finance—in co-owning learning systems is placed on the table, alongside questions of coordination, leadership, and accountability.

If institutional convergence can be effectively operationalised, L3F could move from being a programme to becoming part of core rural and agricultural infrastructure—supporting continuous learning, better decision-making, and more resilient institutional ecosystems.

Key Discussion Questions

1. **Is fragmentation across ministries and programmes the binding constraint to scaling lifelong learning for farmers?**
   If convergence is the goal, which specific silos—policy, financing, data, delivery, or accountability—most severely constrain scale today? Which existing programmes or parallel structures would need to be aligned, redesigned, or discontinued for L3F to function as a coherent programme rather than a collection of initiatives?

2. **Which institutions should anchor farmer learning ecosystems—and with what responsibilities?**
   Should primary ownership rest with farmer organisations (FPOs, cooperatives), financial institutions, or line ministries? How should roles be distributed across policy stewardship, implementation, financing, and monitoring? What risks arise if anchoring is fragmented or contested, and how can accountability be clearly assigned?

3. **Can learning-linked credit and enterprise planning realistically drive convergence across institutions?**
   Under what conditions can credit systems act as effective entry points for embedding learning, enterprise planning, and risk intelligence? What concrete actions would be required from cooperative banks, regulators, and development partners to operationalise learning-linked credit, and where are the limits of this approach?

4. **What governance and regulatory safeguards are essential to embed learning within financial and cooperative systems?**
   How can prudential norms, data protection, and farmer interests be safeguarded while enabling innovation? Which regulatory bodies and ministries would need to be involved, and what forms of regulatory flexibility or clarity are prerequisites for experimentation at scale?

5. **How should pathways for scaling-up and scaling-out be deliberately planned rather than assumed?**
   What does scaling-up through policy integration concretely mean for L3F over the next five years, and which policies or missions offer the most viable entry points? In parallel, how can scaling-out through institutional partnerships be structured to avoid dilution, duplication, or mission drift?

6. **Who should control price and climate intelligence?**
   Should public institutions such as ICAR remain the primary custodians of economic intelligence, or can private analytics firms respond faster and more effectively? What risks of data monopolies or exclusion might emerge?

7. **How can institutional convergence be incentivised when mandates and performance metrics remain siloed?**
   What changes in incentives, financing arrangements, or performance indicators are required to encourage ministries and institutions to invest in shared learning systems? Who should bear the initial coordination costs, and how can long-term institutional commitment be sustained?

8. **What should a high-level, action-oriented roadmap for L3F look like?**
   Which priority directions and strategic areas of action should be jointly pursued by the Commonwealth of Learning and partner institutions in the short, medium, and long term? How can this roadmap clearly specify recommended actions, lead institutions, indicative timelines, and feasible financing pathways to support implementation?

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