



Foodscapes as Living Laboratories

EMERGING LESSONS FOR ADVANCING
REGENERATIVE TRANSITIONS

LEARNING BRIEF



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Executive Summary

Food systems are among the largest drivers of biodiversity loss, greenhouse gas emissions, water stress, and ecosystem degradation globally, yet they also represent one of the greatest opportunities to deliver benefits for nature, climate, and people at scale. Regenerative agriculture offers a promising pathway to realize this opportunity by restoring ecosystem function, strengthening farmer livelihoods, improving resilience, and reducing environmental impacts while sustaining food production. Recent research has estimated that transitioning to more productive and regenerative agriculture can generate \$1.17 trillion a year in economic opportunity by 2030 (FOLU¹). However, realizing the promise of regenerative agriculture requires more than farm-level practice change. It requires work at a landscape level to strengthen the systems that enable adoption at scale, from farmer support and markets to finance, policy, and local institutions.

The Nature Conservancy's (TNC) Regenerative Foodscapes Strategy was established to accelerate landscape-scale transitions toward regenerative food systems capable of delivering measurable benefits for nature, climate, water, and rural livelihoods. Through a portfolio of food-producing landscapes across four continents, Foodscapes are testing and scaling approaches that can transform how food is produced while restoring the ecosystems on which agriculture depends. Over several years, these Foodscapes have functioned as living laboratories, testing approaches across diverse ecological, economic, and cultural contexts, including the Upper Mississippi River Basin and Chesapeake Bay in the United States, Gran Chaco in Argentina, Orinoquía in Colombia, Northwest India, and the Central Highlands of Kenya. By 2030, the program aims to bring 31 million hectares under improved management, 29 million tons of annual GHG reductions, 18 million people with greater climate resilience, and 8 million people benefiting from economic opportunity. Through early implementation, Foodscapes are showing promising results. For example, in Northwest India TNC has supported 370,000 farmers in adopting no-burn and regenerative farming practices across 850,000 hectares. This has helped eliminate more than 3.8 million tons of emissions per year while conserving around 400 billion liters of water.

This learning brief synthesizes emerging lessons from TNC's Regenerative Foodscapes portfolio for the diverse actors shaping landscape-scale regenerative transitions globally. Its purpose is to share insights to strengthen strategies within and beyond TNC, invite collaboration and identify opportunities for deeper engagement among partners, and contribute to the exchange of lessons among a wider community of practitioners.

It presents insights at two complementary levels. First, it synthesizes emerging lessons and innovations from work across five enabling systems that shape regenerative transitions: farmer delivery, policy alignment, market development, transition finance, and measurement and learning. Second, looking across these enabling systems reveals three cross-cutting lessons about how regenerative transitions can be accelerated, adapted, and sustained over time.

1 Food and Land Use Coalition. (2019). *Growing better: Ten critical transitions to transform food and land use*. <https://www.folur.org/sites/default/files/2022-03/FOLU-GrowingBetter-GlobalReport.pdf>.

FIVE ENABLING SYSTEMS FOR REGENERATIVE TRANSITIONS



THREE CROSS-CUTTING LESSONS TO ACCELERATE AND SUSTAIN CHANGE

1	ADAPTIVE MANAGEMENT	Locally rooted ownership, pathway alignment, and adaptive learning are essential
2	CROSS-LANDSCAPE LEARNING	Transferable mechanisms can accelerate progress, when tailored to local contexts
3	INSTITUTIONAL INFRASTRUCTURE	Aggregation and intermediary institutions enable collective action and scaling

A central lesson emerging from the portfolio is that regenerative transitions do not advance through any one system in isolation. Progress depends on strengthening multiple enabling systems simultaneously while building the learning, coordination, and institutional foundations needed to connect them.

Five Enabling Systems for Regenerative Transitions

- Farmer delivery.** Regenerative transitions depend on whether producers change long-established practices, decisions they rarely make alone. TNC's Foodscapes are testing more effective, holistic delivery systems to incentivize and support farmers' adoption of regenerative methods. Trusted intermediaries such as agricultural retailers and machinery service providers are proving essential in shaping farmers' decision-making, especially when they are incentivized to help farmers transition. Foodscapes have seen the greatest success when farmers are surrounded by a reinforcing ecosystem of support that combines demonstration and training, peer learning, practical and economic enablers, and identity-based messaging.
- Policy alignment.** Policies and public institutions shape whether regenerative practices are economically attractive and able to expand beyond individual projects. Foodscapes are finding that unlocking access to existing policy mechanisms can matter as much as designing new ones, and that policy is most durable when it aligns environmental outcomes, economic interests, and public sector priorities while mobilizing collective action and investment. Subnational governments are emerging as accessible and nimble partners for testing new approaches.
- Market development.** Producers will not adopt and sustain new practices unless the market rewards them. Foodscapes are learning that nurturing demand must go hand-in-hand with market-enabling investments, such as infrastructure and market intelligence, backed by risk-tolerant and patient capital. Local and regional markets, often overlooked, can offer producers some of the most appropriate market linkages, particularly when aggregation opens access that individual producers could not achieve alone.

4. **Transition finance.** Agriculture is a notoriously hard sector to finance, and regenerative transitions add further risk and timing challenges. Such transformation requires patient, blended, and shared capital. Foodscapes are testing diverse approaches, learning that financing must address the distinct risks facing producers, lenders, buyers, and investors. Durable traction occurs when financing is paired with technical assistance, risk sharing instruments, and evidence generation, and where a viable, tested business model is already in place.
5. **Measurement and learning.** Because Foodscapes are complex and emergent, understanding whether interventions are working, and why, requires measurement and learning systems built for adaptation and decision-making, and accountability. Guided by TNC's Monitoring, Evaluation and Learning (MEL) framework, Foodscapes are embedding learning and adaptation directly into implementation. Technologies such as remote sensing and artificial intelligence expand what can be measured, but prove most valuable when paired with field validation and local knowledge.

A Foundation for Scale

Taken together, these insights point to practical opportunities for donors, companies, governments, and implementation partners to strengthen efforts toward regenerative transitions. While the specific pathways will differ across contexts, the emerging lessons from the Foodscape portfolio suggest that landscape-scale change is possible when actors align around shared outcomes and invest in systems that enable adoption, adaptation, and long-term resilience. TNC remains committed to learning and adaptation through its Foodscapes portfolio and Accelerator, which packages portfolio learnings to support landscapes to move faster from ambition to investable action. The Foodscapes team welcomes collaboration to pursue regenerative food futures at scale.

Three Cross-Cutting Lessons to Accelerate and Sustain Change

1. **Adaptive management.** Regenerative transitions unfold in complex, context-specific systems where pathways to change are rarely predictable. Strategies are most effective when they are grounded in local institutions and priorities, aligned around a shared Theory of Change, and adjusted as understanding evolves. Adaptive learning is a core capability for navigating uncertainty and complexity.
2. **Cross-landscape learning.** A unique value of the Foodscapes portfolio is the ability to compare experience across diverse landscapes, surfacing patterns difficult to see within any single geography. This learning proves most valuable when it distinguishes between what can be standardized, such as learning frameworks, monitoring approaches, and decision-support tools, and what must be locally shaped, including governance, partnerships, and implementation strategy. TNC's Foodscape Accelerator embodies this insight, offering transferable tools across landscapes while adapting them to context.
3. **Institutional infrastructure.** Aggregation is the hidden infrastructure of scale. Across the portfolio, intermediary institutions like water user associations and local chambers of commerce serve to bridge critical gaps across market, financial, governance, delivery, and learning systems together. By aggregating producers, services, and information, these institutions create collective leverage. TNC has found that investing in these institutions' capacity matters as much as funding the innovations they help deliver.

SECTION 1.

Introduction

Regenerative Food Systems Are Critical, Yet Remain Difficult to Scale

Food production is a major driver of climate change and habitat loss, undermining the very systems that make growing food possible and creating an interlinked crisis of climate instability, biodiversity loss, water stress, and declining resilience. Regenerative agriculture is a restorative solution. Beyond reducing harm, its practices can actively restore nature and deliver multiple benefits for climate, land, water, and people (FAO, 2025; World Bank, 2024).² The field has demonstrated strong technical evidence (FAO, 2025)³, prompting growing interest and investment in the regenerative food movement.

Yet the adoption of regenerative food systems is limited by a range of challenges linked to delivering services and support to farmers, enabling policy alignment, developing markets, expanding transition financing, and conducting meaningful monitoring and learning. Regenerative transitions are inherently systemic, requiring simultaneous progress across interconnected actors, institutions, incentives, and support structures. Advancing adoption at scale therefore depends not only on promoting regenerative practices, but also strengthening the broader systems that enable and sustain them. Enabling regenerative transitions will require strengthening the systems that influence farmer adoption, markets, finance, policy, and learning, distilling place-based and cross-landscape insights about what is working, and applying them through an adaptive, learning-driven approach.

TNC's Foodscapes Approach Seeks to Accelerate and Scale Regenerative Transitions

The Nature Conservancy's (TNC's) Regenerative Foodscapes Strategy supports the transition to regenerative food systems that deliver measurable outcomes and contribute to the organization's 2030 goals for climate, water, and people. Grounded in science and innovative systemic approaches, TNC serves as a convenor for local producers and communities, companies, investors, and policymakers seeking to catalyze new models that

2 FAO. 2025. The State of Food and Agriculture 2025 – Addressing land degradation across landholding scales. Rome: Food and Agriculture Organization of the United Nations. <https://doi.org/10.4060/cd7067en>.

World Bank. 2024. Recipe for a Livable Planet: Achieving Net Zero Emissions in the Agrifood System. Washington, DC: World Bank Group. Published May 6, 2024. [https://www.worldbank.org/en/topic/agriculture/publication/recipe-for-livable-planet\(full-report:https://openknowledge.worldbank.org/entities/publication/406c71a3-c13f-49cd-8f3f-a071715858fb\)](https://www.worldbank.org/en/topic/agriculture/publication/recipe-for-livable-planet(full-report:https://openknowledge.worldbank.org/entities/publication/406c71a3-c13f-49cd-8f3f-a071715858fb)).

3 von Cossel, M., Scordia, D., Altieri, M. A., and Gresta, F. 2025. "Spotlight on agroecological cropping practices to improve the resilience of farming systems: a qualitative review of meta-analytic studies." *Frontiers in Agronomy*, Volume 7, Article 1495846. Published June 10, 2025. <https://doi.org/10.3389/fagro.2025.1495846>.

accelerate this shift. It does this through three pillars: a portfolio of regional Foodscapes that serve as "living laboratories," an Accelerator that supports landscape initiatives to develop scalable models and adopt replicable solutions, and global systems-level influence.

Through the first pillar, TNC is advancing Foodscapes spanning four continents: Northwest India (PRANA); Gran Chaco, Argentina; Orinoquía, Colombia; the Central Highlands of Kenya; and the Upper Mississippi River Basin and Chesapeake Bay in the United States. While Foodscapes strategies continue to evolve through implementation and learning, significant progress has already been achieved across the portfolio. Collectively, they seek to contribute to 31 million hectares under improved management, 29 million tons of greenhouse gas emissions mitigated per year, and 18 million people benefiting through improved climate resilience or economic opportunity by 2030. Through early implementation, Foodscapes are showing promising results. For example, in the Northwest India Foodscape the program has supported 370,000 farmers in adopting no-burn and regenerative farming practices across 850,000 hectares. This has helped eliminate more than 3.8 million tons of emissions per year while conserving around 400 billion liters of water. These results demonstrate the potential of landscape-scale approaches to generate meaningful outcomes while providing real-world lessons that can inform future efforts.

TNC's Foodscapes span vastly different geographies, commodities, socioeconomic circumstances, cultures, and enabling environments, with each landscape pursuing locally tailored approaches to address distinct conservation challenges. Through several initial years of implementation, the portfolio has generated lessons within five enabling systems that shape regenerative transitions, while revealing three broader insights about the conditions needed for these transitions to scale and persist over time.

TNC's Emerging Insights Can Inform Similar Initiatives

This learning brief synthesizes emerging lessons from TNC's Regenerative Foodscapes portfolio for the diverse actors shaping landscape-scale regenerative transitions globally. Its purpose is to share emerging insights that can strengthen regenerative transition strategies, identify opportunities for collaboration, and contribute to a broader exchange of learning among practitioners working at a landscape scale.

Foodscapes test how regenerative transitions can be adapted to diverse contexts while generating transferable lessons about what enables change to scale and endure.

SECTION 2.

Strengthening Five Enabling Systems for Regenerative Transitions

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TNC Foodscapes are testing innovations to strengthen the five enabling systems that consistently shape the success of regenerative transitions: building effective delivery systems for farmer adoption, aligning policy with regenerative outcomes, strengthening markets, unlocking transition finance, and building measurement and learning systems. This section explores why each enabling system matters, highlights insights from implementation, and profiles selected approaches that Foodscapes are testing across diverse contexts.

A. Building Effective Delivery Systems for Farmer Adoption

WHY IT MATTERS

Adopting regenerative practices often requires producers to change long-established behaviors while taking on new costs, risks, and management demands. Farmers rarely make these decisions in isolation, relying instead on trusted advisors, service providers, peer networks, and local institutions for information and support. To reach producers effectively, therefore, interventions must go beyond direct outreach to build effective, holistic delivery systems through which knowledge, services, incentives, and sustained support can influence farmers at scale.

TNC INNOVATIONS AND INSIGHTS

TNC Foodscapes are testing a range of delivery models that reach producers directly, through trusted intermediaries, and via existing local institutions. Emerging insights include:

- **Trusted intermediaries can have outsized influence on farmers' decision-making.** Agricultural retailers, machinery service providers, and other locally embedded actors are often deeply influential. These actors interact with producers regularly, understand local conditions, and often advise farmers on key decisions. As such, incentivizing and equipping intermediaries is a highly effective avenue for durable behavior change.
- **Demonstration and peer learning can be more persuasive than pure technical training.** Farmers are often more willing to adopt unfamiliar practices when they can see results on nearby working farms and learn from peers facing similar challenges and opportunities. Field visits and knowledge exchange create trust and understanding that helps farmers embark on the transition.
- **Farmers adopt when surrounded by an ecosystem of support.** Farmers are more likely to adopt regenerative practices when several enablers reinforce each other simultaneously: messaging, peer demonstration, training, incentivized intermediaries, market access, and support from trusted institutions. Advice, access to inputs, and finance often need to move together.
- **Identity-based messaging can unlock intrinsic motivation for behavior change.** Rather than relying solely on technical information, successful initiatives often use culturally appropriate messaging delivered through trusted community institutions and non-traditional messengers such as faith-based institutions, making change feel personally meaningful and socially relevant.

FEATURED EXAMPLES

AgResults (Northwest India)

The AgResults model in Northwest India seeks to accelerate adoption of regenerative crop residue management and direct-seeded rice practices through a pay-for-results approach. Rather than relying primarily on direct farmer outreach, the model works through machinery service providers, many of whom are farmers themselves and already influence other farmers’ operational decisions. Trained service providers receive incentives tied to independently verified changes in farmer practices. By reducing risks associated with equipment investment and farmer outreach, and aligning compensation with regenerative outcomes, the model encourages providers to expand their customer base and continue supporting adoption beyond the incentive period.

“With PRANA’s support, I adopted water-saving methods like Direct Seeding of Rice and Alternate Wetting and Drying. It transformed my farm and taught me that farming is about more than yields—it’s about restoring our land and preserving Punjab’s groundwater.”

— Tarsem Singh, Farmer, Village Sadiqpur, District Jalandhar



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Equipment Cost Share and Retailer Outcomes Initiative (Upper Mississippi River Basin)

In the Upper Mississippi River Foodscape, agricultural retailers are among farmers' most trusted sources of advice and technical support. However, many retailers face economic barriers to providing services that support regenerative practices, and are typically motivated by a volume-based pay model that incentivizes sales of inputs like fertilizer and pesticides. The Equipment Cost Share program provides matched grants that help retailers acquire equipment needed to offer regenerative services such as cover crop seeding, thus de-risking upfront investment and incentivizing new service offerings. The newer Retailer Outcomes Initiative builds on this approach by testing outcomes-based service packages with a cooperative partner and farmers, exploring how retailers can be rewarded for helping farmers achieve goals such as lower carbon intensity, reduced input costs, and more diversified crop rotations.

Farmer Hubs (Kenya)

In Kenya, farmer hubs serve as locally led centers for training, demonstration, record-keeping, and peer learning on regenerative practices. They connect producers with finance, information, technical advisors, input providers, and offtakers, creating an integrated support network around farmers as they adopt new practices. TNC trains farmer hub leaders, also farmers themselves, who share knowledge and opportunities within their communities. The hubs also work with Water Resource Users Associations, linking farm-level support with local water governance institutions who can unlock public incentives for water conservation. By building on existing community relationships, the hubs create trusted pathways for extending farmer support.

“By investing in one Farmer Hub, we have catalyzed the growth of a network of skilled young professionals who are championing regenerative agriculture, strengthening market linkages, creating employment, and supporting smallholder farmers to improve productivity, food and nutrition security, and resilience to climate-related challenges. This is the kind of sustainable, community-led transformation the program seeks to achieve.”

— Glory Nkatha, Project Coordinator, Sustainable Agriculture Foundation Africa (SAF-Africa), Kenya Foodscape implementation partner



B. Aligning Policy and Incentives for Regenerative Transitions

WHY IT MATTERS

Policies and public institutions shape whether regenerative practices are economically attractive, practically feasible, and capable of expanding beyond individual projects. Promising approaches can struggle when policies create conflicting incentives or when implementation barriers limit access to existing mechanisms. Therefore, the challenge is not only designing supportive policy, but ensuring that policies and incentives are accessible, aligned with stakeholder priorities, and supported by the coordination needed for implementation.

TNC INNOVATIONS AND INSIGHTS

TNC Foodscapes are testing multiple approaches to align public policy with regenerative outcomes, including improving the use of existing policy mechanisms, designing new incentives, and coordinating actors to align and co-invest in the context of supportive policy. Emerging insights include:

- **Policy impact often depends as much on implementation as on design.** Existing policies and incentive mechanisms can create substantial value when barriers to uptake are addressed, suggesting that unlocking underused policy mechanisms can be as important as creating new policy incentives.
- **The most durable policy innovations align environmental, economic, and public sector priorities.** Solutions that create benefits for multiple stakeholders are more likely to attract support and achieve scale over time. When regenerative outcomes also improve farmer livelihoods, or reduce public costs, they become more resilient to changing political priorities.
- **Policy is most effective when it mobilizes collective action and investment.** Strong regulation can establish direction and accountability, but achieving results often requires multi-stakeholder collaboration and co-investment, as well as institutions capable of translating policy into practice.
- **Subnational governments can be effective, accessible, and nimble change agents.** In many cases, it is easier to advance policy innovation and build implementation momentum at the provincial or state level, with successful approaches then informing and influencing national priorities.

FEATURED EXAMPLES

Tax for Investment Public Funding Mechanism (Orinoquía)

The Orinoquía Foodscape team identified an opportunity to accelerate investment in regenerative production systems through Colombia's existing Tax for Investment mechanism, which allows companies to redirect tax payments toward projects generating ecosystem service improvements. Although the mechanism already existed, many businesses lacked the knowledge, relationships, and project structuring experience needed to participate effectively. The Foodscape works with government and private-sector partners to build awareness, structure projects, and navigate approval processes. It is also exploring a revolving fund that would cover upfront project development costs and be repaid following government approval, reducing a key barrier to company participation.

Punjab Solar Pilot (Northwest India)

In Northwest India, the Foodscape team is partnering with the Punjab government to address a longstanding challenge: free electricity for agricultural pumping has contributed to groundwater depletion across the state. Farmers participating in the pilot use grid-connected solar irrigation systems and can sell surplus electricity back to the grid. This creates a direct economic incentive to adopt water-efficient practices and reduce unnecessary pumping, helping conserve groundwater while generating additional farm income. The approach also supports government fiscal priorities by reducing the costs associated with agricultural electricity subsidies, creating a rare alignment between farmer livelihoods, environmental outcomes, and public sector fiscal priorities. The pilot demonstrates how policy design can align incentives across stakeholders to support regenerative transitions.

Collaborative Implementation in a Regulatory Landscape (Chesapeake Bay)

In Chesapeake Bay Foodscape, the largest Total Maximum Daily Load (TMDL) regulatory water-quality framework in the U.S. serves as a platform for driving nutrient and sediment reductions. Achieving these goals, however, will require tens of thousands of farmers to adopt voluntary conservation practices. Recognizing that agribusinesses are the trusted advisors to influence the practices that farmers adopt, TNC helped establish the Mid-Atlantic 4R Nutrient Stewardship Association, an independent 501(c)(3) that gives agribusinesses and other stakeholders a formal role in co-developing solutions. The association coordinates implementation and learning and helps mobilize public, private, and philanthropic resources. It illustrates how an intermediary institution can translate regulatory direction into voluntary collaborative action.

“I view this as future-proofing. If you take care of the land, it will take care of you. What we do here will affect our neighbors downstream, and if we work together as a community, it’s going to benefit everyone.”

— Mitchel Zimmerman, Farmer & Owner, Hammer Creek Estate, Pennsylvania



C. Strengthening Markets for Regenerative Products

WHY IT MATTERS

Regenerative transitions ultimately depend on economic viability. Producers are unlikely to adopt and sustain new practices unless they can access market opportunities that reward regenerative production, and unless they are confident that investments in change will generate returns. Strengthening such markets extends beyond creating demand: weak infrastructure, fragmented supply, limited coordination, uneven producer capabilities, and insufficient market information can prevent producers from accessing otherwise viable opportunities.

TNC INNOVATIONS AND INSIGHTS

TNC Foodscapes are testing a range of market-based approaches to make regenerative production more economically attractive and commercially viable. Emerging insights include:

- **Demand creation must be paired with market-enabling investments.** Successful market development often requires investments in infrastructure, market intelligence, producer organizations, and quality management systems. Because demand often comes through a diverse set of buyers and procurement channels, successful approaches require multiple pathways to market rather than a single offtake model.
- **Local and regional markets are often underappreciated.** Market development strategies for regenerative products frequently focus on national or global buyers, though local and regional markets may offer the most immediate and relevant sales channels.
- **Aggregation can unlock market opportunities that individual producers cannot access on their own.** By reducing transaction costs, building trust, and improving bargaining power, collective approaches can increase farmers’ participation in higher-value markets. Aggregation also represents a mechanism through which governments, companies, and financial institutions can engage producers effectively.
- **Early-stage market development requires patient, risk-tolerant and philanthropic capital.** New market exploration for regenerative products often benefits from flexible philanthropic capital that can absorb risk and support experimentation until viable business models and investment opportunities are established.

FEATURED EXAMPLES

Regenerative Cheese Model (Orinoquía)

In Orinoquía, the Foodscape is developing a regenerative dairy model around a long-standing relationship between producers and an established cooperative. The model seeks to increase value capture by linking regenerative production with improved quality, traceability, and differentiated products. The initiative strengthens producer and cooperative capacity in quality control, financial management, and governance while exploring value-added products such as specialty cheeses. Generations of fair and reliable transactions with the processor give producers confidence in a dependable market, reducing uncertainty associated with adopting new practices and quality standards. The initiative is also exploring opportunities to connect differentiated regenerative products with premium domestic and international markets, potentially increasing value capture beyond traditional commodity channels.

Oats Market Development (Upper Mississippi River Basin)

The Upper Mississippi River Foodscape is working to increase oat production as part of a broader crop diversification strategy, recognizing oats’ ability to improve soil health, water quality, and farm resilience. Different market segments have distinct quality specifications, infrastructure needs, and procurement requirements, and these can be difficult for producers to navigate. To address these barriers, the Foodscape is working across multiple parts of the value chain, including farm-level economic modeling, storage feasibility studies, support for new milling infrastructure, and coordination of market intelligence and buyer engagement. Together, these efforts seek to give producers the infrastructure, information, and commercial relationships needed to participate in viable oats markets.

“Having a stable market for oats here in the Midwest feels like a big win. It unlocks pathways for farmers who want to diversify their crops and add additional revenue streams.”

— Savannah Laur, Senior Farm Viability Manager, Practical Farmers of Iowa

Producer Aggregation + Intermediary Model (Gran Chaco)

In Gran Chaco, the Foodscape is building a regenerative livestock and forest products model around a service unit that connects family producers with formal markets. The unit organizes producers and provides technical assistance, financing, and commercialization support intended to improve productivity, quality, and economic resilience. By aggregating production and coordinating sales of regenerative livestock and sustainably produced charcoal, the model seeks to strengthen bargaining power, improve prices, and reduce dependence on informal intermediaries. It combines the commercial functions of a market actor with social and environmental support for producers.

“I’m interested in implementing integrated livestock management in the forest. I realized the value of having trees. But most importantly, I want to pass this legacy on to my children and future grandchildren. I’ve learned that progress comes from working with nature, not against it.”

— Mariano Fiorin, a farmer from Argentina's Santa Fe province, in the Gran Chaco Region



D. Unlocking Finance for Regenerative Transitions

WHY IT MATTERS

Financing regenerative transitions is complicated by real transition risk and a timing mismatch between when costs are incurred and returns materialize. Agriculture is already a notoriously difficult sector to finance, given its uncertainty, high risk, thin margins, and long return cycles. The transition to regenerative approaches adds dynamics that further disincentivize financial players. The challenge extends beyond access to capital: producers, value chain actors, and financial institutions must also navigate transition risk, collateral constraints, and uncertainty about the economic viability of regenerative systems.

TNC INNOVATIONS AND INSIGHTS

TNC Foodscapes are testing diverse financing approaches including credit guarantees, blended finance mechanisms, and performance-based repayment structures designed for regenerative production systems. Emerging insights include:

- **Financing must be paired with technical assistance, risk management and evidence generation.** Financial incentives alone are rarely sufficient to drive adoption. Successful financing models combine capital with technical assistance, risk mitigation tools, and monitoring, reporting, and verification (MRV) systems that help producers implement new practices, demonstrate outcomes, and build confidence among financial actors.
- **Successful financing addresses the distinct risks of key stakeholders.** Producers, lenders, investors, buyers, and other stakeholders face distinct barriers to participation. Insurance products and results-based repayment structures can help producers adopt unfamiliar practices and manage transition risk, while blended finance mechanisms and credit guarantees can reduce risks faced by lenders and investors.
- **Investability follows viability.** For an effort such as developing a new regenerative product, financing cannot compensate for uncertain market demand, weak economics, or limited uptake. Investability is signaled most clearly through a clear value proposition, paired with evidence that producers will adopt practices without ongoing dependence on project subsidies.
- **Regenerative agricultural transformation requires patient, blended, and shared capital.** Developing new markets and financing new production systems requires time, experimentation, and shared investments. Philanthropic and public capital often play a critical early role by absorbing risks and supporting innovation, while blended approaches can attract commercial investment and distribute costs across the many actors that benefit from more resilient agricultural systems.

FEATURED EXAMPLES

Impact Financing for Regen Grazing (Gran Chaco)

In Gran Chaco, TNC collaborated with the nonprofit impact financier Sumatoria and a regional producers’ association to develop a financing mechanism that supports regenerative grazing. The model combines concessional and commercial capital, with loan terms linked to environmental indicators such as forest cover, biodiversity, and water availability. Technical assistance was designed with the producers’ association, while an insurance product is under development to help producers manage transition risk. The mechanism seeks to demonstrate the viability of the model to attract additional impact investment, a nascent category in Argentina.

Adaptation Finance Program (Kenya)

Kenya’s Adaptation Finance Program (AFP) seeks to increase access to finance for smallholder farmers and agricultural enterprises adopting climate-smart and regenerative practices. It combines a credit guarantee and technical assistance with alternative approaches to credit assessment and collateral. A Climate and Credit Scorecard incorporates regenerative practice indicators into underwriting, while a “data as collateral” approach uses farmer records organized through farmer hubs to support borrowers who lack formal land ownership. Together, these mechanisms seek to reduce lender risk while expanding financial access for underserved producers. A third element extends the model beyond private capital: the AFP works with county governments through Kenya’s County Climate Change Funds, a blended structure channeling national and county resources toward locally identified adaptation priorities, using joint work planning forums so that public investment and AFP-supported lending reinforce rather than duplicate each other.

Silvopastoral Special Purpose Vehicle (Orinoquía)

In Orinoquía, the Foodscope is developing a Special Purpose Vehicle to support silvopastoral production. Its pay-for-performance structure would allow producers to repay financing based on productivity improvements rather than relying on conventional collateral requirements. The financing is paired with technical assistance, MRV, and connections to offtakers, often facilitated through the local Chamber of Commerce. The model seeks to create a pathway for commercial capital by addressing producer risk aversion and uncertainty about the commercial viability of silvopastoral systems.

“You have to reach the producer through their pocketbook... I show them that they can be more profitable on less land. To convince them, you have to speak their language and show real examples, not theory.”

- **Leider Neme**, Technical Advisor in Sustainable Livestock, CIPAV (Colombian Center for Research on Sustainable Agricultural Production Systems)

E. Building Measurement and Learning Systems

WHY IT MATTERS

Regenerative transitions occur within complex systems, where outcomes can take years to emerge and interventions rarely work exactly as anticipated. Effective implementation therefore requires information systems that support learning, adaptation, and decision-making, not just reporting. At the same time, investors, policymakers, companies, and partners increasingly require credible evidence that regenerative practices are delivering meaningful outcomes. Measurement and learning systems must therefore support both adaptive decision-making and accountability.

TNC INNOVATIONS AND INSIGHTS

Guided by TNC’s Monitoring, Evaluation and Learning (MEL) framework, the Foodscapes are testing a range of approaches that strengthen measurement, learning, and accountability across landscapes. Emerging insights include:

- **Measurement should support learning and decision-making, not just reporting.** The strongest measurement systems do more than document outcomes: they help practitioners identify priorities, target interventions, allocate resources, and refine implementation strategies. This helps practitioners understand whether a strategy is creating real change, and to apply that information to inform future action.
- **Learning is most valuable when embedded in implementation.** Structured experimentation, continuous feedback, and comparative testing help teams to challenge assumptions, refine and adapt approaches, and improve outcomes over time.
- **Technology and local knowledge are complementary, not competing.** Remote sensing, artificial intelligence, sensors, and digital tools can expand what is possible, but they are most effective when paired with field validation, local expertise, and contextual understanding.
- **Technology solutions must be fit for purpose and fit for context.** The most impactful tools are often practical, affordable, and adapted to local conditions. Even highly accurate technologies can face adoption barriers if users lack trust, familiarity, capacity, or supporting infrastructure, highlighting the importance of designing solutions around both technical and institutional realities.

FEATURED EXAMPLES

Punjab's Two-Tier Measurement System (Northwest India)

To measure progress in reducing crop residue burning and groundwater conservation, the Northwest India Foodscape verifies farmer practice changes through two complementary systems: field-level checks of farmers’ practice histories, and a digital MRV model combining satellite imagery, artificial intelligence, and thousands of low-cost sensor pipes. The two-tier approach combines the scale and efficiency of digital monitoring with the contextual understanding provided by field validation. Together, they strengthen confidence in results while generating insights that support learning and adaptive management, not just accountability.

Evidence-Based Strategy Refinement (Kenya)

Drawing on insights from its MEL framework, the Kenya Foodscape used implementation experience and stakeholder feedback to refine its strategy and concentrate on the areas where it could contribute most effectively to landscape-scale change. Early learning revealed that water is a critical connector between agricultural productivity, ecosystem health, and conservation outcomes, leading the team to concentrate efforts around water stewardship and watershed-scale interventions. Insights gathering also highlighted barriers that were limiting progress. While farmers were interested in adopting regenerative practices, access to finance remained a major constraint, prompting the development of the Adaptation Finance Program. At the same time, feedback from implementing partners helped refine indicators, timelines, and implementation plans to better reflect what could realistically be measured and achieved. This iterative process used evidence to strengthen interventions and direct resources toward the most important bottlenecks.

Adaptive Learning Through Trusted Advisor Pathways (Chesapeake Bay)

In Chesapeake Bay, the Foodscape applies implementation-science principles to test multiple Trusted Advisor Pathways, each designed to address different adoption barriers and engage different producer audiences. Pilot implementation is paired with systematic evaluation of how incentive structures, delivery approaches, and agribusiness partnerships affect producer behaviors and conservation outcomes. By testing assumptions and comparing approaches during implementation, the Foodscape can refine its strategy and build stronger evidence for future programs.

Three Cross-Cutting Lessons to Accelerate and Sustain Change

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The previous section explored approaches tested across diverse Foodscapes to shape the enabling systems in their geography. This section steps back to consider what can be learned by looking across systems and geographies. Across these landscapes, three higher-level lessons emerge: adaptive management is essential to navigating regenerative transitions, cross-landscape perspectives can generate transferable insights, and aggregation is the hidden infrastructure for scale. Together, the enabling system insights in Section 2 and the following cross-cutting lessons of Section 3 point to practical considerations for practitioners, companies, governments, donors, and other actors seeking to accelerate regenerative transitions.

A. Adaptive Management Is Critical to Navigating Complex Transitions

Regenerative transitions occur in complex systems where pathways to impact are uncertain, context-specific, and constantly evolving. Successful implementation requires grounding strategies in local realities, aligning actors around a shared vision, and building the learning systems needed to adapt as understanding evolves.

DIFFERENT CONTEXTS REQUIRE DIFFERENT PATHWAYS

Regenerative transitions unfold in very different ecological, economic, social, and institutional contexts. As a result, there is rarely a single pathway to change. While shared outcome frameworks can help align ambition and track progress, they are often insufficient to guide implementation on their own. Strategies are most effective when they are grounded in local priorities, institutions, and sources of knowledge, recognizing that outcomes may be achieved through different combinations of interventions, partnerships, and enabling conditions. Working through locally relevant actors and existing institutions can strengthen legitimacy, build trust, and create the ownership needed for long-term durability.

THEORIES OF CHANGE CREATE ALIGNMENT AROUND A SHARED APPROACH

Co-created Theories of Change provide an important foundation for this work. Their value is not that they predict implementation precisely, but that they make assumptions explicit and create a shared vision of how change is expected to occur. By articulating the problem actors are trying to solve, the changes they hope to achieve, and the pathways through which those changes are expected to occur, Theories of Change help maintain collective focus around a common direction of travel.

LEARNING SYSTEMS ENABLE ADAPTATION

MEL systems help teams test assumptions, interpret evidence, and understand whether interventions are creating intended shifts. Foodscapes' experience suggests that adaptive learning is not a supplementary

activity: it is a core capability for navigating uncertainty and managing complexity. Rather than treating implementation as the execution of a predetermined blueprint, Foodscapes increasingly approach implementation as a process of testing, learning, and adaptation.

B. Cross-Landscape Learning Can Generate Transferable Insights

A portfolio of landscape initiatives can generate insights that are difficult to identify within any single place. By comparing experience across diverse contexts, practitioners can identify recurring challenges, transferable mechanisms, and shared approaches that strengthen regenerative transitions within and beyond individual geographies.

COMPARATIVE LEARNING CREATES VALUE BEYOND INDIVIDUAL LANDSCAPES

Looking across multiple landscapes makes it possible to identify patterns that would be difficult to observe within a single initiative. By identifying recurring transition challenges, barriers, and opportunities across contexts, portfolio-level learning can support practitioners working on similar challenges in diverse geographies, inform engagement with companies operating across value chains, and offer contributions to regional and global policy discussions.

STANDARDIZATION AND ADAPTATION MUST WORK TOGETHER

Cross-landscape learning is most valuable when it distinguishes between what can be standardized and what must remain context-specific. Learning frameworks, monitoring systems, decision-support tools, financing approaches, and implementation processes can often be adapted and applied across geographies. By contrast, incentives, partnerships, governance arrangements, and implementation strategies typically need to be shaped by local ecological, economic, social, and institutional realities. The greatest value of cross-landscape learning comes not from replicating solutions wholesale, but from combining shared approaches with locally appropriate adaptation. Understanding these underlying mechanisms allows learning to travel across contexts without assuming that strategies should be identical.

THE FOODSCAPE ACCELERATOR APPLIES SHARED LEARNING ACROSS CONTEXTS

TNC's Foodscape Accelerator helps landscape initiators move faster from ambition to investable action. It does so by applying replicable processes in planning and solution development that help partners reach higher-quality interventions more quickly and with greater confidence. Drawing on experience across the Foodscapes portfolio and related initiatives, the Foodscape Accelerator has identified a set of recurring challenges and common building blocks that emerge across diverse contexts. The Accelerator seeks to capture and organize these transferable components, enabling landscape teams to build on existing knowledge while tailoring implementation approaches to local conditions.



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C. Aggregation Is the Hidden Infrastructure for Scale

Across the Foodscapes portfolio, intermediary institutions and aggregation mechanisms repeatedly emerge as important enablers of coordination, investment, learning, and collective action across actors operating at different scales.

INTERMEDIARY INSTITUTIONS BRIDGE CRITICAL GAPS

Many barriers to regenerative transitions emerge in the gap between individual actors and the larger systems that shape outcomes. Producers often struggle to access markets, finance, technical assistance, data, or policy opportunities on their own, while governments, companies, financial institutions, and technical organizations face challenges coordinating with large numbers of disparate actors. Intermediary institutions, from farmer hubs to water user associations, local chambers of commerce, trusted advisors, and knowledge institutions, frequently play a critical role in bridging this gap.

AGGREGATION CREATES COLLECTIVE LEVERAGE

Aggregation is one of the principal ways these institutions create value. This can involve coordinating producers, services, investment, information, market participation, technical assistance, or stakeholder action around shared objectives. By reducing transaction costs, strengthening bargaining power, building trust, improving coordination, and distributing risk and incentives, aggregation can create opportunities that would be difficult for individual actors to pursue independently.



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INVESTING IN THE CAPACITY OF LOCAL INSTITUTIONS IS ESSENTIAL FOR SCALING

The portfolio's experience suggests that intermediary institutions are not simply supporting actors within regenerative transitions. They often function as the connective tissue linking market, finance, governance, delivery, and learning systems together, and can determine whether an innovation remains a pilot project or becomes a landscape-level transformation. Investing in such institutions' capacity and long-term durability may therefore be as important as investing in the individual solutions they help deliver.

SECTION 4.

Implications for Key Actors

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Regenerative transitions cannot be achieved by any single actor. Durable progress depends on strengthening interconnected systems for farmer adoption, policy, markets, finance, and measurement. This implies distinct, complementary opportunities for donors, companies, governments, and implementers, each of whom can act now to accelerate and sustain change.

Donors

- **Fund with patience and flexibility.** Such resourcing has been essential for experimentation and innovation, absorbing early risk and catalyzing finance and market solutions. Demonstrating durable impact at landscape scale can take many years, and needs patient capital.
- **Invest in adaptive learning as a durable form of impact.** Learning frameworks help translate lessons across landscapes, strengthen evidence on what works, and increase effectiveness of other investments in the sector.
- **Invest in building local institutions' capacity.** Intermediary institutions are critical to structural change in any context, but are often poorly equipped and under-resourced. Strengthening their knowledge, capabilities, and reach can generate lasting impact.

Companies

- **Shift from supply chain management to landscape-level investment.** Scaling regenerative agriculture requires moving beyond farm-by-farm sourcing commitments, toward landscape-level investments that generate impact and benefits across a wider ecosystem or watershed. This shift can improve companies' long-term risk exposure and resilience.
- **Invest in aggregation and intermediary infrastructure.** Strengthening intermediary institutions, such as farmer hubs, can lower transaction costs, improve coordination, and support the emergence of new regenerative markets.
- **Help derisk the transition.** Companies can accelerate regenerative transitions by supporting technical assistance, providing demand signals through procurement commitments, investing in enabling infrastructure, and partnering on innovative financing mechanisms. Reducing transition risk can unlock broader producer participation and build more resilient supply systems.

Governments

- **Create incentives and regulations that support the transition.** Government policy and regulatory reform can shift the conditions under which other actors operate, enabling and accelerating regenerative transitions across sectors.
- **Collaborate on policy design and improve uptake of existing mechanisms.** Implementation experience can help identify practical barriers to adoption, inform policy design, and unlock underused public financing mechanisms and incentive programs.
- **Strengthen local and governance mechanisms and service-delivery institutions.** Water user associations, producer organizations, chambers of commerce, and other locally rooted institutions help translate policy into action. Supporting their capacity can improve implementation while extending the reach and effectiveness of public investments.

Implementers

- **Adopt a learning mindset.** Design processes that embrace the reality of systems-level challenges, using MEL approaches to inform course corrections along the way.
- **Build local ownership early.** Partner with intermediary institutions like farmer hubs, water user groups, cooperatives, and chambers of commerce from the outset to strengthen local capacity and sustainability.
- **Act as a bridge between key players.** Implementers can convene stakeholders, build trust, and align actors across market, policy, finance, and farmer support systems, helping overcome coordination barriers where institutional capacity is still emerging and accelerate collective action.

SECTION 5.

Building Momentum Within and Beyond TNC's Foodscapes Portfolio

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The insights presented here reflect several years of implementation across diverse Foodscapes. As these initiatives continue to evolve, TNC will apply this learning to strengthen place-based strategies, refine approaches across the portfolio, and deepen understanding of what enables regenerative transitions to scale in different contexts. TNC's Foodscape Accelerator complements these efforts by helping landscape initiatives move more rapidly from ambition to implementation. Drawing on lessons from the Foodscapes portfolio and related initiatives, it supports partners in developing stronger strategies, business models, financing pathways, and implementation approaches tailored to local realities. By capturing and sharing transferable learning, the Accelerator seeks to help practitioners avoid common pitfalls and build on proven approaches.

Regenerative transitions will require continued experimentation, learning, and collaboration across sectors, value chains, and geographies. While no single model can be applied everywhere, the experiences emerging from the Foodscapes portfolio demonstrate the value of combining place-based innovation with cross-landscape learning. TNC looks forward to working with partners to test new approaches, share lessons, and accelerate pathways toward regenerative food systems at scale that benefit people, nature, water, and climate.



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Acknowledgments

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