CAN THE FINANCIAL SECTOR SUPPORT THE TRANSITION TO REGENERATIVE AGRICULTURE?

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EXECUTIVE SUMMARY

The global food system faces mounting challenges from climate change, biodiversity loss, and soil degradation. Regenerative agriculture (RA) has emerged as a promising approach that goes beyond sustainability to restore ecosystem function, build soil health, enhance biodiversity, and increase climate resilience. Despite its potential, widespread adoption remains constrained by entrenched financial, institutional, and policy barriers.

This report examines how well current financial products and institutional frameworks support farmers transitioning to RA, focusing on the Alberta context. It draws on an extensive literature review, environmental scans across the agriculture, finance, and policy sectors, and qualitative insights from stakeholder focus groups and a multi-sector roundtable.

KEY FINDINGS

- The Bankability Gap: RA typically follows a J-curve investment trajectory, requiring significant upfront costs and offering delayed returns. Conventional finance models, which prioritize short-term returns and predictable cash flows, are poorly suited to this pattern. As a result, RA often falls into a "bankability gap," where producers cannot access financing despite long-term value creation. Traditional insurance products and subsidies similarly reinforce conventional production systems rather than supporting transition efforts.
- Institutional Mistrust and Misalignment: Producers report widespread mistrust of financial institutions and government programs. They face rigid lending criteria, limited understanding of RA within banks and insurance firms, and a lack of coordinated advisory services. Many feel "land rich but cash poor," and are discouraged by bureaucratic, slow-moving support systems that fail to align with seasonal farm cycles.
- Limited ESG Integration in Agriculture: Although sustainable finance is expanding through instruments like green bonds and impact investing, ESG integration in agriculture remains underdeveloped. Inconsistent metrics, lack of standardized outcomes, and limited sector-specific frameworks have constrained the application of ESG principles in RA finance.
- Policy Barriers and Administrative Burden: Current policies are often reactive, complex, and poorly aligned with regenerative outcomes. Programs fail to support producer-led innovation, are difficult to access, and lack flexibility. Participants called for incentive-based, regionally adaptable, and co-designed policy frameworks that align ecological goals with business realities.
- Need for Patient Capital and Risk-Sharing Mechanisms: The financial risk of RA transitions, especially in early years remains a significant barrier. Blended finance, ecosystem service payments, and

tailored insurance models were identified as critical enablers, yet these tools are not widely available or scaled.

- Data and Verification Challenges: Trustworthy, outcome-based measurement systems are essential for policy effectiveness and financial innovation. However, verification remains costly and inconsistent, and producers are wary of data misuse. Transparent, farmer-centered data governance and MRV systems are needed to build trust and unlock investment.
- Cross-Sector Education and Collaboration: Financial, policy, and insurance professionals often lack agricultural literacy. Direct engagement with producers, co-design processes, and neutral conveners are essential to build mutual understanding and develop solutions that reflect farm-level realities.

PATHWAYS FOR SYSTEMIC CHANGE

The findings point to a structural mismatch between the design of current financial systems and the needs of regenerative agriculture. Overcoming this will require action across four dimensions:

- Finance Innovation: Create flexible, patient capital products and risk-sharing mechanisms that address the bankability gap.
- Policy Alignment: Move toward voluntary, incentive-based frameworks co-designed with producers, and reduce administrative barriers.
- Trust and Relationships: Foster long-term, trust-based engagement between sectors through transparency, shared governance, and neutral facilitation.
- Capacity and Data: Invest in sector-wide education and build practical, producer-centric data systems that support evidence-based finance and policy.

Regenerative agriculture offers an environmentally and economically viable path forward, but its success depends on transforming the systems that support it. Bridging the bankability gap, aligning policy incentives, and rebuilding trust across sectors are urgent priorities. With cross-sector collaboration and sustained commitment, the transition to regenerative agriculture can be accelerated, building a more resilient and equitable food future in Alberta and beyond.

INTRODUCTION

The global food system faces mounting pressure from climate change, biodiversity loss, soil degradation, and evolving consumer demands. In response, regenerative agriculture (RA) has emerged as a promising approach to building more resilient and ecologically sound farming systems. Unlike conventional or even some sustainable models, RA goes beyond sustaining current conditions to actively restore ecosystems, improve soil health, enhance biodiversity, and increase resilience to climate variability. Common regenerative practices include reduced tillage, cover cropping, managed grazing, agroforestry, and the integration of livestock and cropping systems, all aimed at boosting ecosystem function and long-term productivity. These practices are grounded in systems thinking, recognizing the interconnectedness of ecological, economic, and social factors in agricultural landscapes. As interest in climate-smart and nature-based solutions grows, regenerative agriculture is increasingly seen not just as an environmental strategy, but as a vital part of building a more secure and equitable food future.

Regenerative agriculture (RA) has gained recognition as a crucial strategy for addressing the environmental and social failures of conventional agriculture (Giller et al., 2021; Rhodes, 2017). It focuses on restoring soil health, increasing biodiversity, and improving water cycles while enhancing resilience to climate change (Bashan et al., 2024; Newton et al., 2020). Despite its benefits, widespread adoption is hindered by financial and institutional barriers. Traditional financing models typically prioritize short-term returns and fail to account for the longer time horizons and complex environmental outcomes associated with RA (Bosma et al., 2022; Thiagarajan et al., 2024). As such, sustainable finance mechanisms—which consider environmental, social, and governance (ESG) factors—are essential for enabling the transition (Alamsyah et al., 2024; Johnson, 2020).

Sustainable finance refers to investments that generate financial returns alongside ESG outcomes (Migliorelli, 2021). Instruments such as green bonds, sustainability-linked loans (SLLs), and impact investing have emerged to support environmentally beneficial sectors, including agriculture. However, RA remains underfunded due to perceived risks, data gaps, and misaligned incentives (Bashan et al., 2024; Obregon et al., 2023). Bridging this gap requires a coordinated effort across finance, policy, and farming communities.

The transition to RA is, however, complex, long-term, and often financially risky for farmers, particularly given market structures that reward short-term productivity over long-term environmental stewardship. Many of the ecological benefits of RA accrue over time and at landscape scales, while upfront costs for new equipment, technical expertise, or temporary yield reductions are borne by individual producers. Furthermore, as things currently stand, societies at large are more likely to see more benefits from green transitions in agriculture than farmers themselves (Bosma et al., 2022; Muižniece et al., 2024). This misalignment between who bears the costs and who reaps the rewards can discourage farmer participation and limit the scale of adoption.

This dynamic highlights the critical role of the financial sector in enabling a broader shift toward regenerative practices. Financial institutions, ranging from commercial banks and credit unions to development finance institutions, private equity firms, and impact investors have the potential to restructure incentives and risk-sharing mechanisms to make RA more viable. By aligning financial products, investment criteria, and risk assessment tools with long-term environmental and social outcomes, the financial sector can act as a key enabler of regenerative transformation across agricultural landscapes.

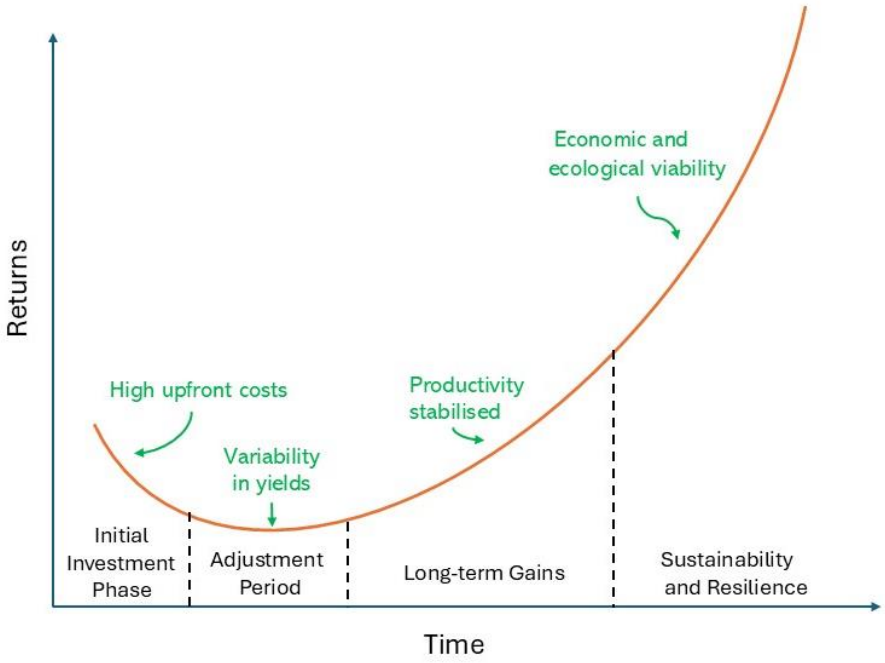
LITERATURE REVIEW

FINANCIAL BARRIERS AND THE J-CURVE OF REGENERATIVE TRANSITION

RA often follows a J-curve investment model in which initial expenditures on equipment, cover cropping, or composting result in short-term financial losses before long-term ecological and economic benefits are realized (Bosma et al., 2022). This delayed return on investment deters conventional financiers, whose models are based on predictable cash flows and quick profitability. During the transition phase, yield variability and cash flow instability further discourage farmers, particularly those operating with limited margins or access to credit (Obregon et al., 2023; Thiagarajan et al., 2024).

The "bankability gap" arises from this mismatch, whereby regenerative practices are deemed too risky or unproven to meet standard investment thresholds (Bashan et al., 2024). Moreover, traditional insurance models and subsidies are typically designed for conventional agriculture and fail to accommodate the distinct risk profile and longer timelines of RA (Petry et al., 2023). Without appropriate financial derisking mechanisms—such as concessional loans, ecosystem service payments, or tailored insurance—farmers face significant barriers to adoption.

J-Curve Model of Transition to Regenerative Agriculture



SUSTAINABLE FINANCE INSTRUMENTS AND ESG INTEGRATION

A growing portfolio of financial products aims to address sustainability in agriculture. These include green and sustainability bonds, SLLs, impact investing, and blended finance models that combine public and private capital (Calonje, Ignacio, n.d.; de la Orden, 2022; "Green, Social, and Sustainability (GSS) Bonds Market Update," 2023). Impact investing, in particular, channels capital toward projects with measurable environmental and social returns ("What you need to know about impact investing," n.d.). However, these instruments have yet to achieve scale or accessibility suitable for smallholder and mid-sized farms (Bashan et al., 2024; Bosma et al., 2022).

ESG investing plays a pivotal role in directing capital to sustainable agriculture, but measurement challenges persist. ESG metrics for agriculture remain inconsistent and poorly standardized, which hampers investor

confidence (Bekaert et al., 2023; Johnson, 2020). While strong ESG performance is associated with long-term profitability (Coelho et al., 2023), the lack of reliable, sector-specific indicators limits the application of ESG criteria in RA (Obregon et al., 2023). Emerging frameworks, such as the Global Farm Metric, aim to address this gap by integrating environmental, economic, and social metrics into sustainability reporting (Allan et al., 2022).

Technological innovation also offers potential solutions. Fintech tools can enhance ESG data collection and verification, making sustainable finance more inclusive and responsive, especially for smallholder farmers (Alamsyah et al., 2024; Jourdan et al., 2023). Nevertheless, to scale RA effectively, finance must adapt to its unique characteristics rather than attempt to fit it into conventional models.

FARMER-CENTRIC BARRIERS AND SOCIAL CONSIDERATIONS

Understanding the farmer perspective is vital to designing effective financing strategies. Beyond financial constraints, psychological and cultural factors—such as risk aversion, emotional attachment to conventional methods, and lack of technical knowledge—affect adoption rates (Gosnell et al., 2019; Moore, 2023). Farmers transitioning to RA often require emotional resilience and peer support to navigate uncertainty. Peer networks and knowledge-sharing initiatives are effective in mitigating these soft barriers (Allan et al., 2022; Moore, 2023).

From a financial standpoint, RA's upfront costs—such as for soil amendments, seeds, or new machinery—are particularly burdensome for smaller farms (Bosma et al., 2022; Obregon et al., 2023). These investments are often non-transferable and embedded in the land, making them unattractive to conventional lenders. Furthermore, most farmers lack access to insurance products that reflect the risk-reducing benefits of RA over time. Modernizing insurance schemes to incorporate ecological indicators like soil health or biodiversity would significantly aid RA adoption (Petry et al., 2023; Russell, 2022).

POLICY FRAMEWORKS AND INCENTIVE ALIGNMENT

Policy plays a foundational role in enabling a supportive environment for sustainable finance and RA. Agricultural subsidies and insurance schemes have historically favored industrial, input-intensive agriculture (Al-Kaisi and Lal, 2020; Bosma et al., 2022). Repurposing these mechanisms to reward regenerative outcomes—such as carbon sequestration, improved biodiversity, or soil regeneration—could shift incentives toward long-term sustainability (Russell, 2022; Thiagarajan et al., 2024).

Global initiatives, such as the 4 per 1000 Initiative and the Global Soils Partnership, offer valuable frameworks for integrating soil-carbon targets into national policy (Codur and Watson, 2018). Governments can further catalyze change through fiscal policies such as tax incentives, low-interest loans, and public investment in training and research (Havemann et al., 2020). Collaborative governance structures that involve farmers, researchers, and investors in co-designing policies ensure practical relevance and greater buy-in (Gosnell et al., 2019; Moore, 2023).

Blended finance approaches are particularly promising, combining public de-risking capital with private investment. These mechanisms enable broader participation while distributing risks across stakeholders (Havemann et al., 2020). However, to be effective, such models require regulatory clarity, strong ESG metrics, and transparency in outcomes.

The financing of RA remains constrained by structural, financial, and informational barriers. Sustainable finance offers a pathway to overcoming these constraints, but only if tailored to RA's specific challenges and time horizons. This includes designing flexible, long-term investment products, strengthening ESG measurement tools, and reforming subsidies and insurance systems. Equally important are policy frameworks that align incentives and support knowledge-sharing, training, and community engagement.

Coordinated efforts between farmers, financiers, and policymakers are essential to unlocking the potential of RA. As RA gains traction in sustainability discourse, the role of capital—informed by environmental and social values—will be decisive in scaling these practices from niche to norm.

RESEARCH QUESTION AND OBJECTIVES

This project seeks to answer the following question, "How appropriate are the range of financial products available on the market to support farmers to transition their operations to regenerative agriculture."

The project seeks to understand:

- what farmers need from the finance sector to transition to RA
- what financial products and services are offered by the financial industry and the level at which ESG returns/outcomes are part of their decision making
- how policies/programs within the agricultural sector influence behaviour/decisions on the transition to RA

SCOPE AND LIMITATIONS

The project will have a geographical scope of Alberta and will accordingly make reference to other jurisdictions only to highlight different approaches or programs, rather than cataloging iterations that already exist in Alberta. Similarly, the USA and Europe will be referenced/cited as a point of comparison rather than as an exhaustive comparison. Topics such as ecological outcome verification (EOV) will be referenced only as it is pertinent to the research question and not as an exhaustive comprehensive exploration.

METHODOLOGY

The methodology for this project utilized a qualitative approach comprising stakeholder focus groups and interviews. The project scope is primarily Alberta but where applicable included insights from other jurisdictions.

The primary objective of this research is to gather and synthesize perspectives from key stakeholders across the agriculture, finance, and policy sectors to understand the structural and financial barriers to RA, as well as the opportunities for innovation in sustainable finance. The target stakeholder groups include:

- Producers and producer associations, representing both conventional and regenerative farming systems
- Financial institutions, including banks, credit unions, insurers, and impact investors
- Government agencies and policymakers, especially those responsible for agriculture, environment, and rural economic development
- These groups were identified as critical actors who both influence and are affected by the evolving agricultural finance ecosystem and are thus key to identifying viable pathways forward.

Scope Identification

This study takes a Canada-wide perspective to account for federal programs and national-level financial trends but incorporates Alberta-specific insights where provincial policies, financial institutions, or producer dynamics offer distinctive perspectives. Alberta serves as a case jurisdiction for deeper contextual analysis and application of findings.

Phase 1: Environmental Scans

The first phase involved concurrent environmental scans across three core focus areas:

1. Agricultural Sector: assessed the needs of producers transitioning from conventional to regenerative practices, including financial, technical, and knowledge-based requirements. It also maps current transition pathways and adoption rates.
2. Financial Sector –investigated the range of financial products and services currently available, the degree to which environmental, social, and governance (ESG) factors are integrated into lending and investment decisions, and whether these offerings differ between conventional and regenerative producers.
3. Policy and Program Landscape – This scan evaluated relevant agricultural policies and programs at federal and provincial levels, with a focus on how incentives, subsidies, regulations, and public finance tools influence producer behavior and decisions around RA adoption.

Findings from the environmental scans were compiled into a literature review which was submitted for publication in the journal Sustainability Solutions and is still under review. Findings from the literature review are included in this report under the literature review section.

Phase 2: Stakeholder Focus Groups

Building on the literature review, a series of focus groups were conducted with representatives from the identified stakeholder categories. The purpose was to validate findings from the scans, gather experiential and sector-specific insights, and deepen understanding of practical barriers and enablers to RA financing. Focus group discussions were guided by semi-structured protocols aligned with the core research questions and tailored to stakeholder expertise.

Three focus groups were held in Apr 2025 targeting insights from the target groups, and were titled as follows: The Farmer perspective, The Finance Perspective, and The Policy Perspective.

Phase 3: Engagement and Dissemination

In the final phase, stakeholders were re-engaged to review and reflect on preliminary findings and share their perspectives as part of a roundtable discussion. This included:

- Presentation of key findings from the focus groups, highlighting gaps, challenges, and opportunities in the current financing ecosystem for RA
- A roundtable discussion, hosted by the research team, inviting stakeholders from across the three target groups to explore the implications of the findings and co-develop ideas for policy and practice
- Feedback collection, allowing stakeholders to share insights on potential next steps, implementation pathways, and areas for further research or collaboration

This iterative and participatory approach ensures that research findings are grounded in real-world experiences and that proposed recommendations are informed by those directly engaged in agricultural and financial systems.

PARTICIPANT RECRUITMENT AND RESEARCH ETHICS

RECRUITMENT STRATEGY

Participants were recruited using a combination of snowball and purposive sampling methods. The research team employed multiple recruitment channels to ensure diverse representation across relevant sectors. Primary recruitment occurred through contact lists maintained by the Simpson Centre, with invitations distributed through partner organizations and producer groups. To supplement these networks, targeted internet searches were conducted using Google to identify additional candidates who met the study criteria. Potential participants were contacted via email with formal recruitment letters outlining the study's purpose and requirements.

PARTICIPANT DEMOGRAPHICS

All study participants were assigned pseudonyms to protect their confidentiality. The table below provides an overview of participant representation across different sectors within the industry.

Table 1: Participants and Sector Represented.

Pseudonyms	Industry
Pauline	Rancher
Pena	Rancher
Stella	Agriculture Consultant
Tanesha	Investment Industry Representative
Oliver	Farmer
Jona	Farmer
Mara	Rancher
Nanci	Investment Industry Representative
Aleen	Sector Researcher
Quinn	Banking Sector Representative
Stockton	Investment Industry Representative
Nadeen	Insurance Representative
Loyd	Agriculture technology executive
Ailyn	Agriculture Funder Representative
Julius	Investment Industry Representative
Meradith	Finance Sector Representative
Ambry	Banking Sector Representative
Sara	Finance Professional
Brandy	Producer Organization Representative
Hansel	Government Representative
Grey	Ag Industry Specialist
Lory	Government Representative
Tanesha	Investment
Elizabeth	Commodity Organization representative
Belvia	Producer Organization Representative
Marshal	Banking Sector Representative
Mildred	Commodity Organization representative
Janis	Research Institute

ETHICAL CONSIDERATIONS

This research received ethics approval from the University of Calgary Conjoint Faculties Research Ethics Board (CFREB). The CFREB is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2).

Prior to participation in focus group sessions, verbal consent was obtained from all participants. Each participant was thoroughly informed of their rights as research subjects, including the voluntary nature of their participation and their freedom to withdraw from the study at any point without consequence. Participants were also informed that focus group sessions would be audio-recorded for analysis purposes and that all identifying information would be removed through the use of pseudonyms in any resulting publications or presentations.

DATA ANALYSIS

TRANSCRIPTION AND DATA PREPARATION

Audio recordings from focus group discussions were transcribed using Microsoft Teams' transcription service. The research team conducted verification of the transcripts to ensure they accurately represented the original audio files. During this process, all personally identifiable information was systematically removed to maintain participant confidentiality and comply with ethical requirements.

ANALYTICAL FRAMEWORK

Thematic analysis was selected as the primary analytical method for this study. Thematic analysis is a qualitative research method used to identify, analyze, and interpret patterns of meaning (themes) within qualitative data. This approach allows researchers to systematically organize and describe data in rich detail while providing insights into participants' experiences, perspectives, and the broader social context of the phenomenon under investigation. Thematic analysis is particularly well-suited for focus group data as it enables the identification of both explicit content and underlying meanings within participant discussions.

The research team employed AILYSE software to conduct comprehensive thematic analysis on the verified transcripts. Each focus group was analyzed separately to identify distinct thematic domains and patterns specific to each session. This approach allowed for both within-group and cross-group comparative analysis while preserving the unique characteristics of each discussion.

CODING PROCESS

The coding process employed a mixed-methods approach that combined both inductive and deductive analytical strategies. The initial analysis utilized an inductive approach, allowing themes to emerge organically from the data rather than imposing predetermined categories. Codes were systematically created for each thematic category by identifying significant and insightful concepts within the transcripts. Following this initial inductive phase, a deductive approach was employed, utilizing the research questions and sub-categories as a framework for organizing and interpreting the organically emerged themes. This dual approach enabled the research team to generate insights based on both naturally occurring patterns within the data and specific themes aligned with the study's research objectives and priorities.

Data segments were extracted and tagged based on their relevance to the research questions posed during the focus groups. The selection and retention of codes were determined by two primary criteria: the frequency with which concepts appeared across the dataset and their direct relevance to the study's research questions and objectives.

THEME DEVELOPMENT AND REFINEMENT

Following initial coding, overarching themes were organized and refined through an iterative process. Themes were systematically reviewed to ensure they accurately reflected the coded data and meaningfully addressed the research questions. Where appropriate, sub-themes were created to capture complex or nuanced data that required deeper analysis. Conversely, some sub-themes were combined or consolidated into broader categories when they provided more meaningful insights when grouped together.

The identification of key themes was guided by several important considerations. Primary emphasis was placed on themes that most directly addressed the research questions and study objectives. Theme significance was assessed based on frequency of occurrence across the dataset, as indicated by the number of references coded for each theme. Additionally, the richness and depth of data were considered, with priority given to themes that provided comprehensive insights into participants' experiences and perspectives. The

manner in which themes elicited reactions from participants, whether through agreement, disagreement, or extended discussion, also served as an important indicator of theme relevance and importance.

The table below presents the major thematic domains identified across each focus group, providing a comprehensive overview of the key findings that emerged from the analysis. Complete tables if the thematic domains, sub-themes and themes can be found in the appendix section.

Table 2: Thematic Domains for each of the focus groups.

Producers	Finance	Policy
Land Access and Succession Planning Challenges	Finance Sector roll in transitioning	Locally Adapted and Flexible Policies
Education and Understanding in Financial Institutions	Barriers and Challenges to RA	Coordination and Support Systems for RA
Bureaucratic Complexity and Timing Issues	Collaboration and Ecosystem Building	Balanced Government Involvement and Collaboration

A central tension identified by practitioners is the lack of adequate financial support systems aligned with the long-term, uncertain, and place-based nature of regenerative transitions. While traditional agricultural finance is geared toward short-term returns and standardized practices, RA requires patient capital, flexible instruments, and an appreciation for environmental, social, and governance (ESG) outcomes. This misalignment has left many producers navigating complex transitions without the tailored financial tools, incentives, or institutional backing needed to support them.

To better understand these gaps and identify opportunities for progress, the Simpson Centre convened a series of focus groups across three stakeholder groups: producers, financial and insurance professionals, and policymakers. Each session sought to explore the unique challenges and perspectives of these actors, as well as the conditions necessary to facilitate a just and effective transition to RA.

The producer focus group centered on the financial realities of transitioning on the ground, exploring cash flow constraints, land access issues, insurance limitations, and the often-misaligned financial literacy among advisors. The finance and investment group examined how ESG outcomes are currently integrated into lending and insurance products and where current offerings fall short. The policy focus group addressed the design and implementation of enabling frameworks, discussing how policy can reduce transition risk and mobilize capital to support sustainable agriculture.

Through facilitated, small-group discussions, participants reflected on the challenges they face, the limitations of current systems, and the types of change needed. Findings from these sessions provide a unique, multi-sectoral view into how RA is perceived, supported, and constrained by existing financial and policy architectures. These insights form the basis of this report, which aims to synthesize the perspectives gathered and identify practical, collaborative steps forward.

The report highlights key themes emerging from the conversations, including the need for trust-based ESG integration, the importance of co-designed financial products, barriers within existing risk and insurance models, and the critical role of policy in fostering adaptive, inclusive, and incentive-driven transitions. These findings were presented and further discussed at a roundtable event, where participants from all three focus

groups came together to exchange perspectives, refine priorities, and explore collaborative solutions to unlock the potential of RA.

FINDINGS

FARMER PERSPECTIVE FOCUS GROUP

BIGGEST FINANCIAL CHALLENGES IN TRANSITIONING TO RA

Focus group participants overwhelmingly described escalating land prices and inflexible financial services as central financial barriers to RA (RA). Many explained that the dramatic rise in land values has made it nearly impossible for new farmers or successors to afford land without significant debt. These financial pressures are compounded by rigid lending practices that fail to accommodate regenerative operations. Participants noted that banks often require conventional equity and view regenerative models with skepticism, leaving many without access to loans or support. “We don’t fit in the box that they want you to fit in… As a regenerative farmer, often we don’t qualify even when the programs are supposedly for us” (Mara).

Many farmers spoke of being “land rich but cash poor,” a concept frequently misunderstood by lenders and policymakers. Despite owning valuable land, they described struggling with liquidity making it difficult to cover everyday costs, invest in infrastructure, or buffer temporary income declines during transition.

Several participants emphasized that financial institutions rarely understand or value RA. They described presenting strong business plans that were rejected or misunderstood due to institutions' reliance on outdated, conventional financial indicators. The result, they said, was limited access to credit, high interest rates, and additional collateral demands.

Bureaucratic complexity was a recurring theme. Farmers detailed the frustrations of slow and burdensome grant applications, unpredictable outcomes, and timing mismatches that left them exposed financially. Some described making costly changes or investments while waiting months or even years for promised funding that never arrived. The follow quotes illustrate some of the challenges:

> Stella: “There’s enough of a barrier there that people look at it… and as much as they would love the funding, the amount of work that’s required to get there just doesn’t feel reasonable.”
>
> Mara: ““They roll out a program that’s to help you mitigate risk, but you don’t see that money for a year and a half. So everything’s already down the tube before they ever hand you the money to help you.”

Participants also raised concerns about gaps in financial literacy, both among farmers and professional advisors. Many shared that they lacked clear guidance on navigating loans, grants, or succession planning, while bankers and accountants often failed to understand farm dynamics or regenerative practices. They called for more coordinated advisory services and targeted education.

Succession planning emerged as a significant financial stressor. Farmers recounted how transitioning land within families required new generations to buy out siblings or parents at inflated market rates, often while experiencing yield dips due to regenerative transition. These challenges, they noted, require patient capital, flexibility, and long-term financial support.

While high equipment costs were not unique to RA, farmers noted that these large, infrequently used investments placed added strain during the transition. Some pointed to local consumer demand and direct sales as potential buffers enabling higher margins and reducing dependence on traditional financing channels.

FINANCIAL PRODUCTS FOR SUSTAINABLE STEWARDSHIP

Participants expressed frustration that many existing financial products actively discourage sustainable stewardship. Insurance policies, in particular, were seen as punitive. Farmers explained that these often

penalize rather than reward sustainable practices. Instead of supporting stewardship, participants felt that insurance timelines and eligibility rules often disqualified those actively transitioning to RA, particularly when production systems don't align with conventional crop benchmarks. Rather than rewarding ecological gains, these products often reinforced conventional practices and failed to support necessary changes in land management.

> Oliver: "Why kick us out of production crop insurance in three years? Why not give us five years or seven years to figure it out? … That just seems so arbitrary and something they could fix so easy."
>
> Mara: "Most of the programs you're not eligible for if you're doing it regeneratively. It's like you're being punished for trying to do better."

Timing misalignment was another persistent concern. Participants described how grants and loans often came too late to be useful, arriving after seeding, risk events, or infrastructure decisions had already passed. This made financial tools unreliable for managing transition-related risk. Participants said the following about timing, Pauline: *"You apply in 2020, get the approval halfway through 2020, but don't get the money till 2021—your expenses are in the year before… it messes with that system."* Stella: *"You get the funding in the fall… but you might need to use it by November, and you can't do the work till spring. So there's a disconnect in a lot of that funding."*

There was widespread agreement that better financial tools require collaborative design. Farmers called for policymakers, banks, producers, and advisors to sit down together to co-create programs that reflect the operational realities of farming. However, many participants noted that such inclusive design processes are rare.

A lack of agricultural literacy among financial professionals remained a consistent barrier. Farmers shared stories of financial advisors with no farm experience offering irrelevant or unrealistic guidance. Many advocated for reviving local financial education programs specific to agriculture and building more robust communication between sectors.

The need for patient, innovative financial products was a strong theme. Several participants shared creative models such as gradual land transfer agreements ("sunshine mortgages") or insurance tied to nitrogen efficiency instead of yields. These approaches, they said, better match the long timelines and variability involved in RA.

Ecological goods and services (EG&S) payments were seen as a critical innovation. Participants argued that public funds should compensate farmers for improving water quality, soil health, and biodiversity—just as urban infrastructure is funded for public benefit. Fred: *"You've got a wetland here, a grassland there, wildlife habitat… Why shouldn't the public pay for that, like any other infrastructure?"*

One-size-fits-all financial tools were viewed as unhelpful. Farmers emphasized that operations are too diverse for standard products. Some pointed to the potential of local markets, where direct relationships with consumers create stable, high-margin income streams that reduce dependence on formal financing.

Family-based financial arrangements also emerged as promising. Participants described how flexible, personalized succession plans supported both family cohesion and long-term land stewardship without the burdens of conventional debt.

Participants also expressed interest in rethinking insurance entirely proposing new models that reward input efficiency or ecological practices instead of only output. These ideas reflect a broader desire to align risk management with sustainability. *"If you reward sustainability, people will do it. Right now, the signals go the wrong way" (Fred). "The whole model of crop insurance is built for the 1970s. We should be insuring the right inputs, not just outputs" (Oliver).*

ROLE OF FINANCIAL AND POLICY ACTORS IN SUPPORTING RA

Focus group participants agreed that banks, investors, and policymakers are critical to the future of RA but said these actors must change how they engage. Many farmers described banks as overly focused on short-term financial metrics, ignoring the long-term ecological and economic returns of regenerative systems. This led to restrictive loan terms, high collateral demands, and unsupportive insurance structures. “The value of the land is only equated to what you can extract from it in a way that's very industrially focused instead of ecologically focused” (Stella).

Participants noted a consistent disconnect between financial institutions and the realities of farming. High staff turnover and a lack of agricultural knowledge meant they often had to re-explain their businesses to new bankers. Coordination across financial actors—such as lenders, insurers, and advisors—was described as fragmented and confusing.

> Oliver: “We’ve had bankers who were helpful, but we’ve also had ones who had no understanding… If we’re trying to do farming a little bit differently, their understanding of that has to evolve also.”
>
> Jona: “A lot of institutions, when you go in and talk to them about some of these regenerative practices, they don’t understand it at all. And so they won’t support it.”
>
> Mara: “Every time our bank rep changes, we have to start from scratch and re-explain our operation. It’s exhausting and doesn’t build trust.”

Education was viewed as essential. Farmers urged that bankers, auditors, and policymakers receive training in farming cycles, ecological practices, and the financial realities of RA. Some recommended hands-on experiences like farm tours. Storytelling was also seen as powerful, particularly in changing public and political perceptions that portray farmers as wealthy landowners rather than vulnerable stewards.

Policymakers were seen as gatekeepers of enabling environments. Participants stressed that policies must be co-developed with farmers, flexible, and responsive to changing conditions. While programs like EG&S payments and revised lending terms were seen as progress, most said more systemic innovation is needed.

Farmers repeatedly called for collaborative policymaking that includes financial institutions, producers, and investors. They said inclusive dialogue is necessary to build effective risk management tools, insurance products, and long-term financing tailored to RA.

> Mara: “We need to be at the table. Don’t just build programs for us—build them with us.”
>
> Oliver: “You need producers, bankers, and government folks in the same room. Otherwise, you’re designing in a vacuum.”

Secure land access was another top concern. Many participants said short-term leases discourage soil-building and regenerative investment. High land prices and limited recognition of ecological value in lending decisions further strained land acquisition and succession. Some shared examples of creative alternatives, such as family loans or impact investment funds, but emphasized these are still rare and underdeveloped.

In summary, participants envisioned a financial and policy ecosystem grounded in patient, informed partnerships. They said banks, investors, and governments must move beyond business-as-usual models, embracing co-design, flexibility, and education to truly support RA for the long haul.

FINANCE PERSPECTIVE FOCUS GROUP

ESG INTEGRATION INTO DECISIONS

Focus group participants expressed a strong preference for a trust-based, collaborative approach to ESG (Environmental, Social, and Governance) integration in agricultural investment. Rather than imposing rigid, top-down frameworks, they emphasized co-creating ESG strategies with producers, ensuring that measurement and accountability are mutual and grounded in stewardship. This relationship-driven approach was seen as more effective than compliance-heavy models, particularly in sectors where profit margins are tight.

> Nanci: *"Trying to be producer-led and really committed to trusting that the regenerative producer knows best how to steward her land is, I would say, a practice that we're baking into how we assess projects."*
>
> Ambry: *"We're trying to better understand… how are we lending? And before we jump in and actually roll products out, we really want to make sure we understand the barriers and challenges that our producers face in adopting these practices… So the products and the way we lend has to be tailored and has to be able to be flexible to meet the many different needs of different types of farming systems."*
>
> Stockton: *"ESG is, in and of itself, insufficient… we take a more holistic perspective of what impact is… people, land use, governance model… leapfrogging the limitations of ESG."*
>
> Julius: *"As a systems investor… we know that it can't be done unilaterally. There isn't a single FI* (financial institution) *or actor that is going to unlock all of those barriers simultaneously."*

Participants advocated for ESG implementation that supports existing regenerative efforts, scaling them without adding new burdens. Flexibility and respect for producer leadership were identified as crucial for ensuring ESG strategies are practical and relevant. Participants noted that institutional leadership plays a vital role in enabling cultural shifts within finance and investment, helping transition toward more adaptive, sustainability-focused practices.

There was some skepticism about conventional ESG frameworks, with participants questioning their practical relevance and viewing them as disconnected from farm realities. This is exemplified by Loyd who states, *"Farmers don't have ESG. That's like a medium to large scale business… From a farming perspective… what are we even talking about?"* Regarding RA, Loyd also noted, *"To me this is no different than what we went through with organic… it's all better, it's all better — it's not all better until these practices are all proven to work over a variety of years and conditions."* Other participants retorted This skepticism underlined the need for ESG models that genuinely reflect and support producers' experiences and values and call attention to the years of data that validate the ecological outcomes of RA.

Participants underscored the importance of risk-sharing and patient capital as part of ESG-aligned investment. Financial tools such as equity, flexible debt, and ecosystem-linked insurance were viewed as key to enabling sustainable transitions and attracting longer-term capital.

> Stockton: *"Financing that looks more like equity and less like debt… patience is a key element that needs to be built into the financing."*
>
> Nanci: *"There is a need for… charitable or impact-first zero financial outcome investment into building the ecosystem."*
>
> Aleen: *"We're working on a BMP insurance product… to de-risk that financial gap that producers take when trialing a new practice."*

Education, incentives, and market connections were highlighted as foundational. Informing and supporting

producers, offering technical assistance, and connecting them to buyers are all necessary complements to financial investment. Patient capital and philanthropic funding were seen as enablers of early-stage adoption and risk reduction.

Ultimately, participants supported sustainable finance frameworks that embed ESG principles into lending and risk assessment, but emphasized the need to maintain flexibility, producer autonomy, and adaptability to farm-specific contexts.

> Nanci: *"We're looking at who the producer is, what land they're working with, and the interface between those two… that's our ESG."*
>
> Ambry: *"We're really trying to work with different groups and across the supply chain to align these reporting requirements… reframing it to meet the needs of telling the sort of story of what's the environmental and social impact."*

BARRIERS TO FINANCIAL INVESTMENT IN RA

Participants identified a range of barriers preventing financial institutions from investing in RA (RA). Chief among them was the rigidity of conventional financial risk models. These models fail to account for the unique risks and timeframes associated with regenerative practices, often underestimating long-term environmental returns and overemphasizing short-term financial performance.

> Ambry: *"We recognize… when a producer or a business is adopting a change, that that's when the risk is potentially higher… But… does the adoption of these [practices] make a producer more resilient to other external factors and ultimately reduce the credit risk?"*
>
> Stockton: *"Profit timelines… the likelihood of getting a return on an investment into Regen Ag is unknown… tough to line up with conventional expectations."*
>
> Nanci: *"Finance has a certain view on what risk is, and they kind of put that risk framework on everything depending on what each institution's finance policies are."*
>
> Insurance and data limitations compound these challenges. Participants noted that insurers lack actuarial baselines for RA, leading to inadequate or nonexistent coverage. The absence of robust, location-specific data also stifles financial product innovation, leaving farmers more exposed and investors hesitant.
>
> Aleen: *"Insurance providers don't have enough data to do a proper risk assessment… many practices haven't been piloted in a specific area enough to establish an actuarial baseline."*
>
> Meradith: *"TIFF… is currently working with actuaries to model out the EOV data… They're trying to figure out exactly that — what are the markers in this data set that climactic risk would be lowered and that might be able to play into insurance products."*

Institutional inertia and cultural resistance within the finance sector further constrain progress. Many financial institutions remain conservative, skeptical of sustainability claims, and resistant to changing established lending practices. Participants emphasized that without strong leadership and visible examples of success, this reluctance is unlikely to change.

> Loyd: *"Risk tolerance at banks — it's low on everything innovative, right? It's not specific to regen… Half the banks won't even touch you."*
>
> Nanci: *"Status quo feels easier, right? Even though our sensible side tells us it's not sustainable… changing major institutions like FCC takes leadership."*
>
> Quinn: *"I've done some things at Farm Credit… the more that we understand the operation and the management, the more open we are to different risk appetites."*

On the ground, farmers carry disproportionate risk. Limited insurance, long transition periods, and financial uncertainty create stress and deter adoption. Many noted that institutional caution around non-traditional models only increases their anxiety, particularly in the absence of tailored financial products. Aleen: *"That jump producers take when trialing a new practice is risky… we need more public-private programs to de-risk those transitions." Tanesha: "There is such a stack of risk on their shoulders… from your commodity, your input, your climate… We are speaking to a farmer in Southern Ontario… he said, basically for 10 years I cannot change even a single practice because my farm is on the line."*

Underdeveloped supply chains and inconsistent market demand also dampen investment enthusiasm. Without established delivery systems or verified price premiums, it is difficult to build confidence in RA's economic potential. A lack of standardized definitions and metrics for RA compounds this, making outcome verification and market assessment difficult.

Participants stressed the need for flexible, tailored financial products—something largely missing in current offerings. High administrative costs, rigid terms, and a lack of familiarity with diverse farming contexts make RA lending unattractive and hard to scale.

Measurement and valuation challenges persist. While ecological data is occasionally collected, financial impact data is limited. This weakens the case for investment and creates confusion over how to assess demand and returns. Conflicting understandings of capital types and financial instruments add to this uncertainty. Ambry: *"Before we can go into that, we would need to see more standardization of like, what is regenerative ag across Canada… and how do we measure it."*

The absence of patient, risk-tolerant capital was frequently cited. Traditional investors seek short-term gains, while RA requires long-term commitment. Without blended or philanthropic capital to absorb early-stage risk, financial institutions remain cautious. Emotional dimensions, such as financial anxiety and climate-related stress among professionals, also contribute to hesitancy.

Participants highlighted the systemic mismatch between RA and dominant commodity systems. RA's focus on localized, diversified production contrasts with the large-scale, standardized operations favored by traditional finance. Bridging this gap will require new models and reimagined investment strategies.

CURRENT FINANCIAL PRODUCTS FOR RA

Across the focus groups, participants described a cautious but growing shift in the financial sector toward more responsive, relationship-based models for supporting RA. Rather than imposing rigid, top-down structures, the most promising approaches were those co-developed with producers—centered on trust, adaptability, and an understanding of each farm's unique context.

"We're trying to be producer-led," explained Nanci from Satya Investments, "and really committed to trusting that the regenerative producer knows best how to steward her land. That's a practice we're baking into how we assess projects." This ethos—of meeting farmers where they are and designing tools that reflect their values—was echoed by others, including Quinn from Farm Credit Canada (FCC), who emphasized, "You have to be able to dig in and understand each operation… how you could add value or drive impact."

Still, participants acknowledged that truly effective support for regenerative transitions requires more than just capital. The shift to regenerative systems involves long timelines, uncertain returns, and ecological complexity—none of which fit neatly into conventional financial risk models. As such, many emphasized the importance of patient and flexible capital.

"Financing that looks more like equity and less like debt," said Stockton from Boan Social Impact, "that's what's needed—patience is a key element that needs to be built into the financing." Tanesha, founder of Soilbank, shared a similar perspective, describing how her organization seeks to de-risk adoption for producers: "We want to be able to take the risk on with the farmers… the idea would be to stay with the risk and to do this long term."

Some, however, were less convinced that new instruments were required. Ambry from FCC noted that the financial sector may not need entirely new products to support RA: "FCC didn't have an organic loan, right? So why would we have necessarily a regen ag loan? Maybe not sure. That's something we would need to unpack—whether there's actually a need for it." Quinn echoed that sentiment, suggesting that building from what already exists—highlighting and adapting the strategies of leading producers—could go a long way: "We already have a lot of producers or stewards, top end, that have been on this path… it's just really highlighting them and finding what they've done to drive further innovation."

But whatever the structure of the financial product, there was broad consensus that capital alone is insufficient. Without technical assistance, peer support, and access to reliable markets, even well-designed products can fall flat. "There's always a financial component," explained Aleen from the Smart Prosperity Institute, "but also an educational or technical support component, and a social network component. Making sure these programs are aligned—or provide opportunities to engage—is important."

Meradith shared her experience from New Zealand, where she found that financial anxiety, not just lack of funds, often delayed regenerative transitions. "You had to surround them with support," she explained. "Just a financial product on its own was not enough." Nanci agreed, adding that producers often feel stuck navigating complex systems while managing operational uncertainty: "Just producers trying to navigate the opportunity while planning for the uncertainty… we need to be there to shore up some of that."

Emerging tools—such as equipment loans and insurance discounts—have gained some traction, but many questioned their impact. Quinn offered a pointed assessment: "A discount is like a crumb—it'll get guys in, but how do you keep them going?" Aleen added that insurance solutions are limited by data constraints: "Insurance companies are trying to make things work… but they don't have enough data to come up with a comprehensive premium structure."

More fundamentally, participants noted that most financial products for RA are still in their infancy. Pilots are underway, but wide-scale deployment remains limited by uncertainty, fragmentation, and low uptake. "We're focused on deal flow," said Nanci, "and trying to get early models of unique ownership structures… grounded in stewardship and enterprise sustainability." But many producers remain unsure how to engage, and lack the financial literacy or guidance needed to navigate options. "I think the producer is kind of waiting on industry for help here," Quinn observed. "Industry needs to step up."

This challenge is compounded by systemic issues. Traditional lenders remain risk-averse, and the lack of shared metrics makes it difficult to evaluate regenerative outcomes in financial terms. "There's a real need for charitable or impact-first investment," Nanci argued. "Not everything in the ecosystem right now is financeable." Stockton noted that even impact-oriented initiatives are constrained by "data and reporting gaps," which make it hard to "evaluate benefit or calculate impact."

In addition to structural barriers, participants acknowledged emotional ones. Producers—already stretched thin—may not be in a place to take on new risk, even if the long-term benefits are promising. As Quinn put it, "Sometimes producers just need that financial advising to get them to a point where they're ready to adopt sustainable practices." And Nanci offered a more personal reflection: "There are days when I struggle with climate grief… but when I talk to the farmers stewarding land, I feel a little better."

There were also divergent views on whether new financial innovation is truly needed. Some argued that regenerative practices have long been implemented using conventional financing—and that the real need is for better coordination and alignment. Others pointed to the scalability challenge of niche tools and called for more mainstream integration. "It's a challenge," said Nanci. "Finding one husband is harder than finding 50… we're just really focused on building an ecosystem." Quinn added that efforts are underway to define and expand eligibility: "There will be a vast list of eligible categories and projects… things that promote soil health and improve long-term resilience."

Despite the challenges, most participants expressed cautious optimism. They saw clear potential in adaptive,

farmer-centered approaches—and emphasized that success will depend on ecosystem coordination, customized supports, and a deep respect for the realities of producers. “There’s a real thirst for knowledge,” Quinn concluded. “Producers are keen on being more sustainable. It drives efficiency.”

POLICY PERSPECTIVE FOCUS GROUP

MEASUREMENT REPORTING AND VERIFICATION (MRV) SYSTEMS IN RA

There is strong consensus among participants that robust, practical, and scientifically grounded MRV systems are essential to advancing RA policy and practice. Effective MRV must be simple, user-friendly, and minimize administrative burdens to encourage participation. These systems should provide tangible benefits to farmers—such as financial incentives—while maintaining scientific rigor and credibility.

As one participant succinctly put it: "We need an MRV system that is practical, that it works… less white papers and a hell of a lot more writing checks" (Grey). Mildred added, “Even the scientific measurements have to catch up to where we are,” referencing misleading soil health metrics like litter layers being confused with soil organic matter improvements.

Establishing clear baselines and conducting gap analyses are foundational to any effective MRV framework. These steps enable accurate tracking of adoption, inform evidence-based policy development, and tailor support to specific regional and operational needs.

Participants favored outcome-based measurement approaches, which emphasize tangible environmental improvements—such as gains in soil health and biodiversity—over prescribed practices. “If there was a way to better incentivize outcome, rather than practice, I feel like that would be really beneficial,” said Sara. Mildred emphasized a principle-based orientation: “I think we need to take a step back from practice and think about principles. And I think that’s maybe where policy can support.”

However, significant challenges persist. Verification remains costly, complex, and labor-intensive across diverse farm contexts. “The amount of man hours that it takes to do that [verification] is really complicated and expensive,” noted Brandy. She stressed the need for clear value: “You have to have a benefit to doing the work… there needs to be a pretty good return on that.” Mildred echoed this concern, warning: “Soil health is such a convoluted space. And we're acting like we know everything about soil — and we know less than 1%.”

Scientific limitations—including inconsistent soil testing methods and difficulty benchmarking regenerative practices—further complicate MRV implementation. Brandy pointed out, “My land will never have a high organic matter. We live in like a desert, basically,” underscoring the need for bioregional benchmarking and regionally sensitive metrics.

Advanced technologies such as satellite imagery and geospatial analysis were identified as promising tools to improve accuracy and reduce verification burdens. Tanesha shared: “Within Europe… there are a few countries doing a very good job of using satellite data… doing tree censuses… also looking at soil from a geospatial perspective.” However, she noted that this is less common in Canadian conversations to date.

Stakeholder engagement, trust-building, and regional customization are critical for MRV success. Participants stressed the need to reflect local conditions and involve farmers in both the design and implementation of MRV frameworks. Approaches such as living labs and bioregional benchmarking were highlighted as effective ways to foster trust and contextual relevance. As Elizabeth observed, “It’s unbelievable how much [farmers] are actually doing on farm that I don't think anybody captures… but keeping producers’ flexibility in decision-making is key to adoption.”

Trust is also fostered through transparency, scientific credibility, and systems that support rather than penalize producers. “Put in additional hurdles and costs, and we run like crazy… Farmers are very, very good at [adopting change] when there’s a clear benefit,” cautioned Grey.

Economic feasibility was another major concern. MRV systems must offer a clear cost-benefit rationale for both farmers and funders. Efficient reporting processes, alignment with agricultural cycles, and minimized red tape were seen as essential. Mildred pointed out that programs like OFCAF and S-CAP often fail due to administrative overload: "There needs to be some thought put behind just the admin pieces… because farmers are already juggling a lot of things." Grey also suggested shifting metrics from farm-level to operational scale: "Today, we report by farms. That's silly. We need to report by acres and by animals."

Finally, participants emphasized that MRV systems should be farmer-centered, outcome-oriented, and grounded in both scientific and practical realities. Participants noted that the path forward requires flexible, outcome-oriented, and farmer-centered MRV frameworks capable of supporting the complex transition to RA.

BALANCED GOVERNMENT INVOLVEMENT IN RA

Government involvement in RA, according to focus group participants, must begin with a fundamental respect for producers' autonomy and the diversity of farming systems across Canada. There was clear consensus that rigid, top-down approaches—especially those based on mandates or narrow definitions—would not only fail to motivate adoption but could create resistance and distrust.

"Telling farmers what to do has never worked in the past and it won't work in this conversation," said Elizabeth. This sentiment was echoed by many, including Sara, who warned, "I certainly wouldn't want to see us get to any places where it's, you know, 'thou shalt.' That definitely builds a lot of walls and creates some animosity."

Instead, participants advocated for voluntary, incentive-based approaches that encourage experimentation and learning, rather than compliance. These approaches, they argued, would be far more effective in advancing regenerative practices while supporting producers' ability to make business decisions in line with their unique ecological and operational contexts. "Our role in this, and what policy should do," said Mildred, "is encourage everybody to take one step. Don't dictate that step." Hansel added that policy can take many forms—whether through education, financial support, or risk mitigation tools—so long as it helps "soften that transition or backstop that transition."

But with encouragement must come viability. Across all groups, economic sustainability emerged as a baseline requirement. "It needs to be financially viable for the end user who has to bear those practices," explained Belvia. "They have a business… with limited resources and small margins." Grey, a longtime producer, framed it more bluntly: "Show me ways that I can lower my costs or increase my top line, and I'll follow it all the way. But put in additional hurdles and costs, and we run like crazy."

Risk mitigation was seen as essential to adoption. "If it's going to bring risk to the operation… what are some of the ways policy could help offset or mitigate some of that risk?" asked Marshal. Financial incentives—such as preferred insurance premiums, market access, or cost-sharing programs—were viewed as practical tools that could tip the scales in favor of change. "If insurance companies can find a way that would allow me to have better coverage at a lower premium," Grey added, "farmers sign up."

Yet even the most well-intentioned programs fall short when they are hard to access. Administrative burdens—including slow timelines, confusing applications, and limited support—were flagged as persistent barriers. "Programs are great as long as they're timely," said Sara. "But it's not really helpful when [funding] gets in your bank account in September and you're already finished." Brandy, agreed, noting that the pace and design of current programs often make them unusable for the very people they aim to support.

Mildred pointed to the need for system-level thinking around program delivery: "There needs to be some thought put behind just the admin pieces… Ideally, we'd have a streamlined system where a producer could check some boxes and apply across multiple programs more easily." Hansel, acknowledging the internal challenges within government, admitted, "That's our new year… our budgets start in April… I don't have any

better excuse for you… it's embarrassing, and I'm sorry." He suggested that involving third-party delivery agents might improve responsiveness and reduce friction.

For policy to be truly effective, participants stressed that it must be co-developed—not imposed. This means involving producers, industry groups, and local organizations in meaningful, ongoing consultation. "Consultation needs to be meaningful," said Belvia. "It needs to include feedback from those that live it and breathe it every day." Mildred added that policy development often falters because of simple miscommunication: "We don't talk the same language. Even though we think we're talking about the same thing… there needs to be time spent just defining things to make sure we're not unintentionally missing the mark."

Building trust was seen as essential. As Sara put it, "The closer we can get to ground level with farmers and producers, where there is trust, is going to be the most effective place to start." Brandy called for more alignment and collaboration across stakeholders, and Shelley, in a plenary discussion, reinforced the idea that any policy must reflect the lived realities of those most impacted.

That trust, however, must also be grounded in evidence. Participants were adamant that policy be based on sound science and rigorous data—not ideology or pressure from advocacy groups. "Anything that we're doing [in policy] should be grounded in evidence," Mavis said. Elizabeth added, "We have to be basing [policy] on very real and well-recognized science-based systems and regulatory processes that we have in Canada."

Equally important was the recognition of what farmers are already doing. Participants were frustrated by deficit-based narratives that ignore on-farm progress and innovation. "Farmers are already doing a lot — but no one's capturing it," said Elizabeth. Grey agreed, noting, "We are the poster boy, but yet we aren't getting the credit that we need… Let's have a hell of a lot more championing and a lot less lecturing."

Recognition, they argued, is not just symbolic—it's strategic. It builds goodwill, reinforces positive momentum, and strengthens the case for continued investment. "We forget about the small steps that actually make big changes," said Mildred. "If we're not paying attention to the really small details, none of the big flashy stuff matters."

In the end, participants outlined a vision of government involvement that is enabling rather than prescriptive. One that starts from the ground up, values farmer knowledge, supports economic and ecological goals, and avoids overburdening those it seeks to support. Flexibility, incentives, streamlined processes, trust, and recognition—these were not just preferred features of policy; they were seen as essential for any real progress.

POLICY CREATION IN AGRICULTURAL CONTEXTS

Participants across multiple focus groups described agricultural policy development as a collaborative, multi-level, and iterative process, grounded in producer engagement, scientific evidence, and economic viability. They emphasized that meaningful, effective policy cannot be designed in isolation—it must emerge from the ground up, shaped by the real-world experiences of farmers, ranchers, and local delivery agents.

The process, they agreed, typically starts with bottom-up consultation, where producers, industry groups, and government bodies come together to identify gaps and co-create solutions. "Maybe we need to topsy-turvy things," said Mildred. "Maybe even the need for policy needs to generate from groups like Team Alberta that say, 'You know what? There's this gap.' If we don't have a clear why… I wonder whether [policy] should even be there."

Flexibility emerged as a non-negotiable design principle. Participants pushed back strongly against rigid mandates and one-size-fits-all policies. Instead, they favored adaptable frameworks that allow producers to choose context-appropriate practices and continuously adjust based on local conditions, new information, and emerging technologies. "Every farm is different—even two fields 10 miles apart can require different approaches," said Mildred. Lory echoed this: "It really needs to be flexible. It needs to move with the times. It

needs to move with technology."

The policy process, participants stressed, should allow for continuous improvement, featuring multiple touchpoints for feedback and coordination across jurisdictions. "There needs to be several touchpoints," said Hansel. "Because it is a network or a community." Others noted the importance of aligning federal and provincial efforts with strong local delivery systems, such as counties and Agricultural Research Associations (ARAs). Yet many pointed out the unevenness of these systems. "I live in a gap area where we don't have an ARA that covers my county," said Brandy. "There's some that are doing a great job. There's some that aren't doing any."

At the heart of successful policy development is trust and genuine collaboration with producers. "The closer we can get to ground level with farmers and producers, where there is trust, is going to be the most effective place to start," said Sara. Participants emphasized that consultation must be more than just box-checking—it must be inclusive, iterative, and empower producers as co-creators of policy. "Farmers and ranchers are doing it," said Grey. "We are so far ahead, it isn't even funny… Let's take credit for that."

To build that trust, many pointed to the role of extension networks and local organizations—once vibrant but now under-resourced—as essential intermediaries. "We used to count on the provinces to do the extension," said Grey. "But basically, the provinces have all got out of extension… Help, we need to find a practical MRV system… and improve extension so we can promote what we're already doing."

Participants stressed that agricultural policy must also be grounded in scientific evidence, economic logic, and practical risk assessment. Data-driven approaches—such as baselines, gap analyses, and outcome monitoring—were seen as crucial to ensure credibility and track progress. "We need to be understanding what is being done… and then doing a gap analysis," said Mavis. "Policy has to be based on evidence and scientific rigor."

But science alone isn't enough—economic sustainability is a make-or-break factor. "It has to be financially viable for the end user," said Belvia. "They have a business… small margins, limited resources… it has to be economically sustainable." Marshal reminded the group: "You've got one attempt per year, unlike other industries—so the risk is massive. That's why we need to understand the economic and ROI impacts before anything is implemented."

This economic reality makes voluntary, incentive-based policy mechanisms far more appealing and effective than regulation. "Put in additional hurdles and costs, and we run like crazy," said Grey. Hansel warned against prescriptive policies: "This isn't a legislative [issue]… I don't want to see any policy that says 'thou shalt.'" Sara suggested outcome-oriented models: "If your soil organic matter was at a level… you could qualify for funding to maintain or support that. More outcome, rather than practice."

Participants also pointed to the need for simple, timely, and efficient administration. "If the government is really hoping to get that money out to help farmers… they're going to need that before the cropping season starts," said Sara. "It's not helpful when it gets in your bank account in September and you're already finished." Brandy added, "When you can't apply until early April… it just doesn't work for that year." Hansel acknowledged these limitations candidly: "That's our new year… our budgets start in April… it's embarrassing, and I'm sorry."

For policy to succeed, it must celebrate what's working—not just fix what's broken. "There's been land that's been managed for 150 years… and there's no incentive to maintain that," said Brandy, noting how additionality requirements can penalize long-time stewards. Mavis agreed: "There is so much happening that we need to be celebrating… rather than constantly focusing on what hasn't been done." Grey put it more bluntly: "Let's have a hell of a lot more championing and a lot less lecturing."

Still, participants recognized the inherent complexity and messiness of policy development, especially within government structures. Hansel described it as a "black box," while Mildred warned, "Sometimes someone makes a decision… but they haven't figured out how it's going to be implemented." The process, participants

said, must be made more transparent, more grounded, and more inclusive of those most affected.

They also raised concerns about imbalanced influence, cautioning against policies shaped too heavily by advocacy groups or narrow agendas. “We have to be basing [policy] on well-recognized science-based systems and regulatory processes that we have in Canada,” said Elizabeth. “It undermines that when special interest groups are not vetted.”

Ultimately, participants called for a policy environment that is adaptive, inclusive, evidence-informed, and economically viable. This means shifting from regulatory mandates toward education, demonstration, and positive incentives that reward what’s already being done well—especially when it aligns with both environmental goals and business realities.

“Policies can be harmful or helpful,” Mildred concluded. “And if they’re not built to reflect the diversity in farms and regions, they’re just going to get rejected.”

ROUNDTABLE DISCUSSION

The roundtable discussion held as part of the dissemination process to gather insights from the various stakeholder grounds produced additional insights. The attendees largely were in agreement with the views captured and articulated in the descriptions of the focus group findings. Having the various stakeholder groups together in discussion groups revealed interesting perspectives which include the importance of trust and relationship building, education and understanding across sectors and the need to for data and evidence for informed decision making.

TRUST AND RELATIONSHIP BUILDING

Trust is foundational to effective collaboration in agricultural finance and policy and must be actively cultivated through transparent communication, co-design, and sustained, respectful engagement. Deep-rooted mistrust among producers—driven by fears of government overreach, data misuse, and punitive repercussions—presents a significant barrier to participation in programs and initiatives. Building trust begins with acknowledging producers’ operational realities, time constraints, and privacy concerns. Engaging producers in their own contexts, asking meaningful questions, and co-developing financial and policy solutions tailored to their specific management practices are critical strategies. Trust is further reinforced through clear, secure data governance that limits the use of sensitive information to agreed-upon contexts. Digital platforms offer useful tools for maintaining communication but cannot replace the authenticity and relational depth of in-person interactions.

Producers consistently emphasize the value of personalized, face-to-face engagement—especially when it is context-sensitive, intentional, and supported by trusted intermediaries. As traditional extension services decline due to budget cuts and institutional restructuring, there is an urgent need to adapt engagement models. Effective extension now requires a hybrid approach: structured, in-person interactions complemented by strategic digital tools. Neutral facilitators such as NGOs, academic institutions, and producer-led groups are essential in sustaining inclusive dialogue, bridging sectoral divides, and maintaining momentum across finance, policy, and producer communities. Co-design processes, when grounded in regular, multi-stakeholder collaboration, foster trust, mutual education, and shared ownership of outcomes. Moreover, empowering producers to lead agenda setting—from meeting design to policy development—ensures that initiatives remain relevant and respectful of producers’ time. Formal producer organizations can amplify collective voice and institutionalize this leadership. Demonstrating the value of relationship-building to decision-makers is key to unlocking institutional support and resources. Ultimately, trust is not a static outcome but a dynamic, long-term process requiring structural commitment, empathetic collaboration, and continuous investment in human relationships.

EDUCATION AND UNDERSTANDING ACROSS SECTORS

Improving agricultural literacy across finance, policy, and insurance sectors requires a dynamic blend of structured training, direct producer engagement, and sustained, trust-based collaboration. Standardized onboarding programs—such as those implemented by Farm Credit Canada—offer essential foundational knowledge across agricultural sectors, but participants consistently stress that real understanding emerges through experiential learning. Engaging directly with producers in their own contexts allows professionals to grasp operational nuances, build relational trust, and co-create relevant financial and policy solutions. Co-design processes, pilot projects, and collaborative learning environments—particularly those led by neutral institutions like nonprofits or universities—serve as effective vehicles for this ongoing education. These spaces foster inclusive, iterative engagement where producers and professionals collectively develop, evaluate, and adapt solutions to meet real-world challenges. Informal learning mechanisms, including government extension services, digital platforms, and regular cross-sector communication forums, complement formal training by sustaining dialogue and enabling responsive, real-time knowledge exchange.

A recurring theme across contributions is the central role of trust, transparency, and mutual respect in any educational or collaborative effort. Producer mistrust—especially concerning data privacy, government overreach, and conditional funding—must be met with clear, contextual communication about data use and governance. Neutral conveners are instrumental in facilitating transparent, multi-stakeholder dialogue that addresses these concerns while enabling long-term relationship-building. Furthermore, several participants highlight the critical need for soft skills training in leadership, communication, and collaboration—areas often overlooked in technical literacy programs. These skills are essential for overcoming siloed working cultures and enabling participatory, cross-sector cooperation. While resource constraints and skepticism about the feasibility of standardizing training persist, the collective insight points to a clear path forward: a layered, inclusive approach to sector understanding that combines structured onboarding, practical experience, collaborative learning, and neutral facilitation to foster the adaptive, trust-rich relationships required for effective agricultural transition and innovation.

DATA AND EVIDENCE FOR INFORMED DECISION-MAKING

Robust, regionally diverse financial and environmental data is critical for informed decision-making in RA finance and policy. However, collecting and sharing such data depends fundamentally on producer trust, transparent governance, and respect for privacy and operational constraints. Mistrust—particularly regarding data misuse and government overreach—remains a persistent barrier, discouraging participation in data initiatives. Producers are more willing to engage when data use is context-specific, limited to agreed purposes, and clearly communicated. Transparent governance frameworks that ensure data is only used within established boundaries, alongside early and ongoing producer involvement, are essential to foster confidence. Moreover, seasonal workloads, administrative demands, and complex reporting timelines make data collection challenging. Flexible, producer-sensitive engagement strategies and streamlined data processes are necessary to reduce burdens and improve participation. Respect for data ownership—such as limiting requests to high-level summaries—further reinforces trust. These foundations enable the development of tailored financial products that reflect producers' diverse realities, support regenerative practices, and align with their decision-making processes.

To support the transition to RA, data systems must be both technologically advanced and human centered. Emerging technologies like artificial intelligence and large language models offer substantial potential to analyze complex, heterogeneous datasets, model future scenarios, and increase confidence in financial and policy solutions. Yet, economic barriers continue to limit widespread adoption, especially among producers facing profitability pressures. Targeted investment, industry support, and affordable access are necessary to ensure equitable technological uptake. Capacity building—through onboarding, stakeholder training, and neutral facilitation—enhances technological literacy and strengthens the human-technology interface. At the same time, institutional barriers such as reduced extension services, geographic remoteness, and fragmented digital ecosystems constrain access and support. Collaborative governance approaches, including co-design

processes, pilot projects, and regular multi-stakeholder forums, create the trust-based infrastructure needed for inclusive, adaptive, and data-informed decision-making. Ultimately, a holistic approach—combining technological innovation with strong governance, economic feasibility, and sustained collaboration—forms the foundation for robust, secure, and producer-centered data ecosystems that drive effective financial and policy tools for RA.

DISCUSSION

The focus group findings reveal a profound structural misalignment between existing financial and policy systems and the requirements for supporting RA transitions. This discussion examines the key themes that emerged across stakeholder perspectives, their implications for systemic change, and the pathways forward for creating an enabling environment for RA adoption.

SYSTEMIC MISALIGNMENT AND THE NEED FOR PARADIGM SHIFT

The Financial System is Structurally Incompatible with RA

The most striking finding across all focus groups is the fundamental incompatibility between conventional financial models and RA's operational requirements. This incompatibility runs deeper than simple product misalignment—it represents a fundamental structural contradiction. Finance is designed to reward short-term, measurable financial returns, while RA offers long-term, multi-capital returns spanning social, ecological, and economic dimensions that the current system neither values nor tracks.

Traditional agricultural finance prioritizes short-term returns, standardized practices, and predictable cash flows—characteristics that directly conflict with RA's longer time horizons, place-based approaches, and inherent variability during transition periods. This misalignment manifests in multiple dimensions: loan products that fail to accommodate the J-curve investment pattern of regenerative transitions, insurance policies that penalize rather than reward sustainable practices, and grant systems with bureaucratic complexities that create timing mismatches with agricultural cycles.

A critical insight is that data isn't missing—it's misaligned. There is growing evidence of the ecological benefits of regenerative practices, but very little integration of those outcomes into risk-adjusted financial models. The financial sector continues to rely on conventional metrics that fail to capture the long-term value creation potential of regenerative practices, creating a persistent gap between actual risk profiles and institutional risk assessment.

The concept of being "land rich but cash poor," repeatedly emphasized by producers, illustrates how conventional financial assessment fails to capture the liquidity constraints faced by regenerative farmers. Despite significant asset values, these producers struggle to access flexible capital for transition activities, equipment purchases, or managing temporary yield declines. This phenomenon is compounded by the financialization of land, where investment in farmland is driven by speculative returns rather than its use value, making land stewards effectively tenants of financial logic.

Capital Markets Are Extractive and Detached

A fundamental market failure exists where no feedback loop connects regenerative practices to increased land value. Land appreciation is assumed regardless of soil quality, biodiversity, or ecosystem services provided. If regenerative outcomes don't influence asset value or lease rates, the business case for transition is fundamentally undermined. This represents a critical disconnect between ecological value creation and financial value recognition, requiring either policy intervention or alternative ownership models such as Quebec's land trusts to correct this market failure.

Trust as a Foundation for System Transformation

A critical insight emerging from all stakeholder groups is that trust—or its absence—fundamentally shapes the effectiveness of financial and policy interventions. Producer mistrust, rooted in experiences of government overreach, data misuse, and punitive program structures, creates significant barriers to participation in support programs. The roundtable discussion revealed that this mistrust of government is particularly pronounced, with producers expressing deep-seated concerns about regulatory overreach, fear of punitive repercussions, and skepticism about government's ability to understand and respect farming realities. These concerns are compounded by past experiences where government programs have been perceived as disconnected from on-the-ground operational needs or have created additional administrative burdens without commensurate benefits. This mistrust extends to financial institutions, where producers report feeling misunderstood and inadequately served by advisors lacking agricultural literacy.

The trust deficit has practical implications for system design. Participants consistently advocated for co-design processes that involve producers as equal partners in developing financial products and policy frameworks. This represents a departure from traditional top-down approaches toward more collaborative, relationship-based models. The emphasis on neutral conveners—such as academic institutions, NGOs, and producer associations—highlights the need for trusted intermediaries who can facilitate dialogue across sectors and maintain long-term engagement.

Trust-building also requires transparency in data governance and clear communication about how sensitive farm information will be used. The reluctance to share data, while understandable given past experiences, creates challenges for developing evidence-based financial products and policies. This suggests that data systems must be designed with producer sovereignty and privacy protection as fundamental principles.

THE ROLE OF PATIENT CAPITAL AND RISK-SHARING MECHANISMS

INSTITUTIONAL CHANGE IS STYMIED BY MARKET INCENTIVES

Financial sector participants acknowledged the need for patient capital that can accommodate RA's extended payback periods and uncertain outcomes. However, they also identified institutional barriers that constrain their ability to provide such capital, including risk-averse organizational cultures, inadequate measurement tools, and misaligned incentive structures. This creates a circular challenge: farmers need patient capital to transition, but financial institutions are reluctant to provide it without better risk assessment tools and outcome measurement systems.

It is important to note that the views expressed from the finance community in this research do not reflect perspectives from large traditional financial institutions, as they did not participate in the focus groups. The financial sector insights come primarily from smaller, more specialized lenders, credit unions, and alternative finance providers who may be more willing to consider innovative approaches than their larger, more conventional counterparts.

The resistance to innovation within traditional financial institutions runs deeper than simple risk aversion. Banks, credit unions, and Farm Credit Canada are not incentivized to innovate because serving regenerative farmers is labor-intensive, less profitable, and requires internal champions to break the status quo. ESG reporting has largely remained performative, with voluntary climate disclosure failing to drive substantive lending reform. Unless externalities become material—such as through supply chain collapse or regulatory pressure—these institutions will not adapt their practices.

This institutional inertia highlights the need for external pressure through regulation, policy intervention, or market disruption, combined with the cultivation of internal champions within financial institutions. Without these catalysts, traditional finance will continue to avoid supporting regenerative transitions.

THE NEED FOR TRANSLATIONAL INFRASTRUCTURE

The gap between RA's requirements and traditional finance capabilities points to the need for "translational infrastructure"—consultants, brokers, and facilitators who can build appropriate deals, communicate expectations clearly between sectors, and design hybrid financial instruments that bridge conventional finance and RA requirements.

The concept of risk-sharing emerged as a potential solution, with participants discussing blended finance models that combine public and private capital to distribute transition risks across multiple stakeholders. Ecological goods and services (EG&S) payments were identified as one mechanism for providing public compensation for the broader societal benefits of regenerative practices, thereby reducing the financial burden on individual producers.

The discussion of innovative financial products—from gradual land transfer agreements to insurance tied to input efficiency rather than yield outcomes—suggests growing recognition that entirely new financial instruments may be necessary to support regenerative transitions effectively. However, the development of such instruments requires regulatory clarity, standardized measurement protocols, and institutional willingness to experiment with non-traditional approaches.

POLICY AS AN ENABLING FRAMEWORK

GOVERNMENT RESPONSE TO INDUSTRY LEADERSHIP

Policy emerged as a critical lever for creating enabling conditions for RA, but participants emphasized that effective policy must be voluntary, incentive-based, and regionally adaptive. The strong opposition to regulatory mandates reflects producers' desire for autonomy and their understanding that regenerative practices must be tailored to specific ecological and operational contexts.

However, the research reveals a fundamental challenge in policy development: government agencies such as Farm Credit Canada don't lead policy change—they follow signals from industry and producers. This reactive posture is consistent with the neoliberal political context that characterizes this region and much of Canada, where governments tend to follow market signals rather than mandate industry transformation.

THE NEED FOR UNIFIED VISION AND COALITION BUILDING

The sector lacks a coordinated mandate and collective voice articulating clear, shared asks of financial institutions or policy actors. This fragmentation weakens the impact of individual advocacy efforts and leaves policy makers without clear direction for supportive interventions. Without common messaging from producers, farm organizations, and food system stakeholders, policy remains reactive rather than proactive.

This points to the essential need for a coalition-building process to formulate a national RA finance strategy—one that connects ecological goals with practical financial design. However, such coalition building must recognize the political culture of this region, where strong government mandates are not politically viable, requiring strategies that work within market-oriented approaches.

Data as Strategic Leverage for Policy Change

The discussion around measurement, reporting, and verification (MRV) systems highlights the tension between the need for robust data to inform investment decisions and the desire to minimize administrative burden on producers. Participants favored outcome-based measurement approaches that focus on environmental improvements rather than prescribed practices, but acknowledged the challenges of developing cost-effective verification systems that maintain scientific credibility.

Data has strategic utility if it tells a financial story that can influence policy and market actors. For example, if regenerative farms demonstrate greater resilience to drought, this information could lower insurance risk

assessments. If they consistently reduce input costs, this could impact operating loan performance metrics. Insurance companies may be key actors in this transformation, as shifts in insurance models due to climate risk could cascade into lending practice changes.

A critical missing link is actuarial science—translating regenerative metrics such as water infiltration rates and biodiversity indicators into probabilistic risk assessments for insurers remains largely unexplored. The pathway to policy change may lie in reframing RA as a risk mitigation strategy rather than merely a climate solution.

Policy coordination across jurisdictions emerged as another critical challenge, with participants noting inconsistencies in program delivery and gaps in local capacity that limit program effectiveness. This suggests the need for better alignment between federal frameworks and regional implementation, as well as strengthened local delivery systems.

TECHNOLOGY AND DATA AS ENABLERS

While technology was identified as having significant potential to support RA through improved data collection, analysis, and verification, participants emphasized that technological solutions must be human-centered and accessible. The promise of artificial intelligence, satellite monitoring, and digital platforms for ESG measurement must be balanced against concerns about data privacy, technological barriers for smaller producers, and the risk of creating systems that prioritize data collection over actual outcomes.

The discussion around data revealed a fundamental tension: robust data is essential for developing tailored financial products and evidence-based policies, but data collection requires trust and transparency that are currently lacking. This suggests that successful data systems must be built on foundations of trust, with clear governance frameworks that protect producer interests while enabling informed decision-making.

IMPLICATIONS FOR SECTOR TRANSFORMATION

The findings suggest that supporting RA requires more than incremental improvements to existing financial products and policies. Instead, it demands a fundamental rethinking of how value is defined, measured, and rewarded across agricultural systems. This transformation involves several key shifts:

From standardized to place-based approaches that recognize the diversity of farming operations and ecological contexts; from short-term profit maximization to long-term value creation that includes environmental and social outcomes; from risk avoidance to risk-sharing that distributes transition risks across multiple stakeholders; from top-down policy design to collaborative co-creation that centers producer knowledge and experience; and from compliance-based to trust-based relationships that prioritize transparency and mutual respect.

These shifts require coordinated action across multiple sectors and stakeholders. Financial institutions must invest in agricultural literacy and develop new risk assessment models. Policymakers must create flexible, incentive-based frameworks that support rather than constrain innovation. Producers must engage in collaborative processes while maintaining their operational autonomy. Technology providers must prioritize accessibility and user-centered design.

BLOCKCHAIN AND CRYPTOCURRENCY TECHNOLOGIES AS SYSTEM SOLUTIONS

The systemic challenges in RA financing—misalignment, trust deficits, capital constraints, and measurement complexities—require innovative technological solutions. Blockchain and cryptocurrency technologies offer promising pathways to address these interconnected barriers through transparent, efficient, and inclusive financial systems.

ADDRESSING SYSTEMIC MISALIGNMENT

Smart Contracts and Automated Disbursements: Blockchain-enabled smart contracts can automate payments

based on verified sustainability milestones, aligning financial flows with agricultural cycles rather than rigid administrative schedules. Payments release automatically when independent verification confirms outcomes such as satellite-verified cover cropping.

Tokenization of Ecosystem Services: The "land rich but cash poor" challenge can be addressed by converting environmental outcomes (carbon sequestration, biodiversity improvements, soil health gains) into tradeable digital assets. Projects like Regen Network reward land stewards with crypto assets for verified ecological performance, creating immediate financial resources from environmental benefits.

BUILDING TRUST THROUGH TRANSPARENCY

Immutable Record-Keeping: Blockchain's inherent transparency and immutable records address trust deficits between producers, government, and financial institutions by providing complete visibility into transactions and data handling processes.

Decentralized Governance: Decentralized autonomous organizations (DAOs) enable communities to democratically manage shared resources and allocate financing, shifting from top-down approaches toward collaborative, relationship-based models while maintaining producer sovereignty.

Privacy-Preserving Data Sharing: Blockchain systems can reward farmers for contributing verified environmental data while maintaining cryptographic protection of sensitive information, creating positive incentives for MRV participation while addressing data governance concerns.

EXPANDING ACCESS TO PATIENT CAPITAL

Decentralized Finance (DeFi): DeFi platforms circumvent institutional barriers by offering peer-to-peer lending and microfinance that bypass traditional banking intermediaries. This particularly benefits smallholders and underserved farmers who struggle with conventional financing access.

Risk Distribution: Tokenization of ecosystem services creates liquid markets where risks and returns distribute across broader investor networks, allowing farmers to access capital based on environmental performance while enabling investor participation without requiring direct agricultural expertise.

STRENGTHENING SUPPLY CHAINS AND MARKET ACCESS

Blockchain technology verifies regenerative practices at each production stage, enabling farmers to access premium markets and earn higher prices for sustainably produced goods. This creates verifiable proof of regenerative practices, helping farmers capture value premiums currently difficult to access due to verification challenges.

STREAMLINING MEASUREMENT AND VERIFICATION

Blockchain-enabled automated verification systems integrate sensor data, satellite monitoring, and smart contract execution to provide real-time, transparent tracking of environmental outcomes while reducing administrative burden on producers. This supports outcome-based measurement preferences while maintaining scientific credibility for investors and policymakers.

IMPLEMENTATION CONSIDERATIONS

Critical Success Factors: Digital infrastructure gaps and low technical literacy among some producers must be addressed to ensure equitable access to these technological solutions, while avoiding the creation of new barriers that could exacerbate existing inequalities. Regulatory uncertainty around blockchain applications and tokenized assets requires policy frameworks that provide clarity while maintaining the flexibility needed for innovation. Strong verification mechanisms and governance structures must prioritize actual environmental outcomes over financial engineering to prevent speculative use or greenwashing. Most critically, these

technological solutions must be designed with farmer agency and equity as fundamental principles, ensuring that the decentralized and transparent nature of blockchain systems aligns with producer autonomy and collaborative governance preferences.

Systemic Transformation Potential: Blockchain technologies can catalyze shifts from standardized to place-based approaches through customizable smart contracts; from short-term profit to long-term value creation through tokenized ecosystem services; from risk avoidance to risk-sharing through DeFi; from top-down to collaborative governance; and from compliance-based to trust-based relationships through transparent systems.

Success depends on inclusive governance, robust verification mechanisms, and policies prioritizing farmer agency and equity. When implemented thoughtfully, these technologies can create new value from ecological data, lower financing barriers, and enable the transparent, trust-based systems essential for supporting RA transitions.

LIMITATIONS AND FUTURE RESEARCH NEEDS

This research, while providing valuable insights into stakeholder perspectives, has several limitations that suggest areas for future investigation. The focus on Alberta, while providing important regional context, may limit the generalizability of findings to other jurisdictions with different policy frameworks, ecological conditions, or market structures. The qualitative focus group methodology, while effective for capturing nuanced perspectives, does not provide quantitative data on the scale of challenges or the potential impact of proposed solutions.

Future research should examine the economic feasibility of proposed financial innovations, including detailed cost-benefit analyses of patient capital models and risk-sharing mechanisms. Longitudinal studies tracking the outcomes of regenerative transitions would provide valuable evidence for developing more accurate risk assessment tools. Comparative analysis across different jurisdictions could identify policy innovations and successful financial models that could be adapted to other contexts.

Additionally, research is needed on the institutional changes required within financial organizations to support RA effectively, including training programs, organizational culture shifts, and performance measurement systems that align with longer-term sustainability goals.

The findings presented here represent an initial step toward understanding the complex relationships between financial systems, policy frameworks, and RA adoption. They point toward the need for continued research, experimentation, and collaboration to develop the systemic changes necessary to support a more sustainable and resilient agricultural future.

CONCLUSION

This research reveals that RA transitions in Alberta are constrained not by lack of producer interest, but by structural misalignments in financial and policy systems. The findings highlight a perfect storm of challenges: escalating land prices, financial institutions unprepared for regenerative practices, misaligned insurance products, and complex bureaucratic frameworks.

KEY INSIGHT: TRUST AS FOUNDATION

Perhaps most critically, deep-seated mistrust between producers and government creates fundamental barriers to program uptake. Technical solutions alone are insufficient—successful transformation requires rebuilding relationships through transparency, respect, and shared decision-making.

REQUIRED SYSTEMIC CHANGES

The evidence points toward systemic transformation across four dimensions:

Financial Innovation: Patient capital instruments, flexible repayment structures, and insurance products that reward ecological stewardship. This includes blended finance models and new instruments designed specifically for RA.

Policy Redesign: Moving from compliance-based approaches toward voluntary, incentive-based frameworks that are regionally adaptive and co-designed with producers, with streamlined processes aligned to agricultural cycles.

Trust Rebuilding: Establishing transparent engagement models that respect producer autonomy and involve neutral conveners to facilitate cross-sector dialogue.

Capacity Building: Investing in agricultural literacy across financial and policy sectors while supporting producer education and peer networks.

CRITICAL SUCCESS FACTORS

- Collaborative Co-Design: Solutions must be developed with, not for, producers
- Regional Adaptation: Flexible frameworks accommodating local contexts
- Long-term Commitment: Sustained support across political and economic cycles
- Measurement and Learning: Practical systems balancing rigor with feasibility

CALL FOR ACTION

The transition to RA represents both an environmental imperative and economic opportunity requiring unprecedented collaboration. Financial institutions must develop agricultural literacy and experiment with new products. Policymakers must embrace collaborative governance and administrative efficiency. Producers must engage constructively while maintaining operational autonomy.

The knowledge and tools for success exist; what remains is collective will to pursue transformative change with the urgency our environmental and economic challenges demand. The question is not whether financial systems can support RA, but how quickly we can reshape them to make this transition possible.

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APPENDIX

Appendix 1: Farmer Perspective Thematic Domains

Thematic Domains	Thematic Categories	Themes
Land access and succession planning challenges	Escalating land costs hindering access	• Land prices restrict new farmer entry • High land costs complicate succession and farm viability • Perception gaps and ecological value disconnect affect access
	Inflexible financial services limiting viability	• Timing and delivery mismatches reduce financial product effectiveness • Rising land costs compound financial service inflexibility • Financial education and institutional knowledge gaps limit flexibility • Punitive insurance policies discourage sustainable farming practices • High collateral and interest rates impose financial burdens
	Complications in succession planning for next generation	• Lack of agricultural knowledge among succession advisors • Complexity and diversity of farming operations challenge succession solutions
Education and understanding in financial institutions	Lack of awareness of regenerative agriculture realities	• Financial sectors limited understanding of ra • Policymakers misunderstanding of farmers financial realities • Storytelling as a tool to enhance societal awareness
	Development of financial projects supporting sustainable stewardship	• Collaborative multi stakeholder approach to development • Innovative patient and flexible financial products for stewardship • Incorporating ecological goods and service payments into financial support
	Creation of insurance policies rewarding regenerative practices	• Punitive nature of current insurance policies against ra • Absence of insurance policies that financially reward ra

		• Conceptual proposals for innovative insurance metrics rewarding sustainable inputs in practices
Bureaucratic complexity and timing issues	Barriers created by grant and risk mitigation program procedures	• Funding shortages and financial risks in grant programs • Procedural complexity and administrative burden in grant applications • Bureaucratic complexity and timing mismatches in grand procedures
	Necessity for responsive and flexible financial systems	• Collective stakeholder engagement for system responsiveness • Financial education and institutional knowledge as foundations
	Importance of collaborative design aligning with farmers operational cycles	• Flexible and tailored financial products reflecting diverse form operations • Collaborative risk management through coordinated advisory teams

Appendix 2: Finance Perspective Focus Group Thematic Domains

Thematic Domains	Thematic Categories	Themes
Role of the finance sector in transition to RA	Tailored financial products and credit structures	• Producer lead and relationship driven financial product design • Data-driven collateral and specialized credit products for transition support • Holistic support systems integrating finance and technical assistance
	De-risking and incentivizing adoption of regenerative practices	• Innovative insurance and patient capital for risk sharing • Collaborative partnerships and rewards to de-risk regenerative practices
	Importance of producer-led capital design and stewardship	
Barriers and challenges to financing RA	Uncertainty and long-term profit timelines of regenerative practices	• Need for patient and blended capital to support transitions • Challenges in financial product development and data gaps
	Data gaps and measurement challenges for impact and risk	• Balancing measurement demands with producer burden and data management costs • Standardization of definitions and measurement frameworks
	Insurance limitations and risk assessment difficulties	• Climate related insurance limitations in regenerative agriculture • Actuarial model rigidity and coverage risks for innovative practices
Collaboration and ecosystem building for supporting RA	Coordination among financial institutions farmers and policy makers	
	Role of policy incentives tax credits and government support	• Blended capital and philanthropic support filling funding gaps • Government backed insurance incentives for sustainable practices • Policy as an enabler and risk mitigator for transition

	Importance of market development and supply chain integration	• Capital and financial support across supply chain stages • Localized and regional food systems for market development • Multi stakeholder collaboration and policy support from market and supply chain integration

Appendix 3: Finance Perspective Thematic Domains

Thematic Domains	Thematic Categories	Themes
Locally adapted and flexible agricultural policies	Outcome-based approaches over prescriptive mandates	• Policy flexibility and choice empower diverse farming realities • Producer autonomy drives acceptance over prescriptive mandates • Economic viability and risk reduction enable sustainable adoption
	Regional tailoring to diverse farming realities	• Flexible and inclusive policies reflecting regional farming diversity • Local adaptation and trust-based community engagement • Strengthening local delivery mechanisms for equitable support
	Meaningful consultation with producers	• Producer-driven bottom-up policy development • Inclusive engagement of diverse producer voices • Collaborative multi-channel feedback and continuous dialogue
Coordination and support systems for regenerative agriculture	Timely delivery of financial incentives and extension services	• Trusted local delivery enhances timely extension services • Administrative burdens and policy gaps delay incentive delivery • Farmer consultation and economic viability are critical for effective delivery
	Robust measurement, reporting, and verification (mrv) systems	• Baseline establishment and gap analysis for accurate adoption measurement • Verification challenges, benchmarking, and scientific measurement limitations • Stakeholder engagement, trust, and regional adaptability in mrv systems
Balanced government involvement and collaboration	Avoidance of overregulation	• Respecting producer autonomy with flexible, non-prescriptive policies • Ensuring economic viability to prevent resistance and unintended negative impacts • Mitigating risks of unintended consequences and promoting science-based policy

	Collaboration with producers and industry groups	• Building trust and relationships with producers for effective collaboration • Bottom-up policymaking centered on producer needs and voices • Addressing industry fragmentation and enhancing unified collaboration and alignment
	Building trust and celebrating existing sustainable practices	• Recognizing and celebrating existing sustainable agricultural practices • Building trust through ground-level community engagement and authentic participation • Policy support that celebrates and sustains current sustainable practices