

**Scaling Strategy for scaling improved feeds and breeds
in Kapsabet and Nairobi, Kenya**

Dec. 28, 2024

Based on Scaling Scan workshops organized by ILRI in Kapsabet and Nairobi, Kenya

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1. Purpose of report: Scaling strategy

This report is the Scaling Strategy for the innovation bundle of improved livestock breeds and feeding in Kenya. It is based on the results of two Scaling Scan workshop, held on Dec. 9, 2024 in Kapsabet and on Dec. 11, 2024 in Nairobi, Kenya.

2. Introduction to the innovation bundle

The innovation is a bundle comprising improved livestock breeds and improved feeding. Common feed interventions include improved grasses and legumes (e.g., high-yielding tropical grasses such as *Brachiaria* or *Pennisetum* species as well as high-quality legume species such as *Desmodium*), multipurpose trees that can provide a highly digestible and high-protein livestock feed and increasing the intake and nutritive value of crop residues. Other feed interventions include preserving fresh feed, filling seasonal gaps and feeding with high-quality supplements. Feed improvement interventions among smallholders include the introduction of improved grasses and legumes, the use of multipurpose trees, methods of increasing intake and the nutritive value of crop residues by physical or chemical treatment, and methods of preserving fresh feed to fill seasonal feed gaps. While pure exotic breeds have a higher yielding potential, smallholder farmers often lack the capacity to feed the animals adequately. Further, exotic breeds tend to be more susceptible to diseases. Cross breeds are, therefore, more preferred. Such innovation bundles are increasingly promoted for food systems transformation. Integrating feed and forage improvements with improved animal health and genetics has the potential to dramatically increase livestock production—by a factor of 2 or 3.

The target group of the innovation bundle is commercial livestock producers, particularly dairy farmers.

Background of innovation

A livestock feed intervention aims at changing practices to provide more or better feed, increasing livestock productivity. One way to achieve increased productivity and efficiency is through improved livestock breeds. Improved breeds can contribute to the reduction of emission intensity associated with livestock production systems by decreasing the amount of GHG emitted per kilogram of meat or milk produced. Whereas indigenous breeds may be better in converting low quality feeds, improved livestock breeds have shown potential for better feed conversion when fed adequately, hence reducing enteric emission rates. While the impact of improved breeds on GHG emissions is modest, the increase in productivity and product quality, is very significant. Furthermore, combining improved breeding with improved feeding interventions will likely contribute to substantial emissions

intensity reduction. ILRI in collaboration with national research centers have been working on both improved breeds and improved livestock feeding for decades.

Context of innovation: Main challenges and supports

a. Knowledge - science, technology and innovation

There is continuous work on genetic improvement as well as development and testing of improved livestock feeding practices. Similarly, considerable attention has been paid to understanding adoption by farmers.

b. Markets and value chains, user preferences

The dairy value chain is among the well developed in Kenya, especially in counties where dairy farming is popular. Farmers mostly sell through cooperatives. As mentioned earlier, farmers' preferences are oriented towards mixed breeds as opposed to pure breeds.

c. Policy and governance

The Kenya Climate Smart Agriculture Strategy 2017-2026 (KCSAS) was developed to ensure the food system in the country was resilient to climate risks. It aims to minimize emissions coming from the farming system for enhanced food security and improved livelihoods. The Kenya Climate Smart Agriculture Implementation Framework (KCSAIF) was developed to support the implementation of the CSA strategy. KCSAIF sets out clear actions for reducing emissions across the different subsectors including crops, livestock, fisheries, and forestry. Among the prioritized innovations include improved breeds and improved livestock feeding.

d. Finance and investments

Promotion of improved feeding and improved breeding practices to achieve greater uptake of the promising interventions requires financial investment. FAO and New Zealand Agricultural Greenhouse Gas Research Centre (2017) assessed the profitability of adopting technologies related to improved feeding and improved breeding in Kenya's dairy subsector and found that all the promising mitigation interventions were profitable. The benefit-cost ratios (BCR) for all interventions considered in the study were above one, ranging from 1.1 to 5.8 (benefits outweigh the cost if the ratio is >1). Khatri-Chhetri et al. (2021) also confirmed that investment in hay and fodder production could generate positive internal rate of return (IRR) with a payback period of about two years, demonstrating that investment in the production of improved livestock feeding offers a viable business opportunity in Kenya's dairy subsector. Kashangaki and Ericksen (2018) demonstrated that profitability could be achieved at the farm level if dairy farmers made substantial investments, increasing milk productivity by about 30%. Some fodder crops have greater

gross margins and reduce the opportunity cost of land under fodder crops. Maina et al. (2022) revealed that growing *Brachiaria* had higher gross margins than Napier grass. *Brachiaria* is considered a better climate-smart fodder crop with the potential to increase livestock productivity, improve nitrogen-use efficiency, and adapt to drought and low-fertility soils. These studies provide insights into the design and implementation of mitigation options in the dairy value chain. Kenya has a large market for dairy products.

e. Society and culture

Ericksen and Crane (2018) highlighted several barriers to uptake of technologies related to improved breeding and improved feeding in Kenya including improved forage species, improved feed blocks, production of silage from maize, improved pasture on rangelands, and artificial insemination. In the dairy subsector, cultural and intrahousehold dynamics discourage the participation of women because the financial benefits of the interventions tend to favour men, yet women continue to bear the weight of additional burdens (Tavener and Crane 2018). Direct payment to women through formal market sales and a bank account was implemented to overcome such barriers. Tavener and Crane (2018) further indicated the need for bundling direct payment with other non-financial incentives. Such initiatives can also ensure that incentives are cultural and context-specific and based on women's needs and priorities. Other social differences among women that could influence their participation comprise age, marital status, and ethnicity. Ericksen and Crane (2018) highlighted the unavailability of quality seeds as one of the barriers to adoption of improved feeding practices and suggested increased investment in the seed forage sector to overcome such barriers. The study also identified lack of quality services and perceived costs as key barriers to the uptake of artificial insemination. van Dijk et al. (2018) showed that efforts to enhance access to improved fodder such as hay could be limited by a lack of machinery, storage facilities, and poor agronomic knowledge to increase the yield and quality of hay. The study suggested that investment and development of commercial hay value chains was important to overcome the barriers to accessing hay. Radeny et al. (2022) indicates that small landholding is a major impediment to the uptake of improved livestock breeds, thereby, in practice, compromising the effect of these technologies on household food security. The study recommends "that policies and approaches aimed at promoting CSA technologies should take cognizance of such peculiarities among target groups if interventions are to deliver the anticipated impacts. For example, families may be encouraged to consolidate their pieces of land to take advantage of larger-scale operations." This conclusion is consistent with that of Lukuyu et al. (2019) who indicated that "for sustainable dairy development, the production circumstances of the farmers should be carefully considered and the capacity of farmers to adopt and adapt technologies to their systems harnessed." Among other recommended strategies include developing a decision

support tool to assist farmers select suitable niches for integrating forages in the farming system (Njarui et al. 2017), linking cooperative society members to agricultural credit lenders and providing information (Wairimu et al. 2022).

3. Results

a. Kapsabet – workshop results

Scaling ambition

Workshop participants split into five small groups for the discussions. The scaling ambitions of each group are detailed below.

Group 1

By 2027 Nandi Farmer Association (NFS) in partnership with the Ministry of Agriculture (MOA), County Government of Nandi (CGN) and financial institutions support the scaling process of improved livestock feeds ‘silage making’ from 5,000 tonnes to 25,000 tonnes for small holder farmers in Nandi County for increased milk production and low gas methane emissions.

Group 2

By 2028, the County Government of Nandi, Kaimosi ATC, Dairy Farmer Producer Organization, River Yala Water Fund and Adaptation Pioneer Farmer Knowledge Networks will support the scaling process of improving livestock breeds and feeds from an average of 5.3 litres/cow/day and improved feeds from the current 22,200 to 51,800 dairy farms in Nandi County to contribute to low emissions, increased household income, food and nutrition security.

Group 3

By 2025, international partners, national government, Ministry of Agriculture, County Government of Nandi, Universities, Research Institutions shall support feeding and breeding technologies, milk production from 5 litres/cow/day to 20 litres/cow/day for smallholder farmers to contribute to food security, farmer income and low emissions.

Group 4

By 2029, ILRI, County Government of Nandi, Ministry of Agriculture, Nandi Dairy Cooperation, ought to support the scaling process of livestock breeds and feeds from 30% of small holder dairy farmers to 50% of small holder dairy farmers to increase milk production, income and nutritional wellness.

Group 5

By 2028, ILRI, County government of Nandi, National Government, Private Sector, Farm based organizations, and financial institutions ought to support the scaling process of improving feeding and breeding technologies from 3000 small holder farmers in 2024 to 18,000 smallholder farmers in 2028 to contribute to enhanced food security and reduction of greenhouse gas emissions.

Rating the 10 scaling ingredients

Each small group rated the 10 scaling ingredients as follows:

Group 1

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Group 3

RATING	Technolog	Awarenes	Business	Value Ch	Finance	Knowled	Collabor	Evidence	Leadersh	Public Se
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Group 4

RATING	Technolog	Awarenes	Business	Value Ch	Finance	Knowled	Collabor	Evidence	Leadersh	Public Se
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Group 5

RATING	Technology	Awareness	Business Model	Value Chain	Finance	Knowledge	Collaboration	Evidence	Leadership	Public Sector
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Scaling strategies per ingredient (joint discussions)

TECHNOLOGY

1. Priority Value Chain

Significance: Designating dairy farming as a high-priority value chain means it becomes a focal point for investments, policies, and interventions. This ensures that resources—both financial and technical—are strategically directed to strengthen the sector.

Implications:

Resource Allocation: Governments and stakeholders prioritize dairy farming for funding, research, and capacity-building initiatives. For instance, extension services may focus on providing dairy-specific training.

Policy Support: Policies are crafted to address challenges like feed availability, veterinary services, and infrastructure development in the dairy sector.

Impact: A well-developed dairy value chain not only enhances milk production but also improves rural livelihoods and food security, particularly in regions dependent on livestock for income.

Example: Countries like Kenya and India have prioritized dairy farming, resulting in thriving cooperatives like Amul in India or the Kenya Dairy Board facilitating improvements across the value chain.

2. Market Access

Role of Technology: Leveraging technology transforms how dairy farmers connect with markets. Digital platforms, mobile apps, and e-commerce solutions help farmers access larger and more diversified markets.

Market Expansion: Farmers can sell their produce beyond local markets, ensuring better pricing and reduced dependence on middlemen. For example, a digital marketplace might connect rural dairy farmers directly with urban retailers.

Real-Time Data: Platforms provide price trends, demand forecasts, and market information, empowering farmers to make informed decisions about when and where to sell.

Impact: Improved market access leads to reduced post-harvest losses, better price negotiations, and enhanced incomes for farmers. It also fosters competition, improving overall market efficiency.

Example: Apps like M-Farm in Kenya or E-Choupal in India enable smallholder farmers to bypass intermediaries, enhancing profitability.

3. Income Generation

Technological Innovations: Tools like automated feeding systems, milk processing equipment, or cold storage facilities significantly improve the efficiency and profitability of dairy farming.

Efficiency Gains: Automated feeding systems ensure optimal feed use, reducing waste and improving milk yields. Similarly, milk processing equipment enables farmers to add value by producing cheese, yogurt, or butter.

Diversification: Processing milk into high-value products allows farmers to diversify income streams, shielding them from market price fluctuations of raw milk.

Economic Benefits: Technological tools reduce operational costs while increasing production and quality, which translates into higher profits. For instance, a farmer using milk cooling tanks can store milk longer, accessing better prices in markets farther from the farm.

By prioritizing dairy farming as a value chain, leveraging market access technologies, and adopting efficiency-enhancing tools, the sector can achieve significant growth. These strategies ensure better income generation for farmers, improve resource utilization, and create a robust ecosystem that supports both smallholder and commercial dairy producers.

AWARENESS/DEMAND

Evidence from Ongoing Projects: Highlighting tangible results and success stories from ongoing projects demonstrates the effectiveness of modern practices. This evidence builds credibility, reassures stakeholders, and motivates others to adopt similar approaches.

Model Farmers/Lead Farmers: Showcasing the achievements of exemplary farmers serves as a powerful demonstration of success. These role models inspire trust and encourage peer adoption by providing practical, relatable examples of innovative practices in action.

NGO and Private Sector Promotion: Collaborations with NGOs and private sector partners enhance the reach and impact of agricultural initiatives. These partnerships provide funding, technical support, and advocacy, driving widespread adoption of modern practices.

Farmer-to-Farmer Social Learning: Establishing peer learning networks encourages farmers to share experiences and insights with one another. This grassroots approach fosters trust, strengthens knowledge exchange, and creates a strong demand for innovative and sustainable practices.

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BUSINESS CASES

Existing Cases

Current Landscape: Some stakeholders in the agricultural or livestock sectors have successfully developed business models showcasing innovation and potential profitability. These could include dairy cooperatives, small-scale processors, or technology-driven solutions for feed production.

Scalability Issues:

Adoption Gaps: Despite their potential, these business cases often face resistance or slow uptake from broader communities due to lack of awareness, capacity, or infrastructure.

Resource Constraints: Limited access to financing, technology, or skilled labor prevents these cases from scaling to larger regions or different contexts.

Impact: While these cases demonstrate feasibility and success, their influence is often localized, failing to achieve widespread adoption or address systemic issues.

2. Challenges in Regulation and Commercialization

Overregulation:

Complex Processes: Stringent licensing requirements, bureaucratic delays, and multiple regulatory bodies can hinder startups and small enterprises from entering or expanding in the market.

High Costs: Overregulation often adds costs for compliance, making it harder for small businesses to compete with larger, established firms.

Low Quality Control:

Market Trust: Inadequate quality control mechanisms lead to inconsistent product standards, undermining consumer trust and reducing demand for locally produced goods.

Export Barriers: Low-quality standards may also prevent producers from accessing premium markets, both domestically and internationally.

Impact: Together, overregulation and poor-quality control create a challenging business environment, stifling innovation and reducing the competitiveness of local enterprises.

3. Service Provider Linkages

Role of Linkages:

Input Access: Farmers and entrepreneurs need affordable and reliable access to inputs such as high-quality seeds, feeds, or veterinary products to sustain and grow their operations.

Advisory Services: Linkages to training and extension services are critical for building the capacity of stakeholders to adopt and implement new technologies or practices.

Market Integration: Connecting producers to markets ensures that their products reach consumers efficiently, maximizing profitability and minimizing waste.

Barriers to Linkages:

Fragmentation: The absence of cohesive networks or platforms to connect stakeholders often leaves gaps in service provision, limiting business sustainability.

Lack of Incentives: Service providers may lack the motivation or resources to establish strong relationships with smaller players, focusing instead on larger, more profitable clients.

Impact: Without strong linkages, business cases struggle to sustain themselves, as gaps in inputs, expertise, and markets undermine their operations.

While existing business cases showcase potential, challenges like overregulation, poor quality control, and inadequate linkages hinder their scalability and long-term sustainability. Addressing these issues requires targeted efforts to simplify regulations, enforce quality standards, and create robust networks connecting service providers with end users. This will help transform promising initiatives into large-scale, impactful solutions.

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VALUE CHAIN

1, Evidence from Other Organizations

Learning from Success:

Established organizations, such as international development agencies or successful agribusiness models, often have value chain systems that are well-tested and scalable.

These models can provide critical insights into what works and what doesn't, from logistics to market access strategies.

Replication Potential:

Lessons from these organizations can be adapted to local contexts to strengthen dairy operations. For instance, efficient milk collection networks or advanced cooling technologies developed elsewhere can serve as blueprints for new projects.

Challenges in Adaptation:

Not all lessons can be seamlessly applied due to variations in cultural, economic, and geographic conditions. For example, logistical solutions from one region may not work in areas with poor road infrastructure.

2. Dairy Cooperatives

Empowerment through Cooperation:

By pooling resources, dairy cooperatives allow smallholder farmers to overcome individual limitations, such as lack of equipment or market access.

Economies of scale achieved through cooperatives lower costs for inputs like feed or veterinary services, benefiting members.

Improved Bargaining Power:

Cooperatives negotiate better prices for milk by selling in bulk to large buyers or processors, rather than individual farmers being subject to unfavorable terms.

Additional Benefits:

They often provide training, technical support, and access to credit, which further improve productivity and income.

3. Private Sector

Innovation and Investment:

Private firms bring advanced technologies, such as automated milking machines or digital record-keeping systems, which improve productivity and efficiency in dairy operations.

They often invest in infrastructure like milk processing plants and cold storage, enabling producers to maintain product quality and enter higher-value markets.

Expanded Market Access:

With private sector involvement, dairy farmers gain access to broader markets, including exports, which drive higher revenues.

Public-Private Partnerships (PPPs):

Collaborations between governments and private entities can result in targeted investments, such as rural milk collection centers or transport networks.

4. Financial Actors

Access to Credit:

Financial institutions such as banks and microfinance organizations enable dairy farmers to invest in high-quality inputs, advanced equipment, and improved breeds by offering loans or credit lines.

Financial Products Tailored for Farmers:

Products like seasonal loans or livestock insurance cater specifically to the unique cash flow cycles and risks faced by dairy farmers.

Collaboration Benefits:

Partnerships between financial institutions and other stakeholders, such as cooperatives or NGOs, ensure farmers receive the support they need to successfully utilize credit.

Challenges:

Farmers often face high interest rates, lack of collateral, and low financial literacy, which limits their ability to access and benefit from financial services.

FINANCE

Inadequate Financial Products: The lack of tailored financial products, such as flexible loans and savings schemes designed to meet the unique needs of farmers, hinders their ability to invest in scaling initiatives. Developing customized financial solutions can unlock opportunities for growth.

Credit Phobia: Many farmers are reluctant to take loans due to fears of defaulting, often stemming from unpredictable income patterns caused by factors like seasonal variations or market volatility. Addressing these concerns requires building trust and providing risk-mitigation mechanisms.

Low Financial Literacy: A significant barrier to effective financial inclusion is limited knowledge about financial management, loan usage, and repayment strategies. Providing targeted financial education can empower farmers to make informed decisions and confidently engage with financial services.

Collateral Issues: Traditional loan structures often require tangible assets as collateral, which many farmers lack. Innovative financing models, such as group guarantees or community-based lending, can address this challenge and improve access to credit.

Affordability: Financial products must be affordable and offer flexible terms to meet the needs of farmers. Reducing interest rates, offering longer repayment periods, and incorporating income-linked repayment schedules can enhance accessibility and usage.

KNOWLEDGE AND SKILLS

Available Extension Channels: Multisectoral extension services, including government advisors and private consultants, are valuable but often underutilized resources. Leveraging these channels can provide farmers with expert guidance and support, bridging knowledge gaps and enhancing their productivity.

Farmer-to-Farmer Learning: Peer-led training initiatives promote the exchange of practical, relatable, and localized knowledge. By learning from one another's experiences, farmers can adopt proven practices that are well-suited to their specific contexts and challenges.

Digital Media (Radio, Internet): Accessible communication platforms like radio and internet-based tools play a vital role in spreading knowledge widely and efficiently. These mediums enable farmers to access up-to-date information, best practices, and innovations, even in remote areas.

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COLLABORATION

1, Siloed Stakeholders

Lack of Coordination:

Many stakeholders in agricultural or resource management sectors, including government agencies, NGOs, private companies, and local communities, operate independently without clear communication or collaboration frameworks.

This isolation results in fragmented efforts where projects may compete rather than complement each other, leading to inefficiencies and missed opportunities for synergy.

Impact of Siloed Operations:

Stakeholders may end up addressing the same issues differently, or worse, creating conflicting interventions that confuse beneficiaries.

For example, two organizations might simultaneously promote different types of livestock feed without considering the compatibility or needs of the farming community, resulting in resource wastage and suboptimal adoption rates.

Solution: Unified Strategy:

Developing a shared vision and strategy ensures that stakeholders' efforts are aligned. A coordinated approach can help prioritize issues, allocate resources more effectively, and avoid duplication.

Frameworks like multi-stakeholder platforms (MSPs) or public-private partnerships (PPPs) can foster collaboration, improve accountability, and ensure that interventions are complementary.

2. Repetition and Replication

Overlapping Initiatives:

Stakeholders often replicate similar programs without leveraging existing efforts, which results in a redundancy of resources and activities.

For instance, multiple organizations may conduct training workshops on best farming practices in the same area without consolidating efforts, leading to participant fatigue and resource wastage.

Resource Wastage:

Repetition often involves re-spending on areas already addressed, such as creating awareness campaigns or deploying technologies that have been previously piloted or implemented.

This redundancy not only squanders financial and human resources but also dilutes the overall impact of interventions.

Collaboration Frameworks for Efficiency:

A well-defined collaboration framework would help identify existing projects, prevent overlapping, and allow stakeholders to share resources and expertise.

For example, a centralized database of ongoing projects could enable organizations to identify gaps rather than repeating already-completed work.

Improved Impact through Collaboration:

Coordination can amplify impact by consolidating similar initiatives into a larger, more impactful program. For instance, if two organizations focus on water management in agriculture, combining their efforts could cover a wider geographical area or address different aspects of water conservation.

EVIDENCE/LEARNING

1, Model Farms

Definition and Role:

Model farms are demonstration farms that showcase successful agricultural practices, technologies, or innovations. They act as living laboratories where farmers and stakeholders can see real-world applications of scaling strategies in action.

Proof-of-Concept:

These farms provide tangible evidence that specific farming techniques, technologies, or value chain improvements are effective and can deliver the desired outcomes, such as increased productivity, better resource use, or reduced emissions.

For example, a model dairy farm demonstrating the benefits of improved feed and breed management can inspire local farmers to adopt similar practices.

Inspiration and Guidance:

By offering a hands-on learning experience, model farms inspire other farmers by showing them the practical steps to achieve success. They also provide guidance on overcoming challenges, such as dealing with pests, managing soil health, or adopting new technologies.

They build farmer confidence by reducing the perceived risks of innovation, as farmers can directly observe the benefits before committing to changes.

Scaling Impact:

When integrated into extension services or farmer training programs, model farms can catalyze widespread adoption of proven techniques. For instance, model farms showcasing crop-livestock integration can promote sustainable practices across farming communities.

2. Ongoing Projects

Documentation of Learnings:

Existing agricultural or livestock management projects offer valuable insights into what works and what doesn't. These documented learnings help refine strategies and identify best practices for scalability.

For example, a pilot project on zero-grazing dairy systems might reveal insights about feed availability, labor requirements, and infrastructure needs, which can be used to fine-tune similar future projects.

Practical Methods for Scalability:

Ongoing projects provide tested methodologies that can be adapted and scaled across different regions or farming systems. These projects often uncover bottlenecks, success factors, and resource requirements, which help design effective scaling strategies.

For instance, a project focusing on group-based access to financial services for smallholder farmers might highlight the importance of trust-building and financial literacy training as prerequisites for success.

Building a Repository of Evidence:

When well-documented, the outcomes and processes of ongoing projects contribute to a repository of evidence, enabling policymakers, researchers, and practitioners to make data-driven decisions about scaling interventions.

Examples of Scalability:

Projects introducing high-yield crop varieties may include insights about their compatibility with local soil types, climatic conditions, and market demand, helping guide similar introductions elsewhere.

A dairy initiative improving milk quality through better handling practices may demonstrate practical steps to enhance supply chain efficiency.

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LEADERSHIP/MANAGEMENT

Policy Development: The enactment of by-laws is essential for fostering accountability among stakeholders. These regulations provide a clear framework for operational practices, ensuring transparency and consistency. By formalizing such policies, dairy management systems are better equipped to support long-term sustainability, balancing growth with environmental and economic considerations.

Governance Structures: Robust governance frameworks are crucial for effective dairy management. They facilitate informed decision-making, ensuring that all stakeholders have a voice in the process. These structures also promote equitable allocation of resources, addressing the diverse needs within the community. Additionally, they play a pivotal role in conflict resolution, providing mechanisms to address disputes and maintain harmony among stakeholders.

PUBLIC SECTOR

Policies in Place but Not Implemented: While relevant policies may already exist, their potential remains untapped due to a lack of proactive enforcement. Bridging the gap between policy creation and implementation is essential to achieve the intended outcomes and drive meaningful progress in the sector.

Awareness Creation: Educating farmers about existing policies is crucial for fostering understanding, compliance, and active participation. By increasing awareness, farmers are more likely to embrace these policies, enabling them to contribute effectively to scaling initiatives and ensuring collective success.

b. Nairobi – workshop results

The scaling ambition

The scaling ambition, defined by participants in the Nairobi workshop, is:

“By 2029, the Ministry of Agriculture, private sector, financial institutions, research institutions, county governments, farmer organizations, and farmers, shall support the scaling process of improved feeds and breeds from the level now to a 30% increase for extensive and intensive producers to contribute to reducing emissions from livestock, increase production of livestock products, economic empowerment and increased profitability.”

Rating the 10 scaling ingredients

The 10 scaling ingredients were rated as follows by each participant of the Nairobi workshop:

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Scaling strategies per ingredient (joint discussions)

Barriers to Adoption of Improved Feeds and Breeds Among Pastoralists

1. Literacy as a Barrier

- o Many pastoralists face challenges in accessing and understanding the technical information required to adopt innovative agricultural practices. Low literacy rates make it difficult to comprehend the benefits, application methods, and potential outcomes of improved feeds and breeds.

- o For example, technical manuals, guidelines, or training sessions that are heavily text-based or use complex terminologies might not resonate with pastoralists who rely more on oral traditions and experiential learning.

- o Addressing this barrier requires developing context-specific communication strategies, such as using visual aids, vernacular language, and peer-to-peer learning methods to ensure inclusivity.

2. Awareness Without Adoption

- o Even when farmers and pastoralists are aware of innovations, there may still be hesitancy to adopt them due to perceived risks, lack of trust in the effectiveness of the technology, or skepticism about long-term benefits.

- o This phenomenon often stems from a lack of demonstrable success stories within their community. Farmers may be unwilling to invest resources without seeing proven results that align with their unique conditions and experiences.

- o To overcome this, extension services can focus on creating pilot projects and model farms to showcase the tangible benefits of improved feeds and breeds in similar settings.

3. High Costs as a Barrier

- o The financial implications of adopting improved feeds and breeds can be a significant hurdle for pastoralists, many of whom operate on tight budgets and face unpredictable incomes.

- o The costs of purchasing high-quality breeds, specialized feed, and maintaining the necessary infrastructure (e.g., storage or feeding systems) can discourage adoption, especially when the return on investment is not immediate.

- o Subsidies, affordable credit options, or cooperative purchasing models could help alleviate this financial burden, making the transition more accessible.

4. Incentives for Adoption

- o Adoption of improved feeds and breeds is more likely when there are clear and direct incentives that align with pastoralists' goals, such as increased income, reduced labor, or enhanced herd resilience.

- o Incentives can take various forms, such as financial support (grants or subsidies), technical assistance, or guaranteed market access for the products derived from improved breeds.

- o Combining education with tangible benefits—such as linking improved practices to better market prices or insurance schemes—creates a more compelling case for adoption. Additionally, working with community leaders and influencers to champion the practices can encourage widespread acceptance.

Awareness and Demand in the Context of Emissions and Sustainable Farming Practices

1. Farmers Have a Low Awareness of Emissions

- o Many farmers, particularly smallholders and pastoralists, have limited understanding of greenhouse gas (GHG) emissions and their contribution to climate change. Emissions from livestock, such as methane from enteric fermentation or nitrous oxide from manure management, are often viewed as abstract or irrelevant issues compared to immediate concerns like herd health or market access.

- o This lack of awareness is partly due to limited outreach and education on environmental sustainability at the grassroots level. Extension programs often prioritize productivity and income generation, leaving climate-related education underemphasized.

- o To address this, tailored awareness campaigns using simplified, relatable language and examples relevant to farmers' contexts can help bridge the knowledge gap. For instance, explaining how emissions reductions can lead to cost savings or improved health may resonate more effectively.

2. Other Stakeholders Are More Aware Than Farmers

- o Stakeholders such as policymakers, researchers, non-governmental organizations (NGOs), and private sector actors often have a much deeper understanding of emissions issues and their implications. These stakeholders tend to prioritize emissions reduction in

their strategies and interventions but may lack effective channels to communicate this priority to farmers.

- o The disconnect between stakeholders' priorities and farmers' immediate concerns can create a gap in the adoption of sustainable practices. For example, while a policy might mandate emission reduction targets, farmers may not see how these align with their day-to-day operations.

- o Bridging this gap requires collaborative platforms where farmers can engage with these stakeholders in participatory dialogues. This ensures that interventions are designed in ways that integrate emissions reduction with farmers' primary goals, such as productivity and profitability.

3. Farmers Are More Interested in Increased Productivity for Feeds and Breeds Before Thinking About Emissions

- o Farmers prioritize tangible and immediate benefits like increased milk yield, faster growth rates, and better disease resistance in livestock. Improved feeds and breeds are viewed as tools to enhance productivity and income, which are pressing concerns. Emissions reduction, on the other hand, is often seen as a secondary or unrelated issue.

- o For instance, a farmer may adopt high-yielding feed varieties or improved livestock breeds because of the promise of higher profits but may not consider how these changes impact emissions until explicitly shown. This focus on productivity reflects the economic pressures many farmers face, especially in developing regions where resources are scarce.

- o To align emissions reduction with productivity goals, interventions can emphasize co-benefits. For example, better-quality feeds can reduce methane emissions while simultaneously improving livestock productivity. Highlighting these dual benefits through demonstration projects or economic modeling can make emissions reduction more appealing and relevant to farmers.

Business Cases in Sustainable Livestock and Agricultural Practices

1. Conservation + Cultural Value of Breeds Should Be Paid Attention To

- o Significance of Indigenous Breeds: Many local or indigenous livestock breeds hold significant cultural and historical value for farming communities. These breeds are often better adapted to local environments, resilient to harsh conditions, and integral to the traditions and identity of pastoralist communities.

- o **Overlooking Conservation:** The focus on improving productivity through exotic or crossbreeds may lead to the loss of these indigenous breeds. Such losses are not just biological but cultural, as these breeds often represent generations of accumulated knowledge about animal husbandry and resource management in specific ecosystems.

- o **Integration of Conservation into Business Models:** To address this, business cases should integrate conservation strategies that highlight the economic, ecological, and cultural importance of indigenous breeds. For instance, promoting niche markets for products derived from indigenous breeds, such as organic or sustainably raised meat and dairy, can create economic incentives for their preservation.

- o **Financial Support for Conservation:** Governments and NGOs can provide financial support or subsidies for breeding programs that emphasize both productivity and conservation. Additionally, showcasing the resilience of indigenous breeds in the face of climate change can further their value proposition.

2. Inadequate Successful Business Cases to Demonstrate the Innovative Approaches

- o **Lack of Practical Examples:** Many farmers are reluctant to adopt new approaches, such as improved feeds or sustainable practices, because there are few visible and credible examples of success. Business cases demonstrating the financial viability, scalability, and sustainability of such innovations are often missing or not well-disseminated.

- o **Farmers Need Proof of Concept:** Without tangible examples of economic benefits, such as increased income or reduced costs, farmers remain skeptical about investing time and resources into unproven methods. For instance, while improved feed may promise better livestock productivity, farmers may hesitate if they cannot see clear evidence of its cost-effectiveness.

- o **Building and Sharing Business Models:** Developing comprehensive business cases that include detailed cost-benefit analyses, success stories, and testimonials from early adopters can address these concerns. For example, a dairy cooperative successfully using improved feed to increase milk yields and reduce methane emissions could serve as a model for replication.

- o **Engaging Stakeholders:** Collaborating with private sector actors, NGOs, and financial institutions can strengthen the development and promotion of these business cases. Public-private partnerships (PPPs) can also help scale proven approaches and make them accessible to more farmers.

- o Demonstration Farms and Pilot Projects: Establishing demonstration farms or pilot projects to test and showcase innovative practices is another way to build trust and confidence among farmers. These initiatives can illustrate not only the economic viability of such practices but also their alignment with environmental and cultural values.

Livestock Value Chains

1. The Livestock Value Chain is Quite Well-Developed

- Progress in Infrastructure and Systems: The livestock value chain includes activities like breeding, feeding, production, processing, distribution, and marketing. In many regions, this chain is established and includes both traditional and commercial practices. For instance, pastoralist communities and commercial livestock farms are interconnected with markets for meat, milk, hides, and by-products.
- Challenges Despite Development: While the framework exists, inefficiencies remain. These may include outdated production techniques, limited integration of modern technologies, or insufficient support systems for smallholder farmers and pastoralists.
- Improvement Opportunities: Leveraging the existing structure to incorporate innovative solutions such as improved breeding practices, digitized market platforms, and enhanced feed systems can significantly boost efficiency and profitability across the chain.

2. Dairy Value Chains Are Well-Organized, but Linkages Between Actors Are Weak or Non-Existent

- Role of Dairy Cooperatives and Private Processors: Dairy value chains often involve structured entities such as cooperatives, milk collection centers, and private processors. These actors work independently and have localized successes.
- Weak or Missing Linkages: Many stakeholders in the value chain lack coordination. For instance, farmers producing milk might not have direct access to processors or knowledge of market demand. Similarly, processors may face difficulties sourcing raw milk consistently due to fragmented supply networks.
- Impact of Weak Coordination: This disconnects leads to inefficiencies, such as milk spoilage due to delayed transportation, underutilized processing capacity, or farmers receiving low prices for their products.
- Solutions for Stronger Linkages:
 - o Establishing digital platforms to connect farmers, processors, and markets.

- o Strengthening cooperatives to negotiate better prices and supply terms.
- o Providing logistical support, such as refrigerated transport, to improve efficiency in milk collection and delivery.

3. Policies for Value Chains (e.g., Cross-Borders) Are Lacking

- Challenges in Cross-Border Trade: Livestock and dairy products are often traded across borders, but the absence of clear policies creates barriers such as:
 - o Trade Restrictions: Unclear import/export requirements can disrupt trade flows.
 - o Health and Safety Concerns: Inconsistent animal health certifications and standards can lead to bans or disputes between trading partners.
 - o Taxation and Tariffs: Unpredictable tax regimes or tariffs may discourage cross-border transactions.
- Policy Gaps: Governments often lack comprehensive frameworks to streamline these issues, leaving stakeholders to navigate complex and inconsistent regulations.
- Potential Interventions:
 - o Developing harmonized regional policies for livestock trade.
 - o Strengthening border inspection and certification systems.
 - o Encouraging trade agreements that support livestock and dairy product movement across borders.

4. Quality Standards Are Missing (e.g., Storage Facilities, etc.)

- Importance of Quality Standards: Ensuring the quality of livestock and dairy products is critical for maintaining market trust and consumer safety. Quality standards include proper handling, processing, and storage facilities to preserve product integrity.
- Gaps in the Value Chain:
 - o Storage: Inadequate cold chain infrastructure, such as refrigerated storage and transport, often leads to spoilage, especially for perishable dairy products.
 - o Processing: Lack of standardized processing methods can result in inconsistent product quality.
 - o Health and Safety: Weak enforcement of safety regulations can expose consumers to risks and undermine market competitiveness.

- Recommended Interventions:
 - o Investing in cold chain logistics and storage infrastructure.
 - o Establishing and enforcing quality certification schemes for dairy and meat products.
 - o Training stakeholders in best practices in hygiene, handling, and processing.

Summary

The livestock and dairy value chains have significant potential but are hindered by weak actor linkages, missing policies, and insufficient quality standards. Addressing these challenges through targeted interventions—such as policy harmonization, infrastructure investment, and improved coordination—can unlock the value chain's full potential, benefiting all stakeholders from producers to consumers.

Finance in Agriculture for Farmers

1. Mechanisms for Financing Farmers' Businesses Are Available More Recently Than Before

- **Emerging Financing Tools:** Over the past decade, various financing mechanisms have emerged to support farmers, such as microfinance institutions, cooperative societies, and agribusiness loans. Mobile-based financial services like M-Pesa in Kenya and similar platforms elsewhere have made transactions and credit access more seamless.
- **Innovative Financing Models:** Programs like value-chain financing, where input suppliers or buyers provide credit, have become popular. Additionally, government-backed credit schemes and partnerships with NGOs aim to reduce barriers for small-scale farmers.

2. Insurance Packages Exist for Farmers

- **Risk Mitigation Through Insurance:** Insurance products tailored to agriculture, such as index-based livestock insurance and crop insurance, have been introduced to help farmers manage risks like drought, floods, or diseases. For example, initiatives like the Index-Based Livestock Insurance (IBLI) in Kenya offer coverage based on weather data and satellite imagery.
- **Challenges in Uptake:** Despite their availability, the adoption rate remains low due to factors such as:
 - o Lack of awareness or understanding of how insurance works.

- o Mistrust of insurance providers is based on past negative experiences.
- o Premiums for smallholder farmers.

3. Banks Are Not Completely Willing to Finance Farmers Due to Collateral Issues

- Collateral Challenges: Banks often require substantial collateral, such as land titles or other tangible assets, which many smallholder farmers lack. The absence of formal land ownership in rural areas exacerbates this issue.
- High Perceived Risk: Agriculture is seen as a high-risk sector due to its vulnerability to climate shocks, market fluctuations, and pests, making banks reluctant to lend without significant guarantees.
- Potential Solutions:
 - o Use of alternative forms of collateral, such as group guarantees or warehouse receipts.
 - o Encouraging banks to develop specialized agricultural lending units with better risk assessment tools.

4. Many Farmers Also Don't Understand How Credit Works

- Lack of Financial Literacy: Farmers often have limited understanding of credit terms, repayment schedules, and interest rates. This can lead to fear of borrowing or defaulting on loans.
- Mistrust of Lenders: Miscommunication or lack of transparency by financial institutions further discourages farmers from seeking credit.
- Interventions for Improvement:
 - o Financial literacy training tailored to farmers' contexts.
 - o Simplified loan products with clear and transparent terms.

5. Financing Is Not Very Accessible or Affordable for Farmers

- Accessibility Issues: Farmers in remote areas often lack physical access to financial institutions or digital platforms. Additionally, lengthy loan approval processes discourage them from applying.
- High Costs: The interest rates on loans, coupled with processing fees and hidden charges, make borrowing prohibitively expensive for many farmers.
- Reducing Barriers:

- o Encouraging low-interest loans or subsidized credit schemes.
- o Increasing the penetration of digital financial services in rural areas.

6. Low Financing Literacy for Farmers

- Knowledge Gaps: Farmers may not understand financial concepts like budgeting, loan repayment schedules, or the benefits of saving and investing. This gap limits their ability to make informed financial decisions.
- Education and Outreach:
 - o Conducting targeted financial literacy campaigns using farmer-friendly methods, such as radio programs or community workshops.
 - o Partnering with cooperatives and NGOs to embed financial literacy in agricultural training programs.

7. Farmers Fear Credit

- Fear of Debt: Many farmers associate credit with financial ruin due to previous negative experiences or witnessing defaults within their communities. This fear is reinforced by the perceived unpredictability of agriculture, which makes repayment seem risky.
- Building Confidence:
 - o Offering flexible repayment terms aligned with harvest cycles or market prices.
 - o Establishing trust through consistent, transparent engagement by lenders.

Summary

Access to finance remains a significant challenge for farmers, despite recent advancements in financial products and services. Addressing barriers such as collateral requirements, low financial literacy, and the high cost of borrowing requires a multi-faceted approach. This includes targeted education, innovative financing models, and improved lender-farmer communication to build trust and foster an environment where farmers can access the financial tools, they need to grow their businesses sustainably.

Knowledge and Skills

1. Relates to Synergies Among Stakeholders

- **Multi-Stakeholder Involvement:** Knowledge in the agricultural sector comes from a variety of sources, including research institutions, universities, NGOs, private companies, and government bodies. However, coordination among these stakeholders is often weak.
- **Missed Opportunities for Collaboration:** Without effective collaboration, valuable research and innovations do not reach farmers. For example, agricultural research conducted by universities may remain in academic journals rather than being translated into actionable guidance for farmers.
- **Improving Synergies:**
 - o Establishing multi-stakeholder platforms to share knowledge and coordinate efforts.
 - o Fostering partnerships between extension services, private sector players, and local farmer groups to bridge gaps in knowledge dissemination.

2. Knowledge Is There, but Not in a Form That Is Easily Accessible and Usable by Farmers

- **Complexity of Research Outputs:** Research findings are often presented in technical language, making it difficult for farmers to understand and apply them to their specific needs.
- **Lack of Contextualization:** Farmers need information tailored to their specific crops, climate conditions, and cultural practices. For example, a general manual on pest control may not be relevant to a specific pest issue in a local context.
- **Solutions for Accessibility:**
 - o Translating technical knowledge into farmer-friendly formats such as visual guides, simplified manuals, or video tutorials.
 - o Using local languages and culturally relevant examples to make information more relatable.
 - o Leveraging digital platforms and mobile technology to deliver tailored information directly to farmers.

3. Farming Is Based on Unskilled Labour, and Knowledge Does Not Trickle Down

- **Reliance on Unskilled Labor:** Many small-scale farms depend on family labor or seasonal workers who lack formal training in modern agricultural techniques. As a result, productivity and efficiency remain low.
- **Challenges in Knowledge Transfer:**

- o Extension services may focus on farm owners or cooperatives, overlooking field workers who carry out day-to-day farming activities.
- o Knowledge gaps at the labor level often mean that even if farm owners are trained, the benefits of new techniques are not fully realized.
- Addressing the Gap:
 - o Conducting hands-on training sessions for both farm owners and laborers.
 - o Partnering with cooperatives or community groups to create peer-to-peer learning opportunities.
 - o Embedding knowledge-sharing practices in farming operations, such as routine skill-building workshops.

4. Knowledge Is There, Just Needs to Be Packaged and Disseminated Better to the End Users

- Abundance of Knowledge: Research institutions and agricultural experts have generated a wealth of information on improving productivity, reducing emissions, and adopting sustainable practices. However, much of this knowledge is underutilized because of poor dissemination strategies.
- Dissemination Challenges:
 - o Over-reliance on traditional methods like extension officers, which may not cover all regions adequately.
 - o Limited use of innovative technologies like apps, SMS platforms, or radio programs, which could reach a larger audience.
- Strategies for Better Dissemination:
 - o Creating multimedia content, including videos, infographics, and animations, to illustrate farming techniques.
 - o Engaging local champions or model farmers to demonstrate new practices and serve as peer educators.
 - o Partnering with local media outlets to broadcast agricultural knowledge through radio and television.

Summary

While knowledge and skills exist within the agricultural sector, challenges in accessibility, packaging, and dissemination limit their impact on farming practices. By improving synergies among stakeholders, simplifying and contextualizing knowledge, and ensuring it trickles down to all levels of farm labor, the agricultural sector can better equip farmers with the tools they need to succeed. Innovative and localized approaches to knowledge-sharing can ensure that farmers fully benefit from advancements in agricultural research and technology.

Collaboration

1. Dependence on Donor Money, Not on How Much Farmers Benefit

- **Heavy Reliance on External Funding:** Many agricultural initiatives and collaborations are donor-driven, which often shifts the focus away from farmers' real needs. Donor agendas may prioritize measurable outcomes like the number of workshops or reports produced rather than tangible, long-term benefits to farmers.
- **Short-Term Goals:** Donor funding typically operates on fixed timelines, leading to projects designed for quick results rather than sustainable improvements. For instance, a donor-funded training program might end before farmers fully integrated the practices into their farming operations.
- **Refocusing Efforts:**
 - o Design projects with farmers' needs as the central objective, ensuring alignment with local contexts.
 - o Advocate for flexible funding that allows adaptive management based on farmer feedback and long-term impact assessment.

2. Large Collaboration Gaps

- **Disconnect Between Stakeholders:** Many organizations, including NGOs, government bodies, private sector entities, and research institutions, work independently, leading to duplication of efforts and inefficiencies. For example, multiple organizations may run similar training programs in the same region without coordinating their efforts.
- **Limited Communication:** Poor communication between stakeholders results in fragmented efforts and missed opportunities to leverage each other's strengths.
- **Bridging the Gaps:**

- o Establish multi-stakeholder platforms that bring together all relevant parties to discuss shared goals and coordinate activities.
- o Encourage joint planning and implementation of projects to maximize resources and avoid overlapping.

3. Needs to Be Farmer-Focused Research

- **Research Driven by Donor or Institutional Interests:** Often, agricultural research is conducted to fulfill academic or donor requirements, with limited applicability to farmers' practical needs. For instance, studies on high-yield crop varieties may not consider local soil conditions or water availability.
- **Lack of Farmer Involvement:** Farmers are rarely consulted during the design of research projects, leading to outputs that are irrelevant or impractical for them.
- **Making Research Farmer-Centric:**
 - o Involve farmers in the research process from the beginning, ensuring their voices shape research priorities.
 - o Focus on participatory research methods where farmers and researchers co-develop solutions.
 - o Translate research findings into actionable, farmer-friendly recommendations.

4. Collaborations Exist Between Institutions, but the Link to Farmers Is Too Weak

- **Weak Extension Systems:** Even when research institutions and organizations collaborate, the results often do not reach the farmers due to underfunded or inefficient agricultural extension services.
- **Limited Farmer Representation:** Farmers are not adequately represented in decision-making processes, creating a gap between institutional objectives and farmer realities.
- **Strengthening Links to Farmers:**
 - o Build stronger extension services that act as a bridge between institutions and farmers.
 - o Create farmer advisory committees to ensure that collaborations address their specific needs.
 - o Leverage digital tools like mobile apps to provide farmers with direct access to information and services.

5. Collaborations Happen in Silos, Not Across Value Chains

- **Lack of Holistic Approaches:** Stakeholders tend to focus on specific segments of the value chain (e.g., production or marketing) rather than addressing the entire value chain comprehensively. For example, a project may focus on improving crop yields without addressing post-harvest storage or market access.
- **Missed Opportunities:** The lack of cross-value-chain collaboration means that solutions are partial and often fail to address systemic challenges like supply chain inefficiencies or quality standards.
- **Promoting Integrated Approaches:**
 - o Encourage value chain analysis during project planning to identify critical gaps and areas for collaboration.
 - o Foster partnerships that link production, processing, and marketing stakeholders to create a seamless value chain.

6. Lack of Market Services for Farmers

- **Market Information Gaps:** Farmers often lack access to timely and reliable market information, making it difficult to make informed decisions about where and when to sell their produce.
- **Limited Access to Buyers:** Farmers struggle to connect with reliable buyers, leading to exploitation by middlemen or unsold produce.
- **Improving Market Services:**
 - o Develop digital platforms or market hubs that provide real-time market information and connect farmers to buyers.
 - o Support the creation of farmer cooperatives that can negotiate better prices and access larger markets collectively.

7. Need for Capacity Development for Collaborations

- **Lack of Skills for Effective Collaboration:** Stakeholders often lack the skills needed to collaborate effectively, such as negotiation, conflict resolution, and joint planning. This can lead to misunderstandings and inefficiencies.
- **Low Institutional Capacity:** Some organizations, especially smaller NGOs or farmer cooperatives, lack the technical and financial capacity to engage in meaningful collaborations.

- Building Capacity:
 - o Provide training programs on effective collaboration skills for all stakeholders.
 - o Invest in capacity-building initiatives for under-resourced organizations to enable them to participate in collaborative efforts.

Summary

Collaboration in agricultural development is essential but fraught with challenges such as donor dependency, siloed efforts, and weak links to farmers. Addressing these barriers requires creating farmer-focused research, fostering integrated value chain approaches, and building the capacity of stakeholders to work together effectively. Strengthening collaboration will lead to more impactful and sustainable outcomes in the agricultural sector.

Evidence and Learning

1. Experience of Adoption Exists – But Not at Higher Scales

- Localized Success Stories: There are examples of successful adoption of agricultural practices and innovations at smaller, localized scales. For instance, a pilot project may show impressive results in one community, such as improved yields or better livestock health.
- Challenges in Scaling: However, these localized successes are not easily translated to larger scales due to differences in socioeconomic conditions, climate, and infrastructure. For example, a project effective in one region may fail in another due to differences in resource availability or cultural practices.
- Solution: To enable scaling, there is a need for systematic documentation of these successes, alongside careful adaptation of practices to fit diverse contexts across larger geographical areas.

2. Mismatch Between Pilots and the Real World

- Controlled Environments vs. Real-World Complexities: Pilot projects often operate in controlled or ideal conditions that do not reflect the complexities of real-world environments, such as market dynamics, climatic variability, or farmers' financial constraints.

- **Overestimation of Feasibility:** The success of pilots can sometimes give a false sense of scalability, as the support systems in pilots (e.g., expert advice, subsidies) may not be sustainable in broader implementations.
- **Solution:** Design pilots that closely simulate real-world conditions, and include real-world constraints such as limited access to financing, local market dynamics, and unpredictable weather patterns.

3. Insufficient Data to Guarantee Reproduction

- **Gaps in Documentation:** Data from pilot projects or early adopters is often incomplete, lacking critical details needed to replicate the results elsewhere. For example, records might show increased yields but omit factors like soil quality or farmer training that contributed to the success.
- **Inadequate Monitoring and Evaluation:** Many projects lack rigorous monitoring and evaluation frameworks that can capture detailed data on inputs, processes, and outcomes.
- **Solution:** Implement robust data collection systems during pilots, including both quantitative metrics (e.g., yield, costs) and qualitative insights (e.g., farmer feedback, challenges faced).

4. Insufficient Information on Bottlenecks

- **Lack of Problem Identification:** Scaling efforts often fail because they do not fully understand or address the challenges that limit adoption, such as logistical issues, cultural barriers, or policy gaps.
- **Generalized Assumptions:** Decision-makers may rely on broad assumptions about adoption barriers, rather than specific, evidence-based insights.
- **Solution:** Conduct targeted studies to identify bottlenecks in the adoption process, such as inadequate extension services, lack of access to inputs, or resistance due to cultural beliefs. Use this information to design strategies that address these specific barriers.

5. Pastoralists Are Strongly Taking Up Animal and Crop Insurance, But More Is Needed

- **Progress with Insurance Uptake:** There has been notable progress in pastoralist communities adopting animal and crop insurance schemes, which mitigate risks related to droughts, diseases, and other shocks.

- **Gaps in Coverage:** Insurance alone does not address broader systemic issues such as poor access to markets, lack of improved breeds, or limited knowledge about advanced farming techniques.
- **Solution:** Complement insurance schemes with initiatives that enhance productivity and resilience, such as training programs on sustainable farming practices, improved access to quality inputs, and strengthened value chains to ensure market access for their products.

Leadership and Management

1. Multi-Stakeholder Platforms Are Good but Not Sufficient

- **Strengths of Multi-Stakeholder Platforms:** These platforms bring together diverse actors, including farmers, policymakers, researchers, private sector players, and NGOs, to discuss and align on shared goals. They enable the pooling of resources, knowledge, and expertise for addressing agricultural challenges.
- **Limitations:** Despite their potential, these platforms often lack clear decision-making frameworks, accountability mechanisms, and the ability to enforce actionable outcomes. For instance, discussions might result in ambitious plans that fail to translate into practical, on-the-ground action due to fragmentation in responsibilities.
- **Solution:** Strengthen these platforms by establishing clear governance structures, measurable objectives, and mechanisms for monitoring progress and enforcing accountability.

2. Linking to Issues with Collaboration and Value Chain Organization

- **Interconnected Challenges:** Poor collaboration among stakeholders and weakly organized value chains are key barriers to effective management and scaling. For example, weak links between input suppliers, producers, and markets can lead to inefficiencies, such as delays in accessing quality seeds or the inability to sell produce at fair prices.
- **Need for Integration:** Effective leadership and management require addressing these disconnects by fostering partnerships across the value chain and ensuring that all actors are aligned on goals and strategies.
- **Solution:** Encourage cross-sectoral collaboration and create formalized partnerships among stakeholders to ensure that collaboration efforts directly address gaps in the value chain, such as logistics, quality standards, and market access.

3. Value Chain + Collaboration Needs to Be Improved for Better Management of Upscaling

- **Inefficient Value Chains:** Weak or fragmented value chains hinder scaling efforts. For example, a dairy value chain might lack adequate cold storage facilities, resulting in milk spoilage and reduced profitability for farmers. Without collaboration, these gaps remain unaddressed.
- **Collaborative Solutions:** Improved management requires collective action to strengthen weak links in the value chain. For instance, partnerships between cooperatives, private sector actors, and financial institutions could lead to better infrastructure, such as cold storage or improved transportation networks.
- **Solution:** Develop multi-stakeholder action plans targeting specific value chain weaknesses. Leaders should prioritize actions that simultaneously enhance collaboration and address critical gaps in the chain.

4. Key Stakeholders Need to Understand What Is Happening on the Ground

- **Disconnect Between Leaders and Ground Realities:** Decision-makers often lack firsthand knowledge of the challenges faced by farmers and other actors at the grassroots level. For example, policies might be formulated without understanding the barriers farmers face in accessing inputs or adopting innovations.
- **Feedback Loops:** Leaders need direct channels to receive real-time information from the field. This could involve engaging farm representatives in decision-making processes or conducting regular site visits to observe challenges and successes firsthand.
- **Solution:** Build mechanisms for continuous feedback from farmers and other on-the-ground actors into decision-making processes. Use participatory approaches, such as farmer forums or advisory committees, to ensure that leadership decisions reflect grassroots realities.

In-Depth Analysis of Public Sector Governance Challenges in Agricultural Development

1. Strategies Exist with Minimal Implementation

- **Issue:** Many well-drafted strategies and policies exist at both national and county levels but are rarely executed effectively. For instance, policies aimed at improving farmer productivity may remain on paper due to lack of follow-through.
- **Root Cause:** Insufficient allocation of resources (financial, human, and technical) for implementing these strategies. Additionally, a lack of accountability mechanisms often allows strategies to stagnate.

- **Solution:** Establish robust monitoring and evaluation (M&E) systems that track progress and ensure accountability for implementing strategies. Resources must be earmarked during the policy design phase to ensure execution.

2. Governance Is Good, but the Problem Is Leadership and Management

- **Strong Governance Frameworks:** Many countries have solid governance structures, including regulatory frameworks, oversight institutions, and public service delivery mechanisms.
- **Weak Leadership:** Leadership often lacks the vision or willingness to align governance structures with actionable goals. For example, leaders may prioritize short-term political gains over long-term developmental outcomes.
- **Solution:** Invest in leadership training and capacity-building programs to empower leaders to make informed, strategic decisions. Reward systems could be implemented to encourage effective leadership in policy execution.

3. National and County Governments Are Not Keen to Finance Their Strategic Plans and Policies

- **Underfunding:** Strategic plans often come with ambitious goals, but governments fail to allocate sufficient budgets to support these initiatives. For instance, a county may draft a comprehensive irrigation policy but fail to fund the infrastructure development needed for implementation.
- **Budget Prioritization Issues:** Competing priorities or political considerations may divert funds to less impactful projects.
- **Solution:** Link policy funding to measurable outcomes and tie budgets to specific deliverables. Encourage public-private partnerships (PPPs) to fill financing gaps and ensure sustainability.

4. Lack of Enforcement

- **Problem:** Policies and regulations often lack enforcement, leading to non-compliance. For example, environmental regulations may exist but are not enforced, allowing harmful farming practices to persist.
- **Consequence:** Non-enforcement diminishes the credibility of public institutions and hinders progress in achieving policy goals.

- **Solution:** Strengthen enforcement mechanisms by allocating more resources to monitoring bodies, training enforcement officers, and imposing penalties for non-compliance.

5. Need for More Capacity for Better Implementation

- **Capacity Gaps:** Many public sector institutions lack skilled personnel, tools, and technology to implement strategies effectively. For instance, agricultural extension services may be underfunded and understaffed.

- **Impact:** Limited capacity slows down implementation and reduces the effectiveness of policies and programs.

- **Solution:** Invest in building institutional capacity through training, recruitment, and the acquisition of technology. Collaborate with the private sector and development partners to leverage resources.

6. Policies May Counter Each Other

- **Policy Misalignment:** Overlapping or contradictory policies can create confusion. For example, a policy promoting water conservation might conflict with one encouraging high-water-use crops.

- **Impact:** These contradictions lead to inefficiencies and undermine policy objectives.

- **Solution:** Conduct policy audits to identify and address conflicts. Develop integrated policy frameworks that align goals across sectors, such as agriculture, environment, and trade.

7. Many Duplicated Policies Can Be Merged to Establish More Solid Policies

- **Problem:** Multiple policies addressing similar issues often lead to redundancy and waste. For example, different departments might have separate initiatives for farmer subsidies, leading to inefficiencies.

- **Solution:** Streamline policies by merging overlapping frameworks into unified strategies. This reduces duplication, simplifies implementation, and optimizes resource use.

8. Misalignment with the Expectations of Stakeholders

- **Stakeholder Disconnect:** Policies may not align with the needs and expectations of stakeholders, including farmers, businesses, and community groups. For example, a policy might focus on large-scale farming while neglecting the needs of smallholder farmers.

- Consequence: Stakeholder dissatisfaction and low buy-in hinder the effectiveness of policies.
- Solution: Use participatory approaches in policy formulation to ensure alignment with stakeholder needs. Regularly engage stakeholders to gather feedback and adapt policies accordingly.