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SCIENCE FOR A FOOD-SECURE FUTURE

Scaling *Urochloa* forages in Kenya: A systems-led pathway for feed security, livestock productivity, and climate resilience

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Report

Contents

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Abbreviations and acronyms

ACIAR	Australian Centre for International Agricultural Research
AfDB	African Development Bank
ATC	Agricultural Training Center
BMZ	Federal Ministry of Economic Cooperation and Development (Germany)
CIAT	International Center for Tropical Agriculture
CIDP	County Integrated Development Plan
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
FSRP	Food Systems Resilience Program
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IFAD	International Fund for Agricultural Development
IGAD	Intergovernmental Authority on Development
ILRI	International Livestock Research Institute
IP	Intellectual property
KEBS	Kenya Bureau of Standards
KeLCoP	Kenya Livestock Commercialization Project
KENTRADE	Kenya Trade Network Agency
KEPHIS	Kenya Plant Health Inspectorate Service
KRA	Kenya Revenue Authority
MoALD	Ministry of Agriculture and Livestock Development
NAVCDP	National Agricultural Value Chain Development Project
NGO	non-governmental organization
ROI	Return on investment
SADC	Southern African Development Community
SNV	SNV Netherlands Development Organisation
STAK	Seed Trade Association of Kenya
WUR/LISL	Wageningen University Research

Background and overview of *Urochloa*

The current landscape for *Urochloa* scaling is shaped by distinct patterns in demand, supply, policy frameworks, farmer segmentation, environmental benefits, and readiness levels. From our impact analyses based on seed sales data, we could see that adoption rates are generally below 0.01% in Africa. One exception is Kenya with 0.07% and another La Reunion with 0.5%. These % refer to the share of *Urochloa* hybrid area of the total permanent pasture area (Burkart and Mwendia 2024; Junca Paredes et al. 2023).

Despite this low uptake, the forage demonstrates strong performance and suitability for smallholder mixed dairy systems and beef–dairy systems, including cut-and-carry production and grazing contexts. *Urochloa* hybrids show extended durability with typically an 8 to 12-year lifespan, and vegetative propagation is common with expansion rates of up to 10:1 among farmers.

Demand is driven by several factors: productivity gains, resistance to pests and diseases, soil health improvements, climate resilience, and income-enhancing opportunities for farmers. However, adoption is constrained by high seed prices, limited awareness, inadequate technical support, weak seed systems, gender barriers to participation, and limited access to financing. These constraints reinforce the need for strengthened seed systems in combination with improved extension systems, evidence-driven awareness campaigns, gender-responsive approaches, and affordability strategies for smallholders and cooperatives.

On the supply side, the market is heavily dependent on imported hybrid seed from Latin America and Thailand, as local commercial seed production is absent which requires heavy initial investment and coupled with convincing market sink as is growing in Africa especially when countries are aggregated. Zambia appears to be the most feasible location for establishing local seed production systems in Africa because of its adaptation and logistical infrastructure.

Meanwhile, significant bottlenecks exist within the existing import-dependent distribution chain, including complex registration procedures, high prices, often poorly coordinated seed distributors, and limited quality assurance. Prices in African markets remain 2–3 times higher than prices in origin countries (USD 40–50/kg), suppressing broader demand and restricting affordability. While farmer-led vegetative multiplication is widely practiced, it remains unstructured while needing to comply with intellectual property (IP) regulations. Distribution networks remain fragmented and require professionalization, along with strengthened quality control and clearer coordination mechanisms among market actors.

Policy environments across the region generally support improved forage adoption, with most target countries integrating forages into livestock or agricultural development frameworks. However, several key barriers continue to limit scaling: lengthy variety registration, non-harmonized seed policies, weak regulatory enforcement, and the absence of targeted incentives for forage adoption. Regional platforms such as the Common Market for Eastern and Southern Africa (COMESA), Southern African Development Community (SADC), the Intergovernmental Authority on Development (IGAD), and the East African Community (EAC) present opportunities for alignment, though these remain underutilized. Donor-funded programs—including World Bank, the Australian Centre for International Agricultural Research (ACIAR), BMZ/GIZ, SNV Netherlands Development Organisation, the International Fund for Agricultural Development (IFAD), EU, and others—offer potential synergies for co-investment and coordinated scaling efforts

Farmer segmentation shows that smallholder dairy farmers constitute the primary adopter group, whereas commercial dairy and beef producers offer leverage for demonstration and early adoption at scale. Cooperatives, producer organizations, and extension systems act as essential intermediaries for distribution, training, and credibility-building. Gender disparities remain evident, as women continue to encounter limitations regarding access to land, credit, labor, and participation in decision-making processes. Women-led enterprises, small-plot approaches, and inclusive financial instruments show potential for improving equity. These patterns highlight the need for differentiated targeting strategies across farmer groups, cooperatives, and commercial farms.

Evidence on environmental and economic impacts demonstrates strong benefits, including milk yield increases of 15–40%, income gains up to 52%, and favorable return on investment (ROI) levels ranging from 145–392%. *Urochloa* improves soil health, resilience against drought, and carrying capacity, although quantified data on greenhouse gas reduction and carbon credit potential remain limited. These benefits strengthen the business case for farmers, cooperatives, and potential investors, particularly within climate-finance and nature-based solutions portfolios.

Market analysis estimates a potential of 458,830 hectares across Africa, representing an annual market value of USD 289 million. High-potential countries include Ethiopia, Kenya, Tanzania, Uganda, and Zambia, and the

scaling ecosystem is supported by actors such as Grupo Papalotla, the International Livestock Research Institute (ILRI), the International Center for Tropical Agriculture (CIAT), GIZ, SNV, and Wageningen University Research (WUR/LISL) (Junca Paredes et al. 2023). However, enabling environment limitations—particularly financing gaps and systems constraints—continue to slow progress and require coordinated intervention through public–private partnerships and blended finance mode (Burkart and Mwendia 2024).

Urochloa in Kenya

Recently there has been major milestones on *Urochloa* work in Kenya. Specifically, between 2016 and 2025, there are four *Urochloa* hybrids (Mulato II, Cayman, Cobra, Camello) and four non-IP protected *Urochloa* cultivars (Piata, Xaraes, MG4, Basilisk) that have been registered. Further, from 2019–25 there has been a concerted effort from BMZ, to get *Urochloa* and *Megathyrsus* forages into use. In the process, the forages have been promoted in livestock areas that have the potential and are biased towards dairy. This includes in Central Kenya counties- Meru, Embu, Nyeri; Western Kenya- Kakamega, Bungoma, Busia and Siaya; Rift Valley–Uasin Gishu, Nakuru, Nandi. These efforts have precipitated and raised *Urochloa* awareness among the dairy and forage producers in the country. This needs to be intensified in order to reach and get many more users benefiting from *Urochloa* forages and increase livestock productivity in the country.

The scaling journey

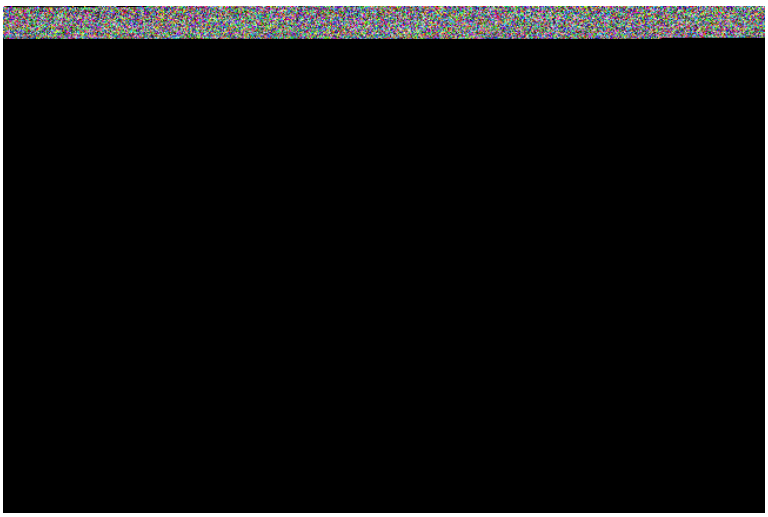
In 2023, the Innovation team and the *Urochloa* team conducted an Innovation Packages and Scaling Readiness workshop to identify the key bottlenecks that could hinder the scaling of *Urochloa*. The team was subsequently guided on how to address these constraints.

In February 2025, the teams reconvened to reassess progress and undertook a market data validation and information-mapping exercise to strengthen the economic and market evidence needed for scaling. The innovation readiness level was assessed and agreed that it has transitioned from a 5 to a 9, indicating full maturity and suitability for wide-scale deployment.

A virtual scaling workshop was held in August 2025, where the validated data was presented to stakeholders and discussions focused on the prevailing challenges, emerging opportunities, and the effectiveness of existing delivery systems for *Urochloa* in Kenya. This process produced an initial set of high-level delivery approach and what needs to happen to move the needle.

Through the scaling fund under the scaling 4 impact science program, the team where able to access some financial support to facilitate broad stakeholder participation, expert facilitation and high-quality documentation that will lead to the deliver:

- A unified scaling roadmap
- Firm multi stakeholder commitments, and
- Clear actions to drive adoption at scale.



Participants at the scaling workshop. Photo: J. Ijudai/ILRI

A two-day scaling pathway development workshop was held from 21-22nd October 2025 with various stakeholders across the different sectors. It was attended by 26 participants including representatives from forage producers, sellers, and CGIAR researchers.

Justification for scaling *Urochloa*

Urochloa scaling is justified across multiple dimensions that together highlight its economic, environmental, institutional, and social value. Economically, it offers strong profitability potential, reduces feed costs, and aligns with a growing market opportunity for improved forages. Productivity gains in both dairy and beef systems further reinforce its importance, given consistent evidence of increased yields and better feed use efficiency.

Environmentally, *Urochloa* contributes to soil restoration, water-use efficiency, and resilience to drought, making it relevant for climate-smart livestock systems. These benefits extend to broader landscape health and potential entry points for climate financing. From a market systems perspective, scaling responds directly to persistent constraints such as high seed prices, limited availability, weak distribution networks, and the need for better-structured propagation and supply systems. Strengthening these areas will unlock adoption and support a more reliable feed ecosystem.

Scaling is also justified institutionally, as *Urochloa* aligns with national livestock and agricultural programs that priorities feed security, productivity, and resilience. Policy gaps and regulatory inconsistencies create a clear rationale for coordinated public-sector involvement. Inclusion justifications stem from the opportunity to reduce gender disparities in land access, credit, training, and decision-making by integrating models that support women- and youth-led enterprises.

Financially, the system faces a pronounced investment gap, making blended finance, guarantees, and incentive mechanisms essential enablers for uptake. Finally, with a high readiness level and a sizeable continental market potential, the innovation is positioned for accelerated scaling provided that enabling environment constraints are addressed.

Actor segmentation and system roles

The *Urochloa* system is shaped by a diverse set of actors operating across supply, demand, support services, and regulatory functions. Supply actors, including seed producers, importers, distributors, and local stockists determine the availability, quality, and affordability of hybrid seed and planting materials. Demand actors such as smallholder dairy farmers, commercial ranches, and cooperatives influence adoption patterns, market pull, and the pace of expansion across counties. Support functions are provided by extension services, ATCs, researchers, financial institutions, NGOs, marketing agents, and machinery manufacturers.

These categories of actors enable knowledge transfer, skills development, financing, technology dissemination, and market linkage. These actors face persistent capacity, resource, and coordination gaps documented across the system.

Regulatory bodies including the Kenya Plant Health Inspectorate Service (KEPHIS), the Kenya Bureau of Standards (KEBS), the Kenya Trade Network Agency (KENTRADE), and the Seed Trade Association of Kenya (STAK), and regional blocs (COMESA, SADC etc.) define certification standards, import rules, seed quality regulations, and enforcement mechanisms. They also face limitations in capacity, harmonization, and implementation.

Together, these actor groups influence how effectively *Urochloa* can be scaled within Kenya and the region. The main forage seed supply players and the functions thy play are summarized in Table 1.

Table 1. Core supply actors and their responsibilities

Actor	Roles/functions	Why the actor is failing
Seed producers (e.g., Papalotla)	Produce and export hybrid seed; comply with regulations; marketing and promotion	Poor storage among distributors; inadequate promotion; weak information flow
Distributors / importers / retailers	Import and distribute seed; lead supply chain; provide technical support	Capital constraints; high margins; low reinvestment in promotion; weak forecasting
Local seed enterprises & Stockists	Last-mile distributors of seed	Limited technical skill; weak links to formal system; vulnerable to fake seed

The forage seed demand actors are crucial in the value chain. The roles they play, and their weak areas are summarized in Table 2.

Table 2. Core demand actors

Actor	Roles/functions	Why the actor is failing
Small scale farmers	Serve as the largest demand segment for improved forages; acts as primary users, provide the basis for aggregate demand to attract suppliers	Limited awareness of *Urochloa* benefits; low access to technical knowledge on establishment; weak access to finance
Large scale farmers	Provide early high-volume demand for seed market stabilization; rapid adoption; potential buyer of hay, silage; provide validation data	Seed scarcity and supply inconsistency; Limited incentives from extension services;
Cooperatives	Collective demand aggregators; distribution and advisory nodes; demonstration, mobilization and knowledge dissemination	Weak governance structures; limited technical capacity; poor coordination with KEPHIS, MoALD and seed companies

Forage and forage seed value chains require advisory and technical support for proper functioning. Table 3 summarizes the key entities that play key roles to support the value chains

Table 3. Advisory and technical support

Actor	Roles/functions	Constraints/failures
Extension services	Knowledge transfer; linkages; demos	Knowledge gaps; low facilitation; poor info access; high farmer-officer ratios
Agricultural training centers	Demonstration and learning hubs	Adaptation gaps; low commitment
Researchers	Develop solutions; share findings	Funding gaps; dissemination issues; limited autonomy
Financial institutions	Credit; financial literacy	High collateral; high interest rates; limited products
NGOs	Capacity building; linkages; demos	Risk of dependency; sustainability gaps
Marketing agents	Promote forage seed	Capacity limitations; commercial focus
Machinery providers	Provide harvesting and processing equipment	Quality concerns; local adaptation challenges

For regulation and quality control of the forage seed, key entities and their specific roles and challenges the face in Kenya are summarized in Table 4.

Table 4. Rules, norms and regulatory actors

Regulatory Actor	Mandate/ Functions	Gaps/ Challenges
KEPHIS	Certification, registration, quality control	Limited capacity; poor enforcement; maize-centric focus
Ministry of Agriculture / Livestock	Policies; feed safety; technical support	Low manpower; weak coordination; no forage policy
KENTRADE	Import certification	Misalignment with KEPHIS
STAK	Advocacy; anti-fake seed campaigns	Resource shortages; enforcement challenges
COMESA / SADC	Regional standard harmonization	Low capacity; limited progress
KEBS	Packaging and standards	Frameworks not forage-specific

Figure 1: Urochloa supply chain map.

Source: Grupo Papalotla

Value proposition framework (strategic business narrative)

A successful scaling strategy for *Urochloa* must be anchored in a clear articulation of the value it creates for the diverse actors who shape the forage ecosystem. The value proposition goes beyond presenting *Urochloa* as an improved forage variety; it positions *Urochloa* as a system-strengthening solution that addresses productivity constraints, market inefficiencies, environmental pressures, and policy priorities. Each actor derives distinct benefits that align with their roles, motivations, and operational incentives.

Value proposition for public sector and regulators

For national and county governments, *Urochloa* directly supports ongoing efforts to reduce the national feed deficit, strengthen livestock productivity, and improve environmental outcomes. Its drought resilience, documented increases in milk production, soil health benefits, and potential contributions to climate mitigation make it a viable input for achieving feed security targets and supporting livestock commercialization agendas. The availability of scientific evidence, including improvements in milk yield, water-use efficiency, and lower methane-related impacts, provides the public sector with a credible technical foundation for integrating *Urochloa* into livestock and agricultural programs. This aligns with existing priorities reflected in multiple national and regional strategies.

Value proposition for smallholder dairy farmers

For smallholder farmers, *Urochloa* addresses long-standing constraints related to unreliable feed availability, high feed costs, pest and disease vulnerabilities, and low productivity. The hybrid offers high biomass yields, improved feed quality, greater resilience to climate variability, and the potential for sustained productivity over a 10-year lifespan. Farmers also benefit from reduced exposure to counterfeit seed through improved branding and verification mechanisms, as well as better extension support from cooperatives, NGOs, and government partners. Evidence from farmer-managed demonstrations underscores significant economic and production gains, strengthening the appeal and practicality of adopting *Urochloa*.

Value proposition for seed companies, distributors, and stockists

For seed companies and distributors, *Urochloa* represents a high-value commercial opportunity in a market with rising demand for improved forages. The innovation is fully mature and ready for deployment, with an estimated annual market value of USD 289 million across 458,830 hectares. The forage's strong performance and growing interest from farmers create opportunities for market expansion, brand differentiation, and renewed investment in professionalized distribution networks. Strengthening quality assurance and reducing counterfeit seed improves business integrity and increases customer trust—key elements for long-term commercial success.

Value proposition for cooperatives and producer organizations

Cooperatives play a central role in aggregation, extension, and market linkage within the livestock sector. *Urochloa* offers cooperatives a practical solution for responding to their members' feed challenges while strengthening their organizational relevance. Bulk procurement, farmer training, and targeted demonstrations can increase adoption, reduce input costs, and improve milk yields among members. For cooperatives with governance challenges, *Urochloa*-based programming provides a structured entry point for improving management practices, extension effectiveness, and service delivery.

Value proposition for youth and women enterprises

Urochloa presents viable opportunities for youth and women—groups often excluded from high-value agricultural enterprises due to limited land access, labor constraints, and financial barriers. The forage's suitability for small plots, vegetative propagation, and enterprise-oriented models (such as seedling production and distribution) creates pathways for income generation and increased participation. Inclusive financial tools, small-plot demonstrations, and targeted training help overcome gendered constraints documented across the system.

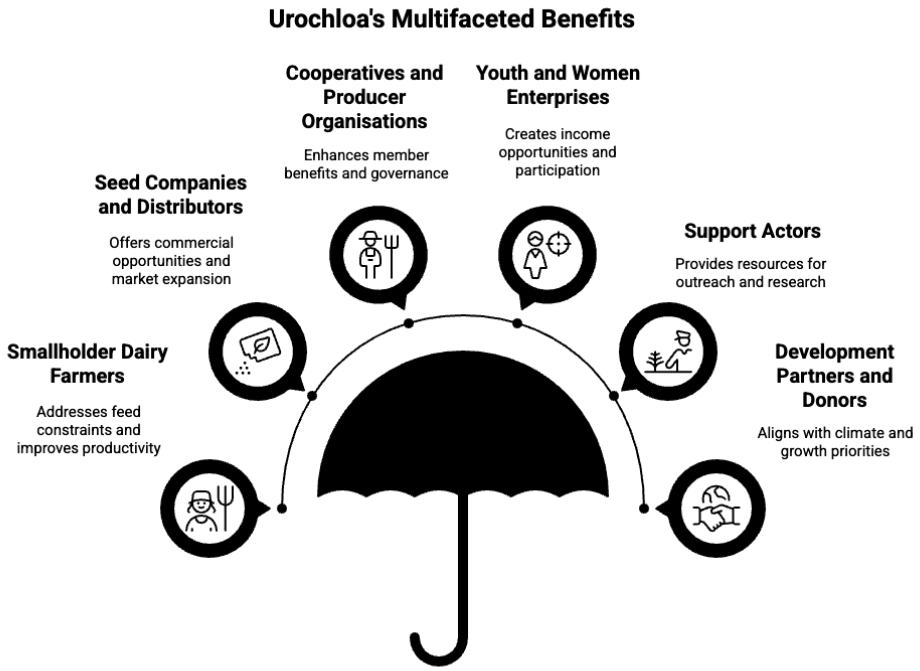
Value proposition for support actors (extension, ATCs, NGOs, researchers)

Support actors benefit from *Urochloa* through the availability of high-quality agronomic evidence, training modules, factsheets, and field data that improve outreach and farmer engagement. Extension workers can rely on clear performance results—such as biomass productivity and climate resilience—to guide their messaging. NGOs and ATCs gain strong entry points for farmer training and capacity building, while researchers benefit from high stakeholder demand for forage-related evidence and the opportunity to demonstrate the impact of research investments on farmer livelihoods and system transformation.

Value proposition for development partners and donors

For development partners, *Urochloa* represents a scalable, cost-effective, and high-impact intervention aligned with climate-resilient agriculture, food security, and inclusive growth priorities. The innovation demonstrates strong economic returns, productivity gains, and environmental co-benefits, making it suitable for blended finance, catalytic grants, and large-scale investment programs. The presence of strong partners—including ILRI, CIAT, Papalotla, and multiple non-governmental organizations (NGOs)—provides a solid institutional foundation for coordinated, multi-country scaling efforts.

Figure 2: Benefits of *Urochloa.*



Scaling ambition snapshot

By 2030, the *Urochloa* scaling agenda aims to position improved forages as a core driver of livestock productivity, market resilience, and inclusive growth across Kenya. The pathway focuses on expanding adoption at scale, embedding *Urochloa* within county livestock systems, improving farmer-level economics, and strengthening gender inclusion. The ambition is anchored on measurable milestones to 2027 and 2030, reflecting a structured growth trajectory already underway.

2027 Milestones (short-term acceleration)

- 30,000 smallholder farmers adopting *Urochloa*
- 10% reduction in feed costs for adopters
- 2 counties formally integrating *Urochloa* into livestock programs (MoUs/budgets)
- 30% women participating as adopters

2030 ambition (full-scale maturity)

- 100,000 smallholder farmers reached with *Urochloa*
- 20% reduction in feed costs across adopting households
- 3 counties institutionalizing *Urochloa* within livestock initiatives
- 40% women engaged as adopters

Market information mapping and grounding

The *Urochloa* market is shaped by distinct patterns in demand, supply, policy alignment, farmer segmentation, environmental benefits, and innovation readiness. Adoption across Africa remains low but driven by productivity gains, climate resilience, and soil health benefits. Supply is fully dependent on imported hybrid seeds, constrained by high prices, weak distribution systems, and limited coordination. Policies across East Africa recognize improved forages but regulatory bottlenecks, especially registration and enforcements which limit scale (Florez et

al. 2024). Farmer targeting requires differentiated approaches due to gender barriers, cooperative structures, and extension capacity gaps. Economic and environmental data show strong performance, and the innovation is fully mature with significant regional market potential. Demand barriers, and adoption trends of *Urochloa* forages including replacement cycles and farming systems suitability are as summarized in Table 5.

Table 5. Demand and adoption trends

Category	Documented insights
Adoption drivers	Productivity gains; pest/disease resistance; soil health; climate resilience; income opportunities; alignment with gov't programs; ecosystem market relevance
Adoption barriers	High seed prices; limited awareness; poor technical support; inadequate financing; weak seed systems; cultural resistance; gendered decision-making barriers
Adoption levels	0.01–1.2% in Africa; 4.6–11.75% in SE Asia
Reseeding and replacement cycles	Hybrids durable (10-year lifespan); reseeding rates low; vegetative propagation common (10:1)
System suitability	Strongest in smallholder mixed dairy systems; also, beef–dairy mixed systems

Urochloa forage seed supply chain, seed availability and market sensitivity insights are as summarized in Table 6.

Table 6. Supply chain and seed availability

Category	Documented insights
Seed dependency	All hybrid seeds are imported from Latin America and Thailand; no local production
Key bottlenecks	High prices; complex registration; poor distribution; lack of coordination amongst seed companies
Local multiplication potential	Farmer-led vegetative propagation common but unorganized; Zambia most feasible for production
Market sensitivity	Prices $40–50/kg (2–3× origin markets); farmers' willingness to pay lower except in cooperatives
Distribution deeds	Professionalization; strengthened quality control and coordination

Key areas on policy, regulations and incentives that are required to bolster the uptake of Urochloa forages is as summarized in Table 7.

Table 7. Policy, regulations, and incentives

Policy support	Documented insights
Policy support	All target countries integrate improved forages into livestock/agri plans
Regulatory barriers	Lengthy variety registration; non-harmonized seed policies; weak enforcement; low prioritization
Incentives	No existing subsidies or financial incentives for forage adoption
Regional alignment	COMESA/EAC opportunities underutilized
Donor synergies	Alignment with World Bank, SNV, ACIAR, BMZ/GIZ, EU, IFAD

Key attributes including primary segment, scale leverage segment, influencer, cooperatives, extension, and gender and their associated insights are as summarized in Table 8.

Table 8. Farmer segmentation and targeting

Category	Documented insights
Primary segment	Smallholders dominate adoption
Scale leverage segment	Commercial producers provide scale leverage
Influencers	Cooperatives and extension services crucial intermediaries
Cooperatives	Enable multiplication, collective procurement, market linkages, peer demos
Extension	Critical role but constrained by funding and capacity
Gender dynamics	Barriers: land, credit, labor, norms, literacy
Gender-responsive tools	Women-led seed enterprises; small-plot systems; women-only training; inclusive finance

Productivity and income gains, return on investment, environmental benefits and gaps are summarized in Table 9 and quantified where applicable.

Table 9. Economic and environmental data

Category	Documented insights
Productivity gains	Milk yield increases: 15–40%; beef weight gain: 20–55%
Income gains	Up to 52%
ROI	145–392% in Kenya; hay production more profitable
Environmental Benefits	Soil health; drought loss reduction; increased carrying capacity
Evidence Gaps	Limited greenhouse gases quantification and carbon potential

Scaling pathways

Based on the supply chain dynamics, opportunities and challenges, three key strategic pathways were identified, to be pathways for scaling *Urochloa* in Kenya.

Seed system and commercialization pathway

What this pathway focuses on

Building a reliable, affordable, and well-coordinated seed system that can supply quality *Urochloa* seeds, prevent counterfeiting, and expand commercial distribution across multiple counties.

What will happen

- The Forage Working Group will be reactivated and will drive forage policy progression and quality regulation.
- Performance demonstration plots will be established across priority counties to stimulate demand and build evidence.
- A full anti-fake seed mechanism (KEPHIS–STAK–Papalotla) will be operationalized.
- A distribution network will be built through agrodealers, cooperatives, stockists, and private distributors.
- Seed financing options (seed credit, cooperative recovery, climate lending) will be introduced to reduce affordability barriers.
- Digital platforms will support demand management, awareness, and information verification.

What this pathway will achieve

A functioning, trustworthy seed market; improved access and affordability; stronger demand; elimination of fake seed; and expanded reach across priority counties.

Public sector and programmatic integration pathway

What this pathway focuses on

Embedding *Urochloa* within public programs, regulatory systems, county plans, and extension structures so that adoption is supported institutionally and financially at scale.

What will happen

- *Urochloa* will be aligned with the Kenya Livestock Commercialization Project (KeLCoP), the Food Systems Resilience Program (FSRP), and the National Agricultural Value Chain Development Project (NAVCDP), enabling it to be built into county CIDPs and livestock programming.
- Coordination will be strengthened across KEPHIS, Kenya Revenue Authority (KRA), KEBS, State Department of Livestock, county governments, and private actors.
- Public-sector capacity (extension, cooperatives, regulators) will be strengthened through technical and governance training.
- A broad resource mobilization effort (approx. USD 10 million) will support seed availability, extension, training, and communication.
- National and county governments will amplify awareness and communication through extension systems and public campaigns.
- Continuous documentation and learning will support evidence-driven implementation.

What this pathway will achieve

Institutionalization of *Urochloa* in public systems; coordinated governance; stronger extension; stable public financing; and county-led adoption.

Landscape and systems-based scaling pathway

What this pathway focuses on

Driving adoption through community structures, agro-ecological targeting, farmer organizations, and landscape-specific opportunities, while managing ecological and social risks.

What will happen

- Strong partnerships will be built with farmer groups, cooperatives, youth/women groups, local leaders, churches, CBOs, stockists, and ATCs.
- Sensitization and mobilization will occur through barazas, AGMs, local radio, field days, demonstrations, and social media.
- Demonstration and learning sites will be set up across agro-pastoral, mixed farming, feedlot, and restoration landscapes.
- Continuous training will be delivered using farmer field schools, exchange visits, and community learning cycles.
- Participatory monitoring, evaluation, and learning will refine practices and guide landscape expansion.
- Risks (pests, overgrazing, gender barriers, manure mismanagement, etc.) will be mitigated through responsive local solutions.

What this pathway will achieve

Community-driven adoption, well-targeted demonstrations, strong landscape anchoring, ecological benefits (soil, biomass, resilience), and continuous adaptive learning.

Figure 3. Summary of the three pathways.

Implementation roadmap

The implementation roadmap outlines how the *Urochloa* scaling agenda will be operationalized over a five-year period. It brings together the seed system, public sector, and landscape pathways into a coherent, sequenced plan of action. All activities presented here reflect what was proposed, validated, or envisioned during the workshop sessions and will guide coordinated implementation across partners.

Phase 1: Foundation building (Immediate–Month 6)

Objective: Establish the institutional, regulatory, informational, and stakeholder foundations needed to unlock scaling.

Institutional activation and policy alignment

In the first six months, the Forage Working Group will be reactivated and strengthened to provide coordinated leadership on seed quality, policy progression, and stakeholder engagement. It will include KEPHIS, MoALD, STAK, CIAT, ILRI, private seed companies, and county representatives. Its immediate focus will be advancing the forage policy, clarifying certification procedures, and ensuring that private-sector seed companies are integrated into decision-making.

Simultaneously, *Urochloa* will be aligned with ongoing public programs such as KeLCoP, FSRP, and NAVCDP. This alignment will ensure that the forage is embedded within county planning, livestock development priorities, and resource allocation frameworks. Early engagement with program leadership will support integration into county integrated development plans (CIDPs) and departmental workplans.

Knowledge, materials, and awareness preparation

Evidence from researchers and breeders will be synthesized into actionable formats, including extension manuals, training modules, performance dashboards, demonstration protocols, promotional content, and geo-referenced suitability maps. These materials will be distributed through cooperatives, ATCs, NGOs, extension systems, local media, and social networks to prepare the ecosystem for large-scale mobilization.

Establishing quality and integrity systems

A major focus during this phase will be the establishment of the anti-fake seed mechanism. The CGIAR team will work with KEPHIS, Papalotla, STAK, and distribution actors to introduce packaging verification, surveillance systems, farmer sensitization campaigns, and information channels that reduce counterfeit seed risks and build trust in the market. A digital platform will be developed to facilitate this and ensure proper linkages.

Early landscape and community mobilization

Local leaders, CBOs, faith-based organizations, youth and women groups, cooperatives, stockists, and farmer groups will be mobilized early. Sensitization will begin through barazas, farmer meetings, AGMs, field days, radio programs, demonstrations, and social media platforms to create early awareness and prepare communities for Phase 2 activities. Opportunities will be presented for women and youths to be part of the seed systems supply chain.

Phase 2: System activation and market expansion (Month 6–Year 2)

Objective: Operationalize distribution, finance, demonstrations, and public-sector capacity to drive widespread uptake.

Demonstration and learning infrastructure

From month six, demonstration plots will be established in the Phase 1 priority counties—Meru, Busia, Kakamega, Nandi, Uasin Gishu, Bungoma, Nyeri, and Kiambu. These sites will serve as the backbone for demand creation, farmer training, and performance validation. Technical support will be provided by CIAT, ILRI, KALRO, cooperatives, ATCs, county livestock departments, and private-sector partners.

Large-scale awareness and sensitization campaigns

County-wide and landscape-wide sensitization campaigns will be launched to stimulate demand. These will be delivered through cooperatives, NGOs, extension systems, local radio, digital platforms, lead farmers, and private seed companies. Messaging will highlight performance results, climate resilience, suitability across farming systems, and economic evidence.

Distribution architecture and market access

A multi-channel distribution system will be operationalized, comprising agrodealers, cooperatives, stockists, direct selling agents, and landscape-based distributors. Incentive packages, agreements, and training will be introduced to ensure proper handling, stocking, and last-mile availability of seed.

Digital platforms will begin to be deployed to support demand management, buyer–seller matching, awareness generation, and seed verification.

Seed and climate financing mechanisms

Seed credit systems including revolving funds and cooperative-linked loan products will be introduced and expanded. Cooperatives will be supported to implement credit-through-milk deductions or other structured repayment arrangements. Banks will be engaged to integrate *Urochloa* into emerging climate finance products, guarantees, and concessional financing lines to improve affordability and uptake.

Public-sector capacity development

Structured capacity-building programs will be rolled out for county extension officers, cooperative leaders, private distributors, seed inspectors, and regulatory agencies such as KEBS, KRA, and KEPHIS. Training will focus on seed quality control, certification, feed standards, governance, demonstration management, and landscape targeting.

Phase 3: Consolidation and institutionalization (Year 2 – Year 5)

Objective: Achieve sustained, county-led adoption through institutional integration, expansion to new counties, and long-term financing.

Integration into public programs and budgets

By Year 2, *Urochloa* will be fully embedded into county livestock programs through memorandums of understanding (MoUs), formal inclusion in CIDPs, county extension planning, and departmental budgets. Public financing will support ongoing demonstrations, extension, distribution incentives, community mobilization, and large-scale adoption campaigns.

Expansion to additional counties

Following the documented expansion trajectory—30% early growth and up to 50% annual expansion—the initiative will expand to additional counties identified during the institutionalization exercise. These include Kisii, Embu, Machakos, Narok, Vihiga, Siaya, Busia, Kisumu, Trans Nzoia, Bungoma, Kajiado, Kilifi, Kwale, and others that demonstrate readiness.

Participatory monitoring, evaluation, and learning

A participatory MEL system will be strengthened to link demonstration results, farmer feedback, extension performance, governance capacity, and market data. Lessons generated will be embedded into training curricula, policy briefs, and decision-making dashboards to enable adaptive scaling.

Long-term financing and resource mobilization

Over the five-year period, the scaling effort will mobilize approximately USD 10 million from bilateral donors, IFAD, the World Bank, AfDB, foundations, and regional programs. Funds will be directed toward seed availability, capacity strengthening, communication, extension, and governance support. Private-sector investment will continue to deepen distribution capabilities and supply chain performance.

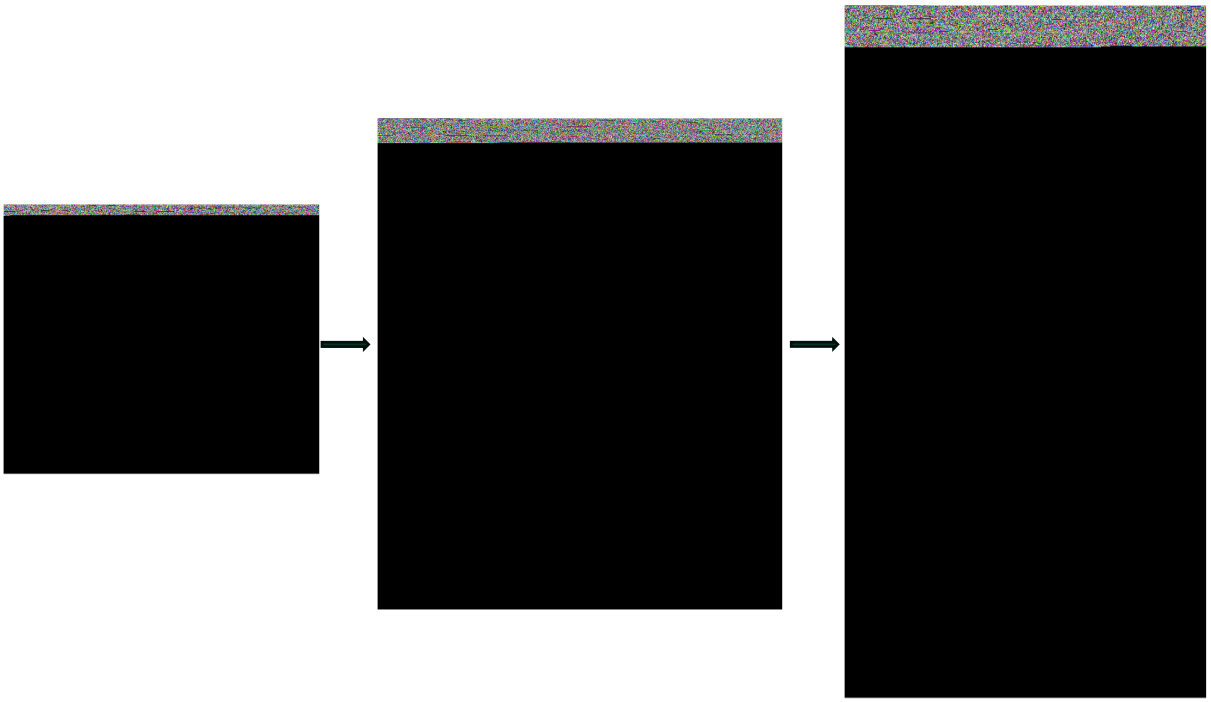
Strengthened market and landscape systems

By Year 5, coordinated market structures, improved seed quality assurance, effective distribution pathways, gender-responsive community structures, climate-resilient training systems, and strengthened cooperatives will ensure long-term sustainability. Adoption will be reinforced by improved soil health, increased forage availability, and stronger livestock productivity.

Impact pathway

The road towards ***Urochloa*** forage use and impact warrants all the areas highlighted earlier addresses especially the shortcomings. This will entail all the key actors playing their roles successfully to create an environment that ensures that production node to market, get supported. Figure 3 puts a high-level summary of the key facets and aspirations that would need to be realized to support ***Urochloa*** use and impact in the long run.

Figure 4: The impact pathway.



In conclusion, Urochloa presents a clear opportunity for impact at scale, provided that coordinated action is taken to strengthen enabling systems rather than generate additional proof of concept. With targeted catalytic investment, strong public-private partnerships, and sustained institutional commitment, Urochloa can be institutionalized as a reliable, affordable, and inclusive forage solution contributing meaningfully to improved livelihoods, resilient livestock systems, and long-term food security.

References

Burkart, S. and Mwendia, S. 2024. Forage seed systems to close the ruminant feed deficit in Eastern Africa. *Grasses* 3(4): 333-354. https://doi.org/10.3390/grasses3040025.

Florez, J.F., Karimi, P., Paredes, J.J., Ángel, N.T. and Burkart, S. 2024. Developments, bottlenecks, and opportunities in seed markets for improved forages in East Africa: The case of Kenya. *Grassland Research* 3: 79-96. https://doi.org/10.1002/glr2.12073.

Junca Paredes, J.J., Florez, J.F., Enciso Valencia, K.J., Hernández Mahecha, L.M., Triana Ángel, N. and Burkart, S. 2023. Potential forage hybrid markets for enhancing sustainability and food security in East Africa. *Foods* 12(8):1607. https://doi.org/10.3390/foods12081607.

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