VACCINATION STRATEGY AND VACCINATION PROGRAM FOR EXEMPLAR REGIONS

A VITAL 2–aligned vaccination strategy implemented by the Kenya Veterinary Association (KVA) to catalyse private sector led delivery of ruminant vaccines, using Kajiado and Narok as exemplar counties to demonstrate scalable, demand-driven vaccination systems across Kenya.

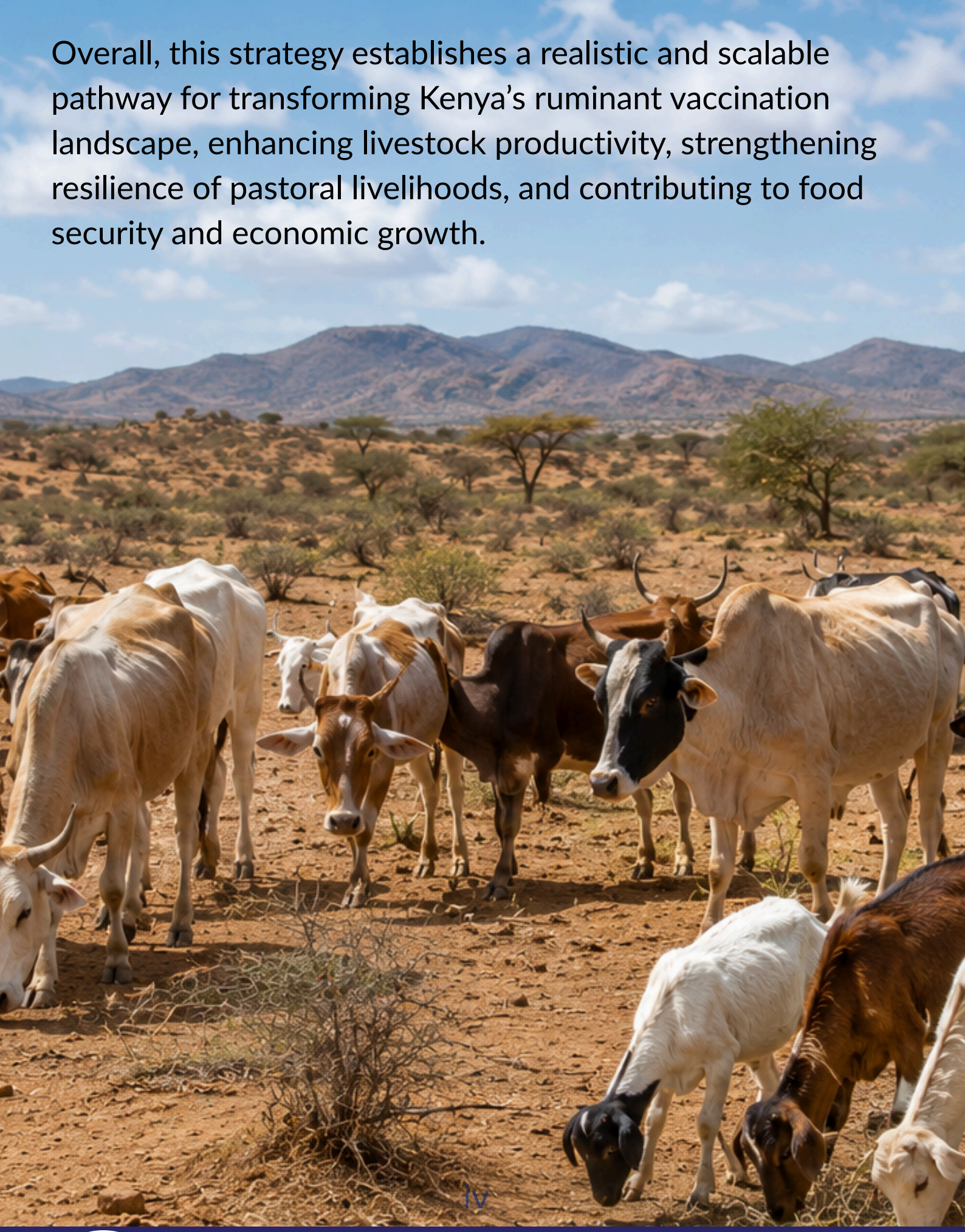
KENYA VETERINARY ASSOCIATION
Advancing Health Through Veterinary Excelence

EXECUTIVE SUMMARY

The Veterinary Innovations Transforming Animal Health and Livelihoods 2 (VITAL 2) programme seeks to address persistently low ruminant vaccination coverage across sub-Saharan Africa, where rates can be as low as 2%, despite livestock contributing up to 30–80% of agricultural GDP and losing up to 20% of productivity annually due to disease. In Kenya, the programme adopts a national approach while using Kajiado and Narok Counties as exemplar regions to demonstrate scalable, high-impact vaccination models. This vaccination strategy provides a practical, market-oriented framework to guide the deployment of 15 million doses of ruminant vaccines in Year 1, focusing on five priority diseases: Lumpy Skin Disease (LSD), Contagious Bovine Pleuropneumonia (CBPP), Peste des Petits Ruminants (PPR), Contagious Caprine Pleuropneumonia (CCPP), and Sheep and Goat Pox (SGP). The strategy aligns vaccination efforts with epidemiological risk, seasonal patterns, and livestock mobility dynamics, particularly within pastoral and agro-pastoral systems.

A central feature of the strategy is its private sector-led delivery model, where veterinarians, paraprofessionals, and agrovets provide vaccination services, while the Kenya Veterinary Association (KVA) plays a facilitative and enabling role. KVA supports demand creation, coordination, seasonal planning, cold chain strengthening, and system performance monitoring, ensuring that vaccination becomes farmer-driven and financially sustainable. The strategy integrates mobile and static delivery systems to ensure reach across diverse production systems, supported by cluster-based service delivery, targeted awareness campaigns, and strengthened last-mile cold chain infrastructure. A robust monitoring and adaptive learning framework enable real-time performance tracking, continuous improvement, and evidence-based scale-up. In Kajiado and Narok, an intensified exemplar programme demonstrates how coordinated demand creation, service delivery, and system strengthening can significantly improve vaccination coverage in pastoral settings. Lessons from these counties will inform national scale-up under VITAL 2.

Overall, this strategy establishes a realistic and scalable pathway for transforming Kenya's ruminant vaccination landscape, enhancing livestock productivity, strengthening resilience of pastoral livelihoods, and contributing to food security and economic growth.



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INTRODUCTION

The Veterinary Innovations Transforming Animal Health and Livelihoods 2 (VITAL 2) programme represents a major continental effort to address one of the most persistent constraints in African livestock systems, low vaccination coverage among ruminants. Led by the Global Alliance for Livestock Veterinary Medicines (GALVmed), VITAL 2 builds on earlier successes in vaccine development and commercialization, while shifting emphasis toward market transformation, strengthened delivery systems, and sustainable vaccine uptake, particularly among small-scale livestock producers.

Livestock production remains a cornerstone of livelihoods across sub-Saharan Africa, contributing significantly to food security, income generation, and national economies, especially in ASAL regions. In many countries, livestock contributes between 30% and 80% of agricultural GDP. Despite this importance, the sector continues to experience substantial losses due to infectious diseases, with up to 20% of livestock production lost annually, and a disproportionately higher burden in sub-Saharan Africa.

Vaccination is one of the most effective and economically viable tools to address these challenges. However, coverage across the region remains critically low, in some cases as low as 2%, driven by weak supply chains, limited last-mile service delivery, low farmer awareness, and insufficient private sector engagement. The VITAL 2 programme is designed to address these constraints by strengthening the vaccine ecosystem through market-driven approaches, enhanced private sector participation, and improved access to quality vaccines.

In Kenya, VITAL 2 adopts a national approach, while using Kajiado and Narok Counties as exemplar regions to demonstrate scalable, high-impact vaccination models. These counties reflect the realities of pastoral and agro-pastoral systems, where improved vaccination coverage can rapidly reduce disease burden and enhance livelihoods. The strategy is therefore nationally applicable, while drawing practical insights from these exemplar settings to guide implementation and scale.

Strategic Objective and Guiding Principles

The objective of this activity is to develop a comprehensive, operational, and scalable vaccination strategy to guide the effective deployment of 15 million doses of ruminant vaccines in Year 1. The strategy is designed as a practical implementation framework, applicable at the national level, while drawing on operational realities and lessons emerging from the exemplar counties of Kajiado and Narok.

Rather than a purely theoretical construct, this strategy serves as a field-oriented guide that reflects the diversity of livestock production systems in Kenya, particularly the dynamics of pastoral, agro-pastoral, and emerging sedentary systems, and provides clear direction for coordinated, market-based vaccination delivery.

Several guiding principles underpin this strategy:

- **Epidemiological risk alignment:** Vaccination will be informed by when and where diseases are most likely to occur, aligning interventions with seasonal patterns, livestock movement, and identified disease hotspots to maximize impact

- **System-adapted delivery approaches:** Delivery models will reflect the realities of livestock production systems, particularly the predominance of nomadic and transhumant herds, requiring flexible, mobile service provision alongside static delivery systems for sedentary populations.

- **Private sector-led implementation:** The strategy is anchored in strengthening private veterinary service delivery, positioning veterinarians, agrovets, and animal health providers as the primary actors, while the programme, through KVA, plays a facilitative and enabling role.

- **Demand-driven uptake:** Livestock keepers are central to the model, with emphasis on awareness creation, economic incentives, and service accessibility to ensure willingness to pay and sustained uptake of vaccination services.

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EPIDEMIOLOGICAL FOCUS AND DISEASE PRIORITIZATION

The vaccination programme focuses on five priority diseases: Lumpy Skin Disease (LSD), Contagious Bovine Pleuropneumonia (CBPP), Peste des Petits Ruminants (PPR), Contagious Caprine Pleuropneumonia (CCPP), and Sheep and Goat Pox (SGP). These diseases constitute some of the most significant constraints to livestock productivity in Kenya, particularly within pastoral and agro-pastoral systems such as those found in Kajiado and Narok. Their impact extends beyond direct production losses to include reduced market access, trade restrictions, and heightened vulnerability of livestock-dependent livelihoods. While these diseases are of national importance, their epidemiological patterns are especially pronounced in ASAL systems, making the exemplar counties critical reference points for strategy design and implementation.

The epidemiology of these diseases varies considerably, requiring a differentiated and risk-based vaccination approach. LSD is closely associated with vector dynamics and typically surges during and after rainy seasons when biting insect populations increase. In contrast, CBPP and CCPP are primarily driven by animal movement and close contact, making them particularly persistent in pastoral systems characterized by herd mobility and frequent mixing at grazing and watering points. PPR and SGP, on the other hand, spread rapidly within small ruminant populations and can result in high morbidity and mortality, especially in previously unexposed (naïve) herds.

In response to these dynamics, the strategy adopts a risk-based geographic targeting approach, prioritizing key transmission nodes that drive disease spread. These include:

- Cross-border grazing zones and livestock movement corridors
- Seasonal migration routes and dry-season grazing reserves
- Livestock markets and aggregation points
- Communal watering points and salt licks

These locations act as epidemiological hotspots, where intensified vaccination efforts can have the greatest impact in reducing transmission and achieving herd immunity. To guide implementation, table 1 below summarizes the linkage between priority diseases, their epidemiological drivers, and the corresponding vaccination strategy focus.

Table 1: Priority Diseases, Target Species, and Vaccination Strategy Focus

Disease	Target Species	Epidemiological Drivers	Vaccination Timing Focus
LSD	Cattle	Vector-borne (rainfall, insects)	Pre-rainy season
CBPP	Cattle	Animal movement, close contact	Pre-migration / dry season
PPR	Sheep & Goats	Rapid transmission in flocks	Dry season mass campaigns
CCPP	Goats	Herd clustering, movement	Dry season / congregation points
SGP	Sheep & Goats	Direct contact, seasonal peaks	Pre-rainy season

LIVESTOCK PRODUCTION SYSTEMS AND TARGET POPULATIONS

Livestock production systems in Kenya, particularly in Kajiado and Narok Counties, are predominantly pastoral and agro-pastoral, with livestock mobility as a defining feature. Nomadic and transhumant herds move seasonally in search of pasture and water, often covering large distances and interacting with multiple herds along migration routes, grazing areas, and communal resources. While this mobility is essential for resilience in ASAL environments, it significantly increases the risk of disease transmission and persistence.

At the same time, there are pockets of sedentary, peri-urban, and semi-intensive systems, especially in areas with relatively better access to water, infrastructure, and markets. These systems present opportunities for more structured and predictable vaccination delivery, particularly through static service points. However, they remain epidemiologically linked to mobile systems and must therefore be integrated into the broader vaccination strategy.

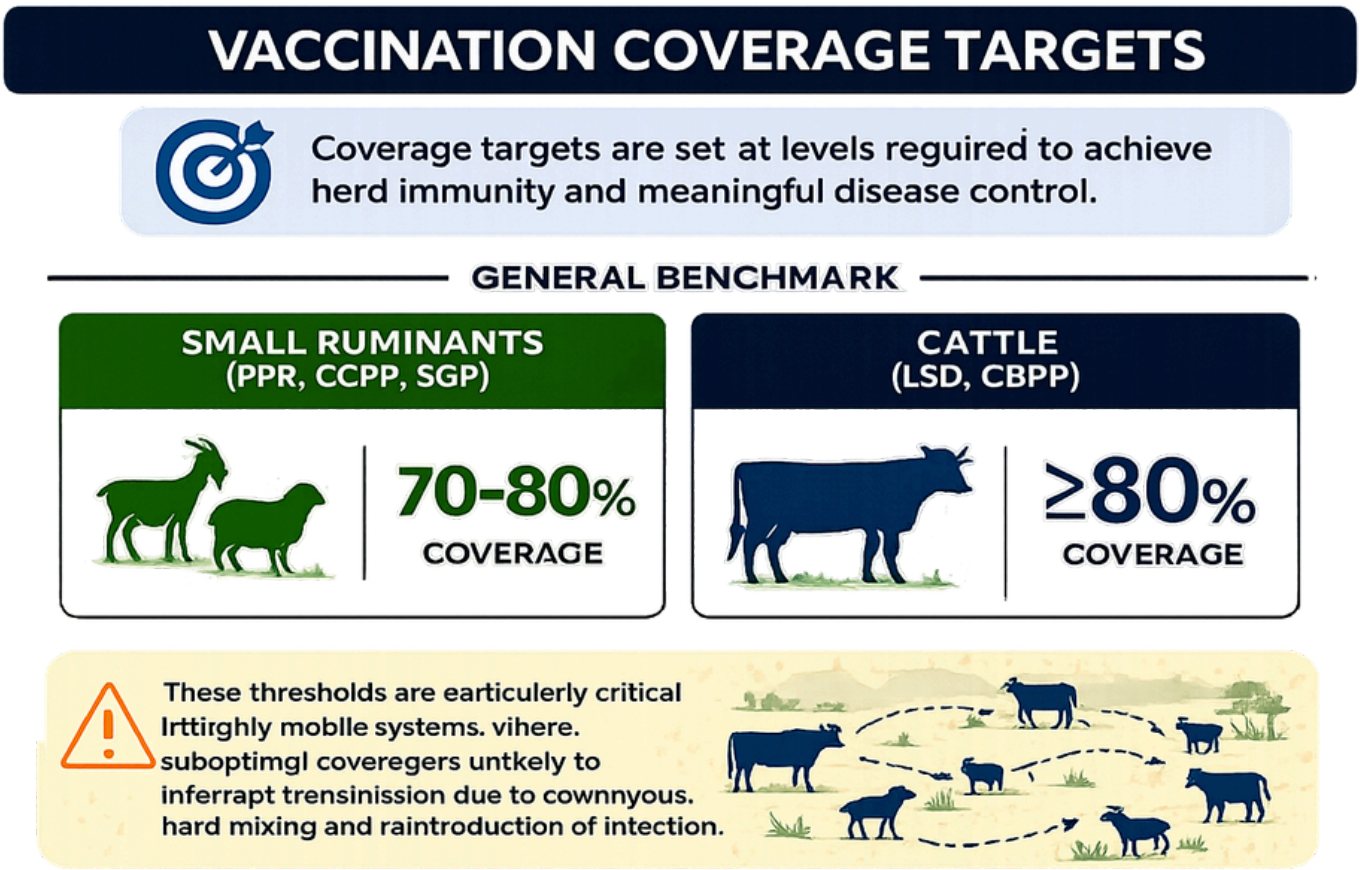
In response to this diversity, the vaccination programme adopts a segmented targeting approach, ensuring that delivery models, scheduling, and resource allocation are tailored to the specific characteristics of each production system. Within this framework, the Kenya Veterinary Association (KVA) will play a facilitative role, supporting coordination, demand creation, and system strengthening, while private veterinary service providers undertake the actual vaccination delivery. This approach includes:

- **Mobile, cluster-based service facilitation** for nomadic and transhumant herds, with KVA supporting community mobilization, scheduling, and coordination, and private veterinarians delivering vaccination services.
- **Static and routine service points** for sedentary and peri-urban systems, with KVA strengthening linkages and awareness, and private providers offering vaccination through agrovets, markets, and veterinary clinics.
- **Coordinated targeting of interaction points** such as markets, water points, and migration corridors, where KVA supports planning and mobilization, enabling private providers to efficiently reach multiple herds

Coverage targets are set at levels required to achieve herd immunity and meaningful disease control. As a general benchmark:

- Small ruminants (PPR, CCPP, SGP): 70–80% coverage
- Cattle (LSD, CBPP): ≥ 80% coverage

These thresholds are particularly critical in highly mobile systems, where suboptimal coverage is unlikely to interrupt transmission due to continuous herd mixing and reintroduction of infection.



VACCINATION SCHEDULING AND SEASONAL ALIGNMENT

One of the most critical determinants of vaccination success in pastoral and agro-pastoral systems is timing. Vaccination must be aligned not only with disease epidemiology, but also with seasonal patterns, livestock movement dynamics, and resource availability. In highly mobile systems, poorly timed vaccination can significantly reduce impact, even where coverage is high.

The Kenya Veterinary Association (KVA), in collaboration with the respective county governments, will adopt a facilitative and market-enabling role, guiding and coordinating a seasonally synchronized and risk-aligned vaccination approach, while private veterinary practitioners and animal health service providers lead service delivery. KVA's role will focus on creating the conditions necessary for effective vaccination uptake, rather than directly implementing vaccination at scale.

KVA will support the alignment of vaccination timing with epidemiological risk windows, particularly:

- Pre-rainy season periods, when vaccination against LSD and SGP is most effective due to anticipated increases in vector populations
- Dry season windows, when livestock congregate at water points and grazing areas, creating optimal conditions for PPR, CCPP, and CBPP vaccination

To operationalize this, KVA will:

- Provide technical guidance and seasonal vaccination calendars to private veterinary service providers
- Conduct targeted awareness and sensitization campaigns (e.g., market activations, barazas, radio messaging) to stimulate farmer demand ahead of key vaccination periods
- Facilitate coordination with community leaders to ensure herd availability during recommended vaccination windows
- Encourage cluster-based vaccination approaches, enabling private veterinarians to efficiently vaccinate multiple herds within defined areas

In addition, KVA will promote the alignment of vaccination with livestock migration cycles, ensuring that animals are vaccinated prior to long-distance movements. This will reduce disease spread and improve vaccination effectiveness across interconnected production systems.

Rather than organizing centrally driven vaccination campaigns, the strategy emphasizes demand creation and service facilitation, where informed livestock keepers actively seek vaccination services from private providers. This approach strengthens sustainability while expanding coverage through existing market systems.

Seasonal Vaccination Calendar for Priority Ruminant Diseases

This calendar reflects Kenya's bimodal rainfall pattern and livestock movement dynamics in ASAL areas. It is structured to guide timely demand creation (KVA role) and service delivery (private veterinarians).

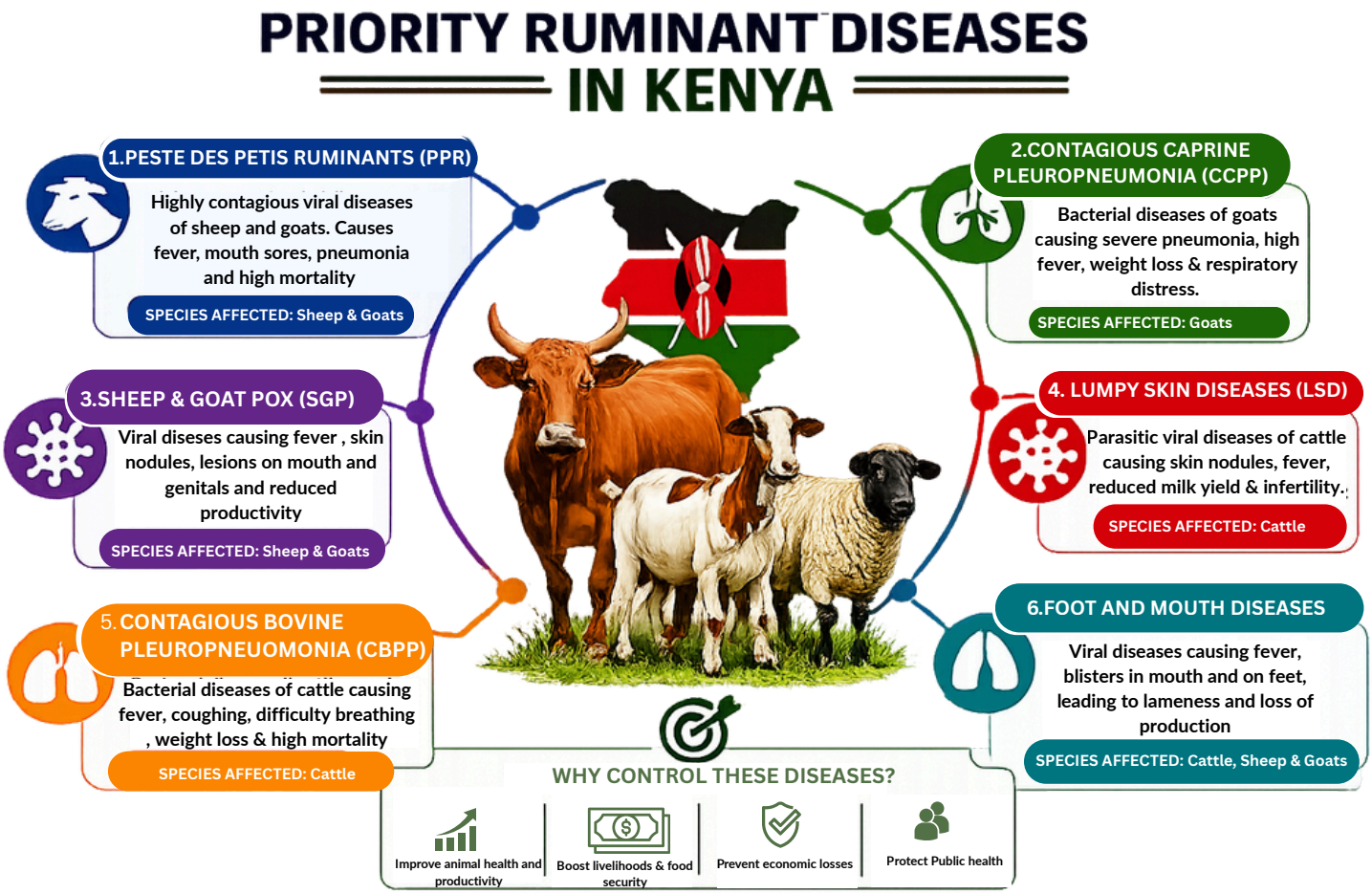


Table 2: Annual Seasonal Vaccination Calendar based on the months of the year

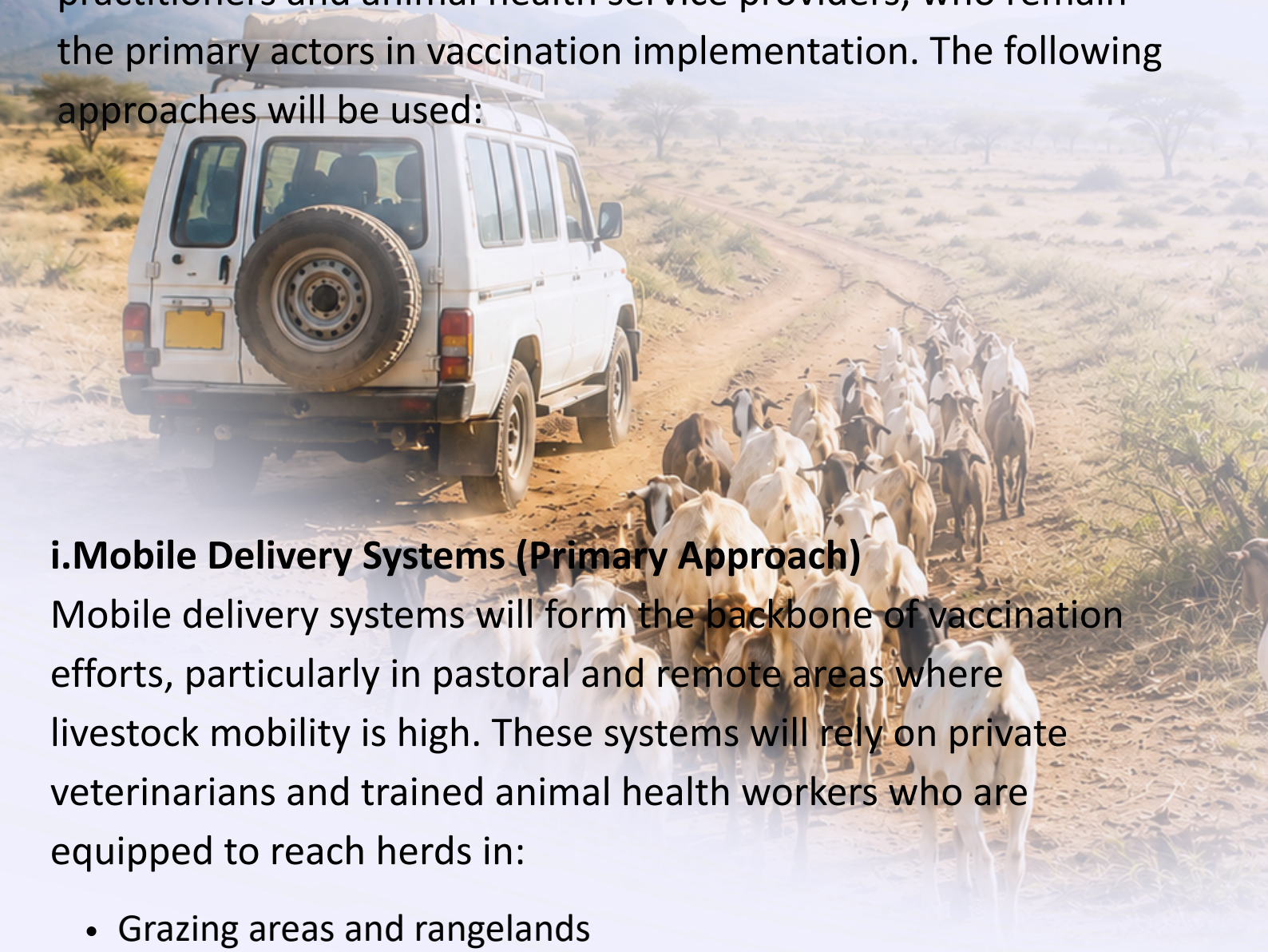
Month	Season Context(Kenya)	Priority Disease	KVA Role (Facilitation & Demand Creation)	Private Veterinary Role
January	Dry Season(Scarce pasture,herd concentration	PPR, CCPP, CBPP(major campaign 1)	Intensive market sensitization, barazas, radio campaigns, cluster mobilization	Mass vaccination of clustered herds (Campaign 1 peak)
February	Dry-Pre long rain transition	LSD, SGP	Intensified awareness campaigns, scheduling guidance	Vaccination of cattle and small ruminants (pre-rain protection)
March	Onset of long rains	LSD, SGP (Late coverage)	Reinforce messaging, mop-up awareness	Complete vaccinations before peak rains
April	Long rains(High Vector activity	Limited (catch-up only)	Advisory messaging (avoid missed herds)	Target missed or newly accessible herds
May	End of long rains	Limited (strategic only)	Planning and coordination for mid-year campaign	Limited vaccination (logistics dependent)
June	start of dry season (increasing aggreagation	PPR,CCPP, CBPP (Pre-campaign build up)	Mobilization campaigns, cluster coordination, demand creation	Pre-positioning and early vaccination in key clusters
July	Dry Season Peak (maximum aggreagation)	PPR, CCPP, CBPP(major campaign 2)	Intensive mobilization, synchronized cluster coordination	Mass vaccination campaign (Campaign 2 peak)
August	Dry Season Peak	PPR, CCPP, CBPP	Reinforcement messaging, follow-up mobilization	Continued vaccination to close coverage gaps
September	Dry-short rain transition	CBPP (Pre-migration PPR (Mop up)	Migration advisories, targeted messaging	Vaccination before herd movement
October	Onset of short rains	LSD, SGP	Awareness campaigns (short rains preparedness)	Pre-rain vaccination (second window where needed)
November	Short rains	LSD, SGP (Mop up)	Follow-up sensitization	Complete vaccination coverage
December	Early dry season	PPR (strategic), CBPP	Planning + awareness for next cycle	Limited targeted vaccination

Table 3: Vaccination Calendar based on the Animal's age

Stage/ Season	Disease	Target Animals	Purpose/Strategy
Birth(0-1month)	Immunity	All Livestock	Ensure Colostrum intake
3 Months	PPR	Sheep and Goats	Routine vaccination
	SGP	Sheep and Goats	Routine (high-risk areas)
	CCPP	Goats	Routine vaccination
4-6 Months	CBPP	Cattle	Routine vaccination
4-6 Months	LSD	Cattle	Routine / early protection
Pre-rainy Season	LSD	Cattle	Prevent outbreaks (vector control)
	SGP	Sheep and Goats	Prevent outbreaks
Dry Season/ Movement	CBPP	Cattle	Booster (movement control)
	CCPP	Goats	Booster (movement control)
	PPR	Sheep and Goats	Annual / campaign vaccination
Ring vaccination year-round	ALL	ALL	Outbreak

DELIVERY MODELS: INTEGRATING MOBILITY AND ACCESSIBILITY

Given the diversity of livestock production systems in Kenya, the strategy adopts a hybrid delivery model that integrates both mobile and static vaccination approaches. This model is designed to ensure that vaccination services are accessible, efficient, and responsive to the realities of pastoral, agro-pastoral, and sedentary systems. The Kenya Veterinary Association (KVA) will play a facilitative and coordinating role, enabling effective service delivery by private veterinary practitioners and animal health service providers, who remain the primary actors in vaccination implementation. The following approaches will be used:



i.Mobile Delivery Systems (Primary Approach)

Mobile delivery systems will form the backbone of vaccination efforts, particularly in pastoral and remote areas where livestock mobility is high. These systems will rely on private veterinarians and trained animal health workers who are equipped to reach herds in:

- Grazing areas and rangelands
- Migration routes and corridors
- Temporary settlements (manyattas)
- Communal water points and salt licks

To support this approach, the KVA will:

- Provide seasonal vaccination calendars and technical guidance to inform planning by private veterinary service providers and farmers.
- Facilitate community mobilization and awareness campaigns ahead of vaccination periods to stimulate farmer demand.
- Support coordination with local leaders, pastoral networks, and producer groups to ensure herd availability and participation.
- Promote cluster-based service delivery, enabling private veterinarians to efficiently reach and vaccinate multiple herds within defined areas.
- Support the construction of strategically located crushes to improve animal handling and facilitate efficient and safe vaccination.
- Equip selected private veterinary professionals and paraprofessionals with cool boxes and vaccine carriers to strengthen last-mile cold chain management.

Private veterinary providers will utilize motorbikes and four-wheel-drive vehicles to navigate difficult terrain and deliver services in a timely and flexible manner. Vaccination activities will be scheduled in advance, with clear communication to ensure herd availability and maximize turnout.

ii.Static Delivery Systems (Complementary Approach)

Static delivery systems will serve as complementary service points, particularly in sedentary, peri-urban, and market-oriented systems. These systems provide more predictable access to livestock and enable routine service provision.

Key static vaccination points will include:

- Livestock markets and holding grounds
- Agrovet outlets and veterinary clinics
- Dips and crushes

Within this model, the Kenya Veterinary Association (KVA) will play a facilitative role by:

- Supporting demand creation and farmer sensitization around available vaccination services
- Strengthening linkages between agrovets, private veterinarians, and other service providers
- Promoting routine vaccination practices, including timely boosters and follow-up vaccinations
- Static delivery systems will play a critical role in:
- Serving farmers with smaller, sedentary, and peri-urban herds
- Providing continuous and predictable access to vaccination services
- Supporting mop-up, follow-up, and booster vaccination activities to improve overall coverage

Table 3: Delivery Models, Roles, and Operational Focus

Delivery Model	Target System	KVA Role (Facilitaion)	Private Sector Role	Key Advantage
Mobile	Pastoral/ nomadic	Awareness, coordination, scheduling cluster mobilization	Field vaccination in grazing areas & migration routes	High reach in remote areas
Static	Sedentary/ peri-urban	Demand creation, linkage strengthening, advisory	Routine vaccination at fixed points	Consistency & accessibility

Integration of Delivery Models

The effectiveness of this strategy lies in the complementarity of mobile and static systems. While mobile delivery ensures reach in dispersed and high-risk pastoral areas, static systems provide continuity, follow-up, and accessibility in more stable production zones. KVA will ensure that these two models are well-coordinated, with clear communication, shared scheduling frameworks, and aligned demand creation efforts. This integrated approach enables a scalable, market-driven vaccination system capable of reaching diverse livestock populations across both exemplar counties and the wider national context.

EXEMPLAR VACCINATION PROGRAMME: KAJIADO AND NAROK COUNTIES

While this strategy is designed for national application, the Kenya Veterinary Association (KVA) will facilitate a structured and intensified vaccination support programme in the exemplar counties of Kajiado and Narok.

These counties serve as demonstration and learning sites, where the full set of strategy components, epidemiological targeting, seasonal scheduling, delivery coordination, demand creation, cold chain strengthening, and performance tracking, are implemented in an integrated and highly coordinated manner.

The exemplar programme does not introduce new activities beyond the strategy; rather, it prioritizes, sequences, and intensifies existing interventions within defined geographies to demonstrate how a functioning, private sector-led vaccination ecosystem can be operationalized at scale.

KVA will maintain a facilitative and enabling role, focusing on strengthening coordination, stimulating demand, and improving system performance,

while private veterinary service providers remain responsible for vaccination delivery.

Programme Structure and Operational Focus

The exemplar programme will be implemented through the following coordinated components:

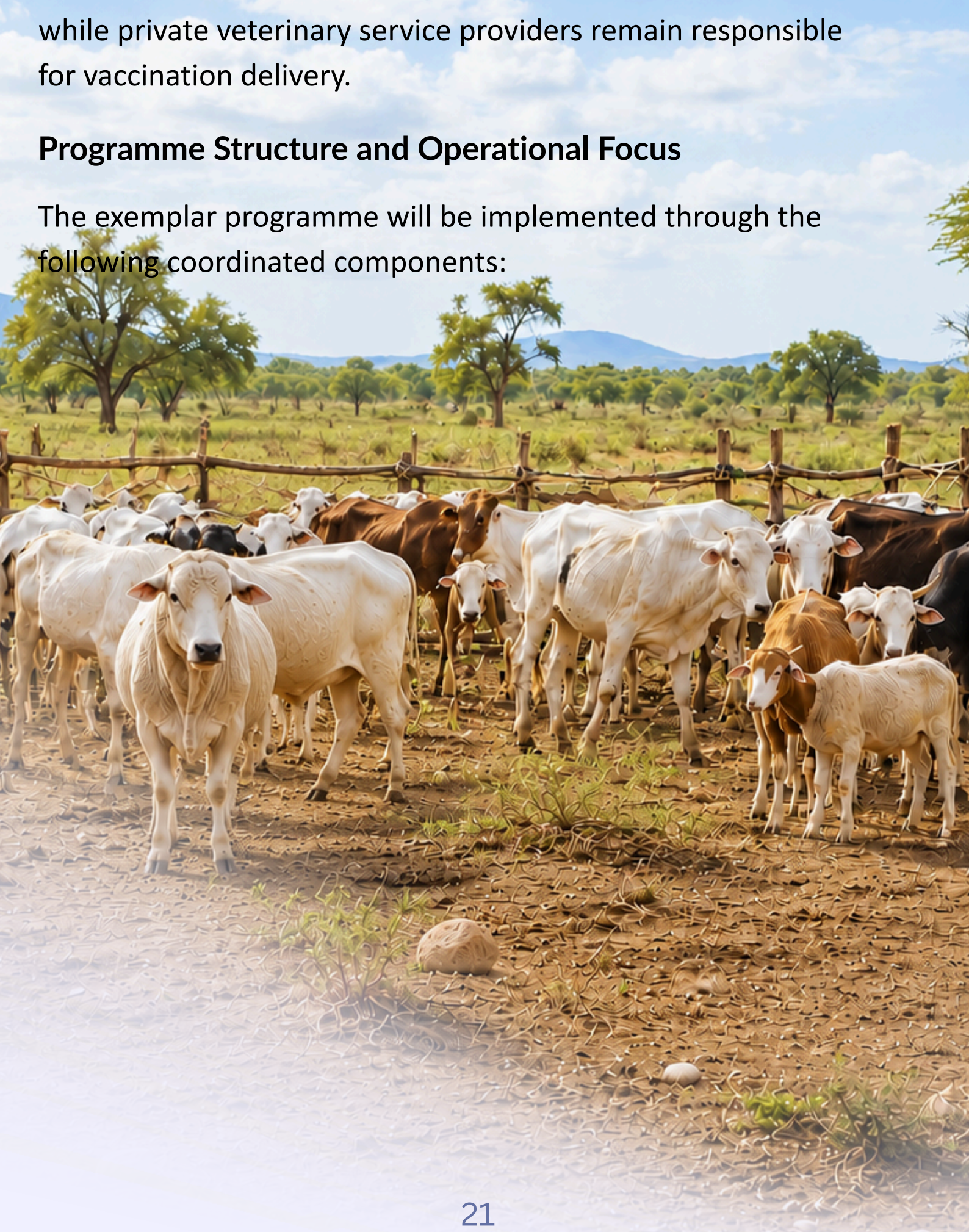


Table 4: Exemplar Vaccination Programme Framework (Kajiado & Narok)

Programme Component	KVA Role (Facilitation & System Strengthening	Link to Existing Strategy Sections	Expected Result in Exemplar Counties
Targeting & Micro-Planning	Mapping livestock populations, migration routes, service providers; guiding risk-based geographic targeting	Epidemiological Focus; Production Systems	More precise targeting of hotspots and efficient resource use
Seasonal Scheduling & Coordination	Provide vaccination calendars; align stakeholders to seasonal disease risk and migration cycles	Vaccination Scheduling Section; Seasonal Calendar	Timely vaccination aligned with epidemiological windows
Demand Creation & Farmer Mobilization	Market activations, barazas, radio messaging, pastoral engagement; economic messaging on vaccination benefits	Private Sector & Demand Section	Increased farmer willingness to pay and service uptake
Service Delivery Coordination	Facilitate cluster-based vaccination planning; link communities with private vets & agrovets	Delivery Models (Mobile & Static)	Improved efficiency and coverage through coordinated service delivery
Cold Chain Strengthening (Last Mile)	Support selected agrovets with solar fridges; equip providers with cool boxes; promote best practices	Cold Chain Section	Improved vaccine quality and reduced wastage
Infrastructure Support	Support construction of strategic crushes in high-traffic livestock areas	Delivery Systems Section	Safer and more efficient animal handling during vaccination
Monitoring & Performance Tracking	Promote digital tools, aggregate data, supervise, and convene review meetings	Monitoring Framework Section	Real-time visibility of coverage and performance gaps
Learning & Adaptive Management	Document lessons, facilitate review sessions, refine approaches	Monitoring & Learning Section	Evidence-based models for national scale-up

Operational Differentiation in Exemplar Counties

What distinguishes the exemplar programme is not the type of interventions, but the intensity, coordination, and consistency of implementation. Specifically:

- Activities are geographically concentrated in high-impact zones such as migration corridors, markets, and grazing clusters
- Interventions are synchronized across components (e.g., demand creation aligned with vaccination calendars and service availability)
- Monitoring is more frequent and granular, enabling real-time adjustments
- Private sector actors operate within a more structured and predictable system, improving efficiency and responsiveness

Pathway to National Scale

The exemplar counties will serve as live demonstration systems, generating practical evidence on:

- Achievable vaccination coverage under a private sector-led model
- Cost-effective approaches for pastoral and agro-pastoral systems
- Effective combinations of demand creation, coordination, and system support

KVA will systematically document lessons from these counties and translate them into standardized tools, guidelines, and operational models for replication across other counties.
In this way, the exemplar programme becomes the bridge between strategy and national scale, ensuring that implementation is not only well-designed, but also proven, adaptable, and sustainable.

PRIVATE SECTOR-LED DELIVERY AND FARMER PARTICIPATION

A central pillar of this strategy is the deliberate reliance on private sector-led delivery mechanisms to achieve sustainable and scalable vaccination coverage. Private veterinarians, paraprofessionals, and agrovet operators are already embedded within livestock production systems across Kenya, including in Kajiado and Narok, and represent the most viable and enduring pathway for last-mile service provision.
Within this model, KVA will play a facilitative and market-enabling role, strengthening existing service delivery systems rather than substituting them. This includes:

- Mapping and profiling active private veterinary service providers
- Providing technical guidance, standardized vaccination protocols, and seasonal advisories
- Supporting capacity strengthening and continuous professional engagement
- Facilitating linkages between vaccine manufacturers, distributors, agrovets, and field practitioners

By reinforcing these linkages, the strategy aims to improve both the availability of vaccines and the quality and reach of vaccination services. At the core of this approach is the recognition that vaccination must be farmer-driven and farmer-financed. Sustainable uptake depends on livestock keepers perceiving vaccination not as an externally promoted activity, but as a valuable and necessary investment in their production systems.

KVA will therefore place strong emphasis on demand creation and behavior change, including:

- Targeted awareness campaigns highlighting economic benefits of vaccination
- Messaging that links vaccination to reduced mortality, improved productivity, and income protection
- Engagement through markets, barazas, producer groups, and local communication channels

To improve affordability and uptake, the strategy will promote collective and market-efficient service models, including:

- Group-based vaccination, where farmers coordinate demand to reduce service delivery costs
- Cluster-based service provision, enabling private veterinarians to vaccinate multiple herds efficiently
- Bundled services, combining vaccination with deworming, advisory support, or herd health packages

These approaches enhance value for money for farmers while improving the commercial viability of private veterinary services, thereby reinforcing the sustainability of the system.
Ultimately, this strategy positions vaccination within a functioning livestock health market, where informed demand, responsive service provision, and efficient supply chains interact to drive increased coverage. KVA's role is therefore to catalyze, coordinate, and sustain this ecosystem, ensuring that vaccination becomes a routine and valued component of livestock production across both exemplar counties and the wider national context.

VACCINE SUPPLY CHAINS AND COLD CHAIN MANAGEMENT

The effectiveness of vaccination depends not only on delivery, but also on the integrity and potency of the vaccine. Maintaining a functional cold chain within the recommended 2–8°C range is therefore essential to ensure vaccine efficacy and achieve the desired disease control outcomes. KVA will establish and promote minimum operational standard operating procedures for vaccine storage, transport, and handling, while working within and strengthening existing private sector-led supply chains. Agrovet outlets will serve as critical nodes for vaccine distribution, acting as the primary interface between manufacturers, distributors, and field-level service providers.

KVA will also play a targeted facilitative role to strengthen last-mile cold chain capacity without displacing private sector responsibility. Specifically, KVA will:

- Support selected last-mile agrovet outlets with solar-powered refrigeration units, particularly in remote and underserved areas, to ensure consistent vaccine storage despite unreliable power supply
- Equip private veterinary paraprofessionals and mobile service providers with high-quality cool boxes and vaccine carriers, enabling safe transport of vaccines during field operations
- Provide technical guidance on cold chain management, including handling protocols, temperature monitoring, and good storage practices

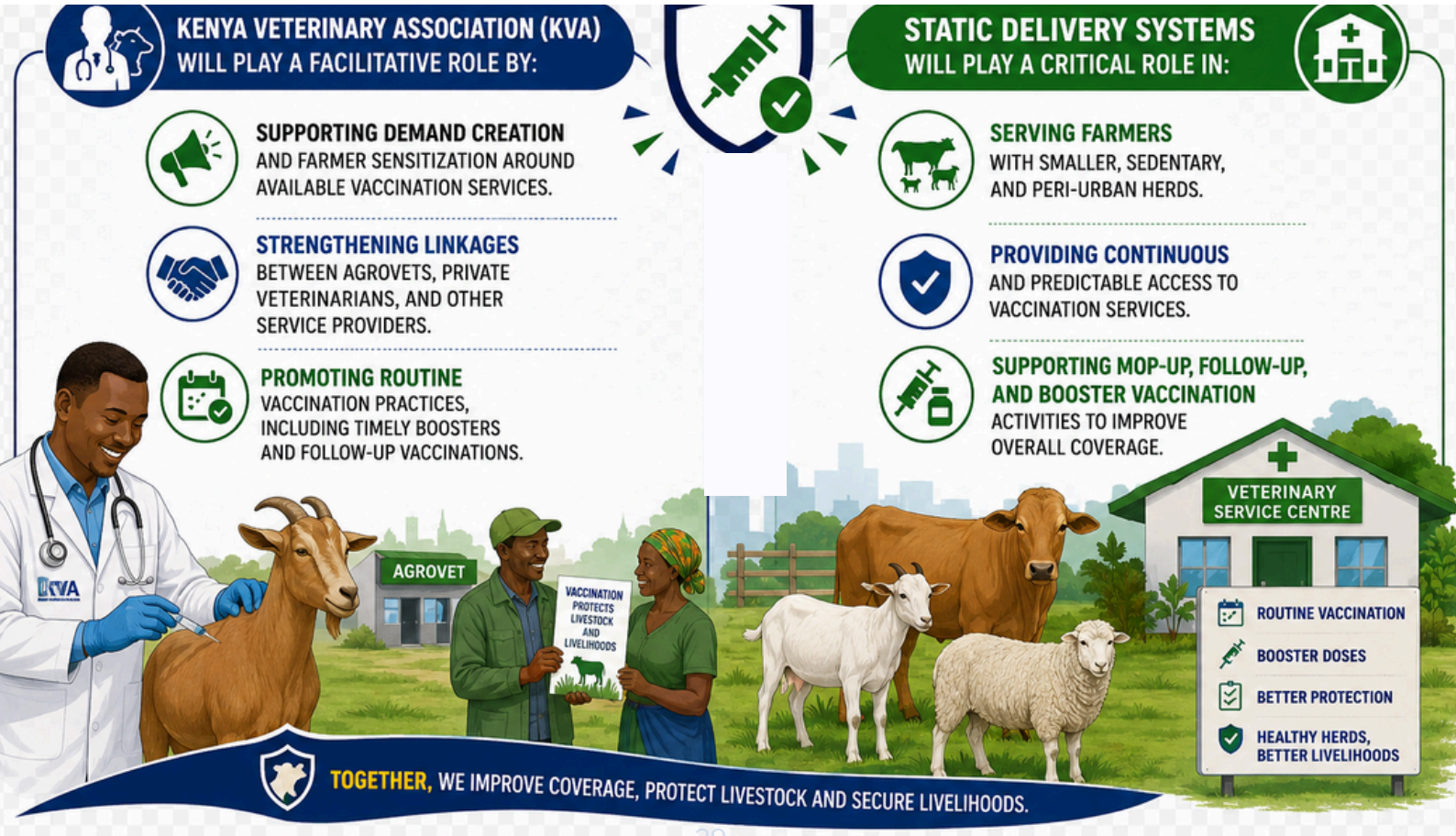
These targeted investments are designed to de-risk vaccine distribution at critical points in the supply chain, while maintaining a market-based system.

For last-mile delivery, private veterinary teams will utilize portable vaccine carriers with conditioned ice packs, ensuring that vaccines remain within the required temperature range during transport to grazing areas, migration routes, and remote settlements.

Vaccination routes will be carefully planned to minimize transit time and exposure to heat, particularly in ASAL environments. In remote areas with limited infrastructure, KVA will promote the adoption of solar-powered refrigeration solutions as a sustainable and scalable option for maintaining cold chain integrity.

These interventions will be complemented by strengthened linkages between agrovets, distributors, and service providers, ensuring reliable vaccine availability and continuity of supply.

Overall, this approach balances targeted system strengthening with private sector ownership, ensuring that cold chain improvements enhance vaccine access and quality while supporting the long-term sustainability of the livestock vaccine market.



MONITORING, PERFORMANCE TRACKING, AND ADAPTIVE LEARNING

KVA will establish a robust monitoring and learning system to ensure accountability, performance tracking, and continuous improvement. This framework will capture data from private veterinary service providers and other actors across the vaccine delivery ecosystem, without disrupting the market-based approach. Monitoring will focus on key performance indicators, including:

- Number of animals vaccinated (by species and disease)
- Vaccination coverage levels relative to target thresholds
- Geographic reach and distribution of services
- Farmer uptake and willingness to pay
- Vaccine utilization and service delivery efficiency

KVA will establish a robust monitoring and learning system to ensure accountability, performance tracking, and continuous improvement. This framework will capture data from private veterinary service providers and other actors across the vaccine delivery ecosystem, without disrupting the market-based approach. Monitoring will focus on key performance indicators, including:

- Supportive supervision and periodic field visits
- Spot checks to validate reported vaccination data
- Verification of cold chain compliance at agrovet and field levels
- Monitoring of adverse events following vaccination (AEFIs)

These measures will ensure that vaccination services maintain technical quality and safety standards, while reinforcing trust among livestock keepers.

Importantly, the strategy embeds a strong adaptive learning approach. KVA will convene regular review and reflection sessions with key stakeholders, including private veterinarians, agrovets, and county actors, to:

- Assess progress against targets
- Identify operational bottlenecks and emerging risks
- Share lessons and best practices
- Adjust implementation strategies based on field realities

Table 5: Monitoring Framework and Roles

Monitoring Area	Monitoring Area	KVA Role	Private Sector Role
Monitoring Area	Number of animals vaccinated, % coverage	Number of animals vaccinated, % coverage	Number of animals vaccinated, % coverage
Geographic Reach	Areas covered, hotspot identification	Mapping and gap analysis	Reporting service locations
Service Uptake	Farmer participation, willingness to pay	Demand analysis, feedback loops	Service delivery and client engagement
Quality Assurance	Cold chain compliance, service standards	Supervision, spot checks, guidance	Adherence to protocols
Learning & Adaptation	Lessons, challenges, improvements	Coordination of review meetings	Participation and feedback

Overall, this monitoring system ensures that the strategy remains data-driven, responsive, and performance-oriented, while reinforcing the role of private sector actors as the primary source of service delivery data. By combining real-time tracking with structured learning processes, KVA will continuously refine implementation and support the scalable expansion of vaccination coverage across both exemplar counties and the national context.

CONLUSION

This vaccination strategy presents a comprehensive, practical, and market-oriented approach to improving ruminant vaccine coverage in Kenya. While grounded in the operational realities of the exemplar counties of Kajiado and Narok, the strategy is designed to be nationally applicable and scalable, providing a clear framework for expanding vaccination uptake across diverse livestock production systems. By aligning vaccination with epidemiological risk, adapting delivery models to livestock mobility and system diversity, and strengthening private sector-led service provision, the strategy establishes a realistic pathway for the effective deployment of 15 million vaccine doses in Year 1. Central to this approach is the facilitative role of the Kenya Veterinary Association (KVA) in catalysing demand, coordinating stakeholders, and strengthening the enabling environment, while private veterinary service providers drive last-mile delivery.

Through its emphasis on demand creation, system strengthening, and adaptive implementation, the strategy moves beyond short-term interventions toward building a sustainable and self-reinforcing livestock health market.

In doing so, it directly contributes to the broader objectives of the VITAL 2 programme, transforming ruminant vaccine markets, improving animal health outcomes, and unlocking the full potential of livestock as a driver of food security, economic growth, and resilient livelihoods in Kenya and across sub-Saharan Africa.