Round Table Sessions 2024

Future-Proofing Kenyan Feed Sector

Fostering sustainable and future-proof feed value chain development

Issued by: Larive International and Lattice Consulting

Issued to: Animal feed value chain sector stakeholders

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Netherlands Enterprise Agency

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Executive summary

Kenyan feed sector stakeholders unite to address sector's most urgent challenges

On March 21st, 2024, Nairobi hosted a roundtable discussion organized by Lattice and Larive International, in partnership with ASNET[1] and AKEFEMA[2], and sponsored by the Embassy of the Kingdom of the Netherlands. The event aimed to improve the animal feed supply chain's sustainability, attracting 108 diverse stakeholders. At each round table, various topics were tackled, including regulatory compliance, feed safety, capacity building, industry collaboration, waste reduction, livestock health, feed innovation, market trends, technology, and future challenges. Stakeholders shared insights and devised strategies to enhance feed manufacturing efficiency and sustainability.

The outcomes address a range of challenges within the livestock and agriculture industries, focusing on regulatory complexity, compliance issues, and gaps in policy and knowledge. It highlights the importance of sustainable practices in sourcing, storage, and staffing, along with concerns about nutritional diversity, safety standards, and cost efficiency in animal feeding. The action points also discuss the need to navigate precision, technology, and traceability in feed formulation, while considering consumer acceptance. Additionally, it touches upon sustainability and profitability challenges in the livestock industry and barriers to digital adoption in agriculture.

Overall, the multistakeholder gathering, representing decades of research, knowledge and practice in the feed sector, framed the gap between its current state and its desirable future state, coming up with practical action points to ensure the sector's future efficiency, quality, and sustainability

1: Agriculture Sector Network
2: The Association Kenya Feed Manufacturers

Introduction

Introduction

Fostering sustainable and future-proof feed value chain development

On March 21st, 2024, the animal feed industry in Kenya met in Nairobi to discuss building a better and more sustainable feed supply chain. This roundtable was organised by Lattice and Larive International, in partnership with ASNET (Agricultural Sector Network) and AKEFEMA (the Association of Kenya Feed Millers) and sponsored by the Embassy of the Kingdom of the Netherlands in Nairobi.

The roundtable discussion was graciously joined by 108 sector participants and boasted a diverse representation of stakeholders spanning the entire animal feed value chain. Attendees included the Kenya Bureau of Standards, the Association of Kenya Feed Manufacturers, feed millers, input suppliers, private laboratories, policy research organizations, academia, the Ministry of Agriculture, and other actors in Kenya's agricultural and livestock sectors including processors and off-takers.

The event saw the presence of esteemed Ambassador Maarten Brouwer from the Embassy of the Kingdom of the Netherlands, who addressed the sector's challenges, opportunities, and potential threats. In addition to Ambassador Brouwer's address, speeches were delivered by Dr. Joshua Chepchieng, representing Livestock Principal Secretary Jonathan Mueke; Agatha Thuo, CEO of ASNET; Professor Charles Gachuiri from the University of Nairobi; Paul Kamau, CEO of AKEFEMA; and Joe Maye, Director at Lattice Consulting.

Roundtable discussion topics

Roundtable discussion topics

Eleven thoughtfully selected topics represent the primary challenges confronting the sector

After the speeches concluded, the forum broke up into round tables, each comprising varied stakeholders, to discuss carefully chosen topics. These topics, representing the primary challenges confronting the sector, were chosen in collaboration with ASNET and AKEFEMA.

1. Regulatory environment, compliance, and policy.
2. Feed safety and quality assurance.
3. Capacity building and training.
4. Industry collaboration and networking.
5. Storage and prevention of pre- and post-milling wastage/losses.
6. Livestock health and nutrition.
7. Innovations in feed formulation and alternative ingredient sourcing.
8. Market trends and consumer demands.
9. Technology adoption and digitalization.
10. Future outlook and challenges.
11. Feed manufacturing efficiency and sustainability.

Output per discussion topic

1. Regulatory environment, compliance and policy

Regulatory complexity, non-compliance and policy gaps

Challenges:

- Understanding and adhering to the Standards Act (Cap 496) and other regulations can be complex and challenging for feed producers.
- Feed mill sector initiatives towards self-regulation are challenged by the large number of MSME[1] millers who have difficulty with compliance.
- Existing policies may not fully address emerging concerns such as food safety, sustainability, and market competitiveness.
- The regulatory regime does not mandate or enforce ongoing testing so little testing is done.

Opportunities:

Policy improvement

- There's an opportunity to improve existing policies, such as the national food safety policy, to better address current challenges.

Innovation support

- Strategies like introducing mobile dryers and regulating vegetatively propagated crops can support technological advancements in feed production.

Stakeholder engagement

- Engaging with various stakeholders can help balance interests and ensure effective policy development and implementation.

Action points:

Strengthen compliance measures

- Enhance enforcement mechanisms to ensure compliance with regulatory standards, including suspension and withdrawal of products of non-complying companies by KEBS.

Improving policy enhancement

- Improve existing policies and introduce new ones to address emerging challenges and opportunities in the feed sector, with a focus on food safety, sustainability, and competitiveness.

Support capacity building

- Invest in capacity building for policymakers, county governments, and feed industry professionals to enhance their understanding of regulations, standards, and best practices in feed production.

Encourage technological adoption

- Encourage and support the adoption of innovative technologies such as mobile dryers and solar dryers to enhance feed safety and quality assurance practices.

Promote stakeholder collaboration

- Foster collaboration among feed manufacturers, farmers, consumers, environmental advocates, and relevant associations to ensure that policies effectively balance.

1: Micro, Small and Medium Enterprises

2. Food safety and quality assurance

Compliance complexity & contamination control

Challenges:

- Ensuring adherence to existing standards and regulatory requirements can be complex and challenging for feed manufacturers.
- Ensuring the safety and quality of animal feed through monitoring and controlling potential contaminants presents significant challenges.
- Majority of testing labs are in Nairobi with only a few in Mombasa, Nakuru, and Kisumu. This makes it difficult to carry out testing in a consistent and cost-effective manner.
- Cost of testing reagents and equipment remains high making it unviable for small volume producers to carry out testing.

Opportunities:

- Emerging technologies such as mobile dryers, solar dryers, and drying services present opportunities to enhance feed safety and quality assurance practices.
- Capacity building initiatives and the implementation of handling protocols and analysis for mycotoxins offer opportunities for ongoing improvement in feed safety measures.

Action points:

<u>Strengthen compliance</u>

- Enhance efforts to ensure compliance with existing standards and regulatory frameworks, with a focus on continuous monitoring and enforcement.

<u>Increase technological adoption</u>

- Encourage and support the adoption of emerging technologies and innovations like mobile dryers and solar dryers to improve feed safety and quality assurance practices.

<u>Support capacity building</u>

- Invest in continuous capacity building initiatives for feed manufacturers to enhance their understanding of quality assurance measures and improve compliance with standards.

<u>Enhanced testing and surveillance</u>

- Strengthen inspection, testing, and surveillance mechanisms to effectively monitor and control potential contaminants in animal feed, ensuring adherence to quality standards.

<u>Encourage Standard Operating Procedures (SOPs)</u>

- Encourage the development and implementation of standardized operating procedures among feed manufacturers to address concerns regarding the quality and safety of their products, particularly in sourcing and production processes.

3. Capacity building and training

Filling capacity, knowledge, and innovation gaps

Challenges:

- Capacity gap in the industry.
- Lack of industry-based knowledge.
- Presence of unqualified processors.
- Inadequate innovations and inefficiencies.

Opportunities:

- Curriculum review to align with industry needs.
- Government support to create an enabling environment.
- Encouragement of private investment in testing infrastructure.
- Adoption of newer (and more cost-effective) testing technologies)
- Research, development, and training collaborations.
- Promotion of youth involvement in the sector.

Action points:

Stimulate industry collaboration and partnership

- Increase curriculum development collaboration between industry stakeholders, TVETs, academia, and private technical training providers to ensure curriculum remains relevant.
- Increase linkages between TVETs and private training providers to leverage resources and expertise.
- Leverage foreign embassies to establish linkages with international companies as a way of drawing on technical knowledge and expertise.
- Prioritize collaboration in research and development initiatives to foster innovation.

Improve training program enhancement

- Strengthen association training programs to bridge the capacity gap.
- Develop demand-driven and practical-oriented curricula tailored to industry requirements.
- Promote internships in the animal feed sector.
- Utilize emerging technologies for efficient training and knowledge dissemination.
- Conduct "Train the Trainer" programs to empower local millers with expertise.
- Implement knowledge transfer exchange programs to enhance skills in feed production, safety, and management.
- Facilitate the transition of technologies from the lab to the field to drive innovation and efficiency.

Elaborate on skill development and practical experience

- Provide internship opportunities for aspiring professionals to gain hands-on experience.
- Encourage these institutions to conduct research addressing emerging issues in the feed sector.

4. Industry collaboration and networking

Limited networking and collaboration due to unawareness of available platforms

Challenges:

- Limited opportunities for networking and collaboration among stakeholders.
- Lack of awareness about available platforms for collaboration.
- Insufficient engagement between academia, research institutions, and industry stakeholders.

Opportunities:

- Leveraging the convening power of industry associations like ASNET, AKEFEMA, KAM to organize events for industry stakeholders.
- Leverage media platforms to create awareness.
- Establishing academia and research forums for collaboration and knowledge exchange.

Action points:

Improve knowledge exchange

- Private sector collaboration with universities to enhance research and innovation.
- Innovation competitions to incentivize academia to bring innovations to industry.
- Government initiatives to promote innovation sensitize sectors and drive development.
- Industry collaborations pool resources and expertise for collective growth.
- Introducing a network of support enhances collaboration and fosters growth.

Establish collaborative networks for the benefit of SMEs

- Regular sessions provide SMEs with networking opportunities.
- Lobbying through apex bodies by larger players to support SME interests.
- Regulations enforcing standards benefit SMEs by ensuring quality.
- Active recruitment and education by apex organizations benefit smaller players.

Create platforms for facilitating networking and knowledge sharing

- Establish multi-stakeholder platforms at regional levels for continuous interaction.
- Create cluster groups within the industry for ongoing information exchange.

Set up successful industry collaborations

- Manufacturers engage customers through open days and trainings, enhancing customer relations.
- Organizations like the East African Grain Council link growers with buyers through market access platforms.
- Provide logistical and financial support to train farmers benefits the entire industry.
- Increase collaboration between industry stakeholders to lead to leads to breakthroughs and advancements.

5. Storage and prevention of pre- and post-milling wastage/losses

Sustainable sourcing, storage, and staffing

Challenges:

- Inputs that do not meet quality requirements.
- Inconsistent quality of inputs.
- Poor handling of materials.
- Storage conditions that do not meet standards.
- A lack of trained and qualified staff in feed production operations.
- Absence of good manufacturing practice (GMP).

Opportunities:

- Adoption of good manufacturing practices from intake to packing.
- Utilization of storage techniques & technologies e.g. mould inhibitors & silos.
- Training initiatives by sector players and leading organizations to educate the value chain.
- Embedding sustainability in processes for economic, social, and environmental benefits.
- Leveraging technology for efficient storage and prevention of wastage.

Action points:

Create awareness and sensitization

- Train manufacturers in best practices in storage and handling.

Improve infrastructure

- Improve storage facilities, packaging, and transportation systems.
- Adopt airtight bags, preprocessing techniques, and rodent-proof structures for storage.
- Explore vacuum-based cooling techniques and consider biological solutions.

Enhance market formalization and efficiency:

- Formalize market structures to reduce wastage.
- Establish quality control measures and ensure proper market linkages.
- Adopt industry practices like batch procurement and first in, first out methods.
- Conduct pretesting, especially for moisture levels, and ensure compliance with regulations.

Accelerate technological integration and support:

- Employ technology and subsidize production where feasible.
- Utilize feed formulation software for precision and efficiency in storage and milling processes.
- Learn from successful case studies like government initiatives for drying maize, solar-based dryers, and centralized feed mills for farmers.

Feeding management and transportation enhancement:

- Implement feeding management practices and improve transportation methods.

6. Livestock health and nutrition

Addressing nutritional diversity, safety standards, cost efficiency, regulatory compliance, and knowledge gaps in animal feeding practices

Challenges:

- Different animals have different nutritional needs, making it challenging to create universal feeding programs.
- Ensuring that the feed provided meets nutritional standards and is not contaminated.
- Balancing the cost of feed additives and supplements with the overall budget for animal care.
- Navigating regulations set by regulators like KEBS and standards set by industry associations like AKEFEMA to ensure feed safety and quality.
- Farmers may lack understanding of the importance of nutritional requirements and the potential benefits of optimized feed formulations.

Opportunities:

- Tailoring feed additives and supplements to meet the specific needs of different animals and situations.
- Working closely with veterinarians, nutritionists, and regulators to develop effective feeding programs.
- Implementing automation and traceability systems to optimize feed formulation and production processes.
- Expanding the market for specialized feed products targeted at specific stages of animal growth and performance.
- Enhancing animal health, reproductive performance, and overall productivity through optimized nutrition.

Action points:

Conducting education campaigns

- Conduct workshops and training sessions to educate farmers in understanding nutritional requirements and optimizing feed formulations.

Establishing collaboration platforms

- Establish platforms for feed manufacturers, veterinarians, nutritionists, and regulators to collaborate on developing customized feeding programs.

Investing in research and development

- Invest in research to develop alternative additives & formulations that address specific nutritional needs and enhance animal health and performance.

Implementing quality assurance measures

- Implement rigorous quality control measures throughout the feed production process to ensure compliance with regulatory standards and avoid contamination.

Continuous monitoring

- Regularly monitor animal health and performance metrics to assess the effectiveness of feeding programs.

7. Innovations in feed formulation and alternative ingredient sourcing

Navigating precision, technology, traceability, and consumer acceptance in feed formulation

Challenges:

- Precision in feed formulation to avoid overdosing or underdosing.
- Incorporating new technologies into feed formulation processes.
- Ensuring traceability and integrity of sourced ingredients.
- Overcoming scepticism towards alternative feeds.
- Regulatory approval for alternative ingredients is slow and complex.

Opportunities:

- Sustainable use of available resources through innovative sourcing methods.
- Incorporating alternative ingredients such as BFS, cassava peelings, sorghum, seaweed, spirulina, algae, and azolla contributes to sustainability.
- Strengthening collaboration between universities and the industry for research and innovation.
- Leveraging advancements in technology for more efficient feed production.
- Expanding acceptance of alternative feeds through education & awareness.
- Promote the use of feed formulation software in the market.

Action points:

Improve the precision of feed formulation

- Implement precision feed formulation techniques to optimize nutrient utilization.
- Utilize locally available alternative ingredients in combination with precise feed formulation.

Adopt technology and increase traceability

- Invest in technology for traceability and transparency in the supply chain.

Support collaboration and Innovation

- Foster partnerships between universities and feed manufacturers for collaborative innovation.
- Conduct research and development initiatives to improve understanding of the nutritional value and environmental impact of alternative ingredients.

Address consumer education

- Address market concerns through targeted education campaigns about alternative feeds and their benefits.

8. Market trends and consumer demands

Navigating challenges in livestock industry sustainability and profitability

Challenges:

- High cost of feed, reducing commercial feed uptake.
- Expensive protein content.
- Costly fuel and harvesting forage.
- Declining product prices leading to reduced revenue.
- Farmers selling livestock due to high feed costs.
- Elevated production costs per unit of milk/eggs/beef.
- Heavy reliance on imported raw materials (70-90%).
- Consumer sensitivity to cost and quality.

Opportunities:

- Payment based on product quality (e.g., milk).
- Utilization of arid or semi-arid land for raw material production.
- Capacity building initiatives.

Action points:

Revamp land use and infrastructure

- Reevaluate land use policies to support feed production.
- Allocate more government land for livestock feed production.
- Establish government laboratories nationwide for quality assessments.
- Develop regional feed reserves.
- Implement mechanization from seed to feed.

Fortify policy and collaboration

- Strengthen policy formulation and implementation.
- Establish multi-stakeholder platforms for collaboration.
- Ensure mandatory membership in professional associations for enforcement.

Improve marketing strategies

- Focus on providing quality feed.
- Offer smaller units of packaging.
- Standardize feed products.

Addressing gaps

- Lack of testing infrastructure.
- Scarcity of raw materials.
- Limited access to finance.

Implementing best practices

- Develop pricing models based on product quality.
- Provide advice to farmers on minimizing production costs.
- Conduct feed quality analysis.

9. Technology adoption and digitalization

Overcoming barriers to digital adoption in agriculture

Challenges:

- Limited access by farmers to smartphones and internet thus making it harder to learn new technology.
- Many farmers lack the skills and knowledge to effectively utilize digital tools and technologies.
- Integrating various digital solutions into existing farming practices can be challenging and will require additional training and support.
- The upfront cost of adopting new technologies and digital solutions is a barrier for small-scale farmers with limited financial resources.
- Concerns about the security and privacy of data collected through digital platforms deter some farmers from embracing technology.

Opportunities:

- Technology adoption opens up new market opportunities for farmers by providing access to market information and facilitating direct sales.
- Digital solutions can help farmers adapt to climate change by providing real-time weather information and supporting climate-smart agricultural practices.
- Emerging technologies offer opportunities to increase efficiency and productivity in feed production and management.
- Digital platforms can facilitate knowledge sharing and capacity building among farmers, extension workers, and other stakeholders.
- Automation and optimization tools can help farmers reduce input costs and improve profitability in the long run.

Action points:

Empower farmers through training and capacity building

- Provide training and support programs to improve farmers' digital literacy and help them effectively utilize digital tools and technologies.

Expand infrastructure development

- Invest in expanding access to affordable internet and mobile connectivity in rural areas to enable widespread adoption of digital solutions.

Forge collaboration and partnerships

- Foster collaboration between government agencies, technology providers, and agricultural organizations to develop and promote tailored digital solutions for the feed sector.

Offer financial support

- Provide financial incentives, subsidies, or grants to support farmers in adopting and implementing digital technologies.

Establish data governance standards

- Develop and implement clear policies and regulations to ensure the responsible collection, use, and protection of farmers' data in digital agriculture initiatives.

10. Future outlook and challenges

From rising costs to quality assurance and sector support

Challenges:

- Increasing prices of raw materials can strain feed production budgets and affect profitability.
- Inconsistent quality of raw materials can lead to variability in feed formulation and impact animal health and performance.
- Limited government support for the feed sector can hinder innovation, infrastructure development, and market expansion.
- Failure to effectively disseminate research findings to the industry can result in missed opportunities for improvement and innovation.

Opportunities:

- Promoting the development of the feed sector through targeted initiatives and investments can stimulate growth and innovation.
- Making research findings readily available to feed industry stakeholders can drive informed decision-making and foster innovation.
- Promoting alternative sources of proteins can diversify feed formulations, reduce dependency on traditional ingredients, and enhance sustainability.
- Encouraging the production and utilization of alternatives to maize as feed can mitigate risks associated with maize price volatility and supply chain disruptions.

Action points:

<u>Stimulate youth involvement in the feed sector</u>

- Encouraging youth participation in the feed sector through training programs, mentorship, and incentives can inject fresh perspectives and drive innovation.

<u>Increase investment in research</u>

- Increasing investment in research and development initiatives focused on feed production, raw material sourcing, and formulation optimization can address challenges and unlock opportunities for growth and resilience.

11. Feed manufacturing efficiency and sustainability

Navigating efficiency challenges in feed manufacturing

Challenges:

- Advanced machinery for feed production is expensive.
- Modern machinery requires more expensive machine operators who are trained in use of the equipment.
- Maintaining consistent quality of raw materials.
- Continuous testing of micro-nutrients.
- Poor post-harvest handling practices result in wastage.
- Poor feed manufacturing processes contribute to environmental degradation.

Opportunities:

- Support in helping milers select feed processing machinery that is suited to specific types of feed and livestock as a way of reducing waste and improving efficiency.
- Implementing automation in feed manufacturing plants to streamline processes and increase productivity.
- Utilizing advancements in technology for efficient drying, formulation, and quality control.
- Exploring alternative materials for feed production to reduce reliance on traditional, resource-intensive ingredients.
- Embracing solar energy and other renewable sources to reduce the carbon footprint of feed manufacturing.

Action points:

<u>Focus on training and education</u>

- Provide training programs for machine users to enhance their skills and ensure efficient operation of equipment.

<u>Enforce quality standards</u>

- Implement quality control measures and micronutrient testing protocols to maintain consistent feed quality.

<u>Enhance post-harvest management</u>

- Educate farmers on proper post-harvest handling techniques to minimize waste.

<u>Advance the research and development</u>

- Invest in research to develop innovative additives and technologies that improve feed efficiency and reduce environmental impact.

<u>Advocate for policy change</u>

- Advocate for policies that promote the use of renewable energy, support local production of raw materials, and incentivize sustainable practices in feed manufacturing.

Invitation to the upcoming roundtable discussion

Invitation to the upcoming roundtable discussion

Date to be announced via email and social media

The roundtable sessions serve as a platform for knowledge sharing, driving innovation, and promoting the acceptance of alternative ingredients within the sector. With the support of the Embassy of the Kingdom of the Netherlands in Kenya, this roundtable has become an annual event, facilitating ongoing collaboration, uniting stakeholders, and fostering continued innovation.

These annual gatherings offer a significant platform, striving to bring together both public and private stakeholders to pursue a shared vision and agenda. This platform will facilitate the alignment of new participants with ongoing initiatives and the utilization of collective experiences to tackle ecosystem challenges.

Now is the perfect time to enhance collaboration with stakeholders and align efforts for maximum impact.

Were you absent from the prior roundtable session(s) and are you interested in contributing to the discussion?

Take action today by reaching out to us at claudy.luft@larive.com to express your interest in joining the upcoming discussion on fostering a resilient feed sector in Kenya.

We look forward to your involvement!

Thank you for participating!

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