



Dairy, the Motor for Healthy Growth

Report of workshop organized by Netherlands and East African dairy partners

13 August 2019

Intercontinental Hotel, Nairobi



Government of the Netherlands

Dairy, the Motor for Dairy Growth Event

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This workshop report can be downloaded for free at <https://agriprofocus.com/dairy-event-with-neadap>



Workshop Report

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1 Introduction

1.1 Background

The 15th Dairy Africa conference and exhibition (AFDA, 14-16 August 2019, Nairobi) is the key event for the dairy industry in East Africa. In 2018 there were 3000 visitors and 25 exhibitors (including a Dutch pavilion with businesses and other actors). In 2019, there were 3900 participants with over 100 exhibitors inside and outside the KICC in Nairobi.

A coalition of NEADAP, AgriProFocus, 3R and F&BKP co-organised a joint knowledge sharing event on August 13 called “Dairy, the motor for healthy growth”. This event was planned the day before AFDA and is 5 years after the publication of the White Gold study on dairy and development in East Africa.

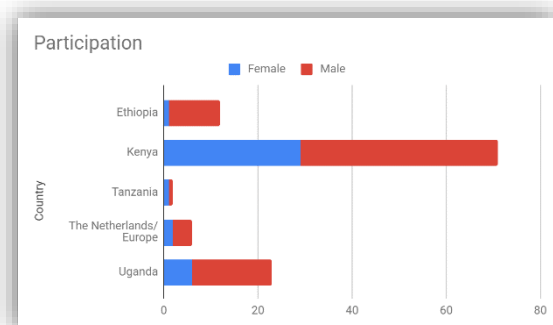
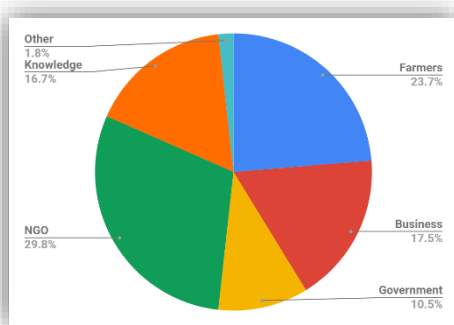
In the weeks before the event, the co-organisers also held preparatory events ‘dairy dialogues’ in Addis, Arusha, Kampala and Kigali. During the AFDA expo, the co-organisers organised a ‘dairy knowledge corner’ and invited other Dutch dairy actors namely Solidaridad, PUM and Van Hall Larenstein University.

The co-organizers aim to kick-start a Dairy Sector Community; dairy actors who are actively involved at country level, share and learn at East African level. Social media and videos of the “action on the ground” help market the event and the continuation of a Dairy Learning / future group which is rooted in the region.

1.2 Participants

- Venue: InterContinental Hotel, Nairobi – Kenya
- Day facilitator: David Maina, [Performeter](#)

Dairy value chain actors working in East Africa were invited to participate and present their work at this conference. In total, the event had had 115 participants and 19 contributors/co-organisers.



The participants represented the four main stakeholder groups. Female participation was at 34%. See full list of participants in annex.

1.3 Opening remarks on Transformation of the dairy sector

Dominique Menjo – Economic Adviser, Food Security, Office of the Deputy President of Kenya

- ❖ The dairy sector is critical for food and nutrition security (FNS)
- ❖ The Netherlands has partnered with East Africa on dairy sector development and exploring ways to steer the dairy sector forwards
- ❖ Kenya is at a crossroad: What worked for the last 25 years with regard to the development of the dairy sector may not work for the next 25 years
- ❖ FNS is also about ensuring the availability and access to relevant data and planning, and not only focusing on production. Data is needed to determine what strategies to implement towards dairy sector development
- ❖ Dairy development should also be inclusive; making the dairy sector attractive to the youth is important hence the need to package the dairy business models in such a way that it makes sense to the youth. 12,000 Kenyan agricultural students graduate per year from universities/Technical and Vocational Education and Training (TVET) Programme. Provision of extension services is an example of a business model that provides a business opportunity for the youth graduating from these institutions as students tend not to be keen on enrolling in farming anymore.
- ❖ The dairy sector should support value chain actors' livelihoods by making the sector worthwhile for them; ensuring that the dairy businesses provide value for their money.
- ❖ 80% of the current farmers are "telephone farmers" i.e. they are never at their farms physically though they own the farms. This goes to show that we as dairy sector actors cannot keep doing business as usual and expect to feed the growing population.
- ❖ We as dairy sector actors need to think regionally when it comes to dairy sector transformation. There is a need to develop a conventional approach towards increasing competitiveness in the regional market and producing sufficient quality milk both consistently and competitively while reducing the environmental foot print.



Dominique Menjo giving his opening remarks.

(Source: AgriProFocus)

Peter Mwaniki – Executive Director of ESADA, Kenya

- ❖ The transformation of Kenya’s dairy sector towards being more competitive has already begun and dairy stakeholders need to continue working towards increasing productivity, producing quality milk and improving access to markets. In line with this transformation, ESADA are working towards ensuring equitable sustainable development.
- ❖ These are effective dairy interventions but the aspect of *sustainability* needs to be taken into account much better.
- ❖ There is far much greater potential in East Africa’s productivity that is yet to be tapped into. Africa is producing less than 5% of global milk production yet more than 10% of dairy cattle globally are in Africa.
- ❖ Why is dairy important?
It supports livelihoods, with 240 million people in Africa employed directly or indirectly in the dairy sector.
- ❖ What is the dairy sector transforming **from**?
 - Inadequate quality milk production and low productivity
 - Poor market access.
 - Low Productivity
- ❖ What is the dairy sector transforming **to**?
 - A world class dairy sector – Engaging in the global market
 - Modern technologies and practices - Taking a regional approach to learning; working together to transfer knowledge and technologies and realize the potential of the industry
 - Intra-regional and international trade as well as supporting local production
- ❖ What do we dairy sector stakeholders **need to do** to transform the dairy sector?
 - Invest in the future: importing is not developing.
 - Work together throughout the region: work together to transfer knowledge and innovations to attract investments and become more competitive in the market
 - Transfer knowledge and technologies
 - Nurture: small upcoming industries
- ❖ The need for transformation is **driven by** the need to:
 - Ensure food security
 - Address climate change impacts
 - Wealth creation – For every 100 litres produced, 172 jobs are created; hence the need to increase productivity in order to generate more income
 - Ensure good health and well-being
 - Ensure sustainable supply of dairy products to cities
 - Stimulate job creation for the youth
 - Reduce inequality – there is no agricultural sector that is capable of gender mainstreaming than dairy. With more people moving to the urban centers, demand for milk is increasing and so is inequality; the ladies in many communities taking on more responsibilities, with 87 million women involved in dairy farming and 37 million farms owned by women in Africa. Hence, there is a need to bridge the gap created through inequality and ensure that the transformation process is inclusive.
This inclusivity is not only with respect to gender but also nurturing small upcoming industries. In addition, investing in the future and enhancing knowledge and technology transfer are key to ensuring successful transformation of the dairy sector.



Peter Mwaniki giving his opening remarks.

(Source: AgriProFocus)

- ❖ Why now?
 - Population growth
 - Competing demands
 - Changing and fluid environment for business, with countries coming together to form trading blocks
 - Chinese imports are on the rise, hence the need to invest now in making the dairy sector more competitive.
- ❖ All dairy stakeholders need to support a vibrant dairy industry which contributes to sustainable development' which encompasses environmental, economic, social development.

Sanne Willems – First Secretary; Food Security and Water (EKN)

- ❖ The Embassy of the Kingdom of the Netherlands (EKN) has strong business relations with East Africa and has continued to work collaboratively with East African countries in dairy sector development.
- ❖ The Netherlands and Kenya both have a vibrant dairy sector with the Kenyan dairy sector contributing to about 3-5% of the GDP. Kenya is also a large consumer of milk; the biggest consumer in Sub-Saharan Africa. Hence, promoting Kenya's consumption and production is important in the transformation of the dairy sector to becoming more competitive.
- ❖ Dairy sector development helps to fight malnutrition and meet the growing demand of the rising middle class population whose demand for dairy products is growing.
- ❖ Building blocks supported by the Dutch government have been developed to aid in dairy sector transformation. For instance, the Netherlands government is supporting research and development programs such as SNV's Kenya Market-led Dairy Program (KMDP) and 3R
- ❖ The following are areas that need attention in order to bring about sustainable dairy development:
 - Non-compliance of dairy products to food safety standards is a major issue that needs to be grappled with.
 - There is also a need to ensure that high margin dairy products are being produced while ensuring that they remain affordable for poor communities (sometimes referred to as the bottom of the pyramid).
This is being done through provision of milk through milk dispensers in Kenya for example, which is cheaper than buying packaged milk.
 - There is need for efficiency in milk production through reducing production costs which would help the farmer to make a decent living.
 - Population growth which puts pressure on the land making cattle keeping a challenge.
 - Inaccessible feeds and fodder and safe water for use in hygienic milk production needs to be addressed
 - Carbon foot print is also bound to increase with the transformation of the dairy sector, hence the need to lower the carbon footprint while increasing productivity.
 - While working towards driving sector transformation, business models also need to be inclusive including small & medium producers.



*Sanne Willems giving her opening remarks.
(Source: AgriProFocus)*

2 The why and how of dairy intensification in East Africa

Please refer to the combined PowerPoint presentation of the keynote addresses here:

<https://agriprofocus.com/dairy-event-with-neadap>

2.1 Keynote presentation on dairy intensification in East Africa

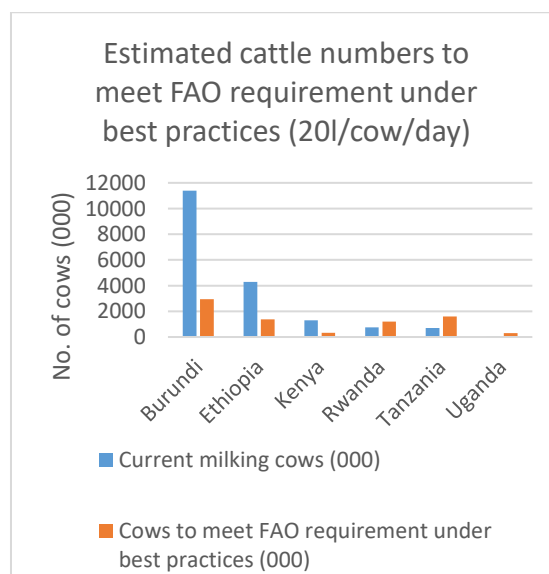
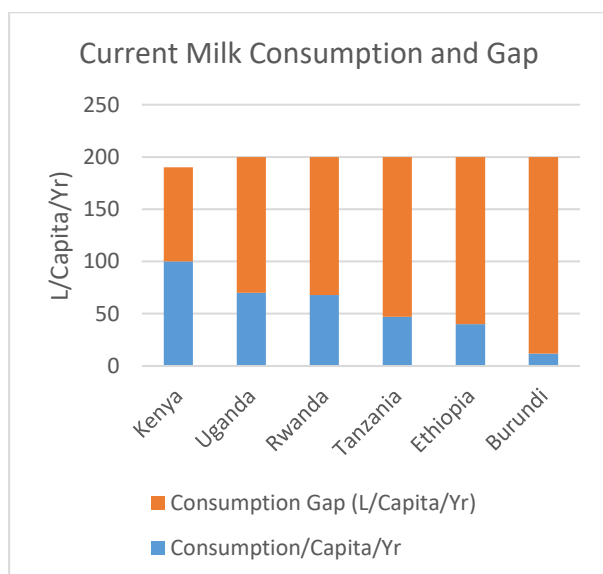
By Nathaniel Makoni (African Dairy Breeders – Total Cattle Management; ABS-TCM)

Key highlights from the presentation include:

- ❖ Migration to urban areas and the growing youth population has led to an increased demand for milk. East African countries are at a deficit when it comes to milk consumption as shown in the graph below i.e. consumption falls below the 200l/capita/year which is the ideal production rate according to FAO. For instance, Kenya's dairy consumption is at 110l/capita/year only, hence the need to promote consumption.
- ❖ East Africa's demand for milk exceeds the supply by 78%, with the demand at 59 billion litres and the supply at 13 billion litres as shown in the graph below.
- ❖ According to FAO requirements, Burundi, Ethiopia and Kenya are milking more cows than what is needed to produce efficiently and meet FAO requirements (20 l/cow/day). Hence the need for less cattle numbers and good dairy practices to increase efficiency.
- ❖ There is a need to identify what policies need to be adopted to reach productivity targets faster. Open market policies will lead to faster growth of the dairy sector as opposed to policies confined to one's own country.
- ❖ Implementation of best dairy practices are necessary for countries to reach their genetic potential, hence the need to implement policies that promote best practices.
- ❖ The goal is not to keep the highest producing cows but to keep cows that can be well managed in light of feeds availability



Nathaniel Makoni making his presentation.
(Source: AgriProFocus)



Dairy sector transformation elements:

Demand driven innovations – Dairy hubs, input advisory models and milk bulking enterprises need integration with processing plants for the growth in dairy development to be realized as a business model. For instance, dairy hubs can form an apex to provide processing facilities and smaller hubs could be established closer to the farmers to increase efficiency through enabling faster milk collection.

Embedding extension – Building extension around a dairy product provides an incentive for consumers to purchase the product thereby increasing demand for the product. Extension service models also need to be inclusive and not only target farmers that are well-off. Moreover we need a combination of private sector and public sector led extension models.

Production efficiency – Providing value addition and developing other products that are on demand would help increase consumption; for instance targeting the youth and incorporating milk into products that are attractive to them such as body building products, as well as milk powder (borrowing a leaf from Uganda) to increase the shelf life of milk.

Commercial fodder service provision – The government has limited budget for extension hence the need for public-private sector partnership in provision of extension services. For instance the maize train initiated by KMDP as a means of contracting fodder mechanization services. This initiative ensures equipment efficiency, strengthens the skills base & increases availability of quality fodder. What KMDP did was introductory and more equipment companies need to come on board to bringing sustainability and efficiency in fodder supply. Dairy stakeholders can also explore ways of how the Service Provider Enterprise Network (SPEN), an inclusive model that targets the youth and has made quite an impact in silage production, can be made more efficient. There is also a need for localization of fodder production to reduce the need to import feeds. Supply of dehydrated fodder also needs to be promoted to ease transportation. Good fodder practices need to be enhanced help reduce aflatoxin incidences which is a major issue to grapple with.

Milk quality and safety – There is also a need to create consumer awareness on milk quality and safety issues so consumers are aware of the quality and safety of what they are consuming and to increase demand for quality and safe milk. There is a need for regulatory support for safe and high quality products. For instance, the government of Rwanda provides this support through the development of a Ministerial Order as a formal marketing model to ensure safety of milk. Milk consumption campaigns, shift of informal markets to formal markets and regulation of milk safety (provision of farmers' certification for safe milk production all contribute to milk quality compliance). Challenges along the dairy supply chain such as the presence of aflatoxin in feeds remains an issue of concern that inhibits quality and safe milk production.

2.2 Continuation of the keynote presentation on dairy intensification in East Africa

By Geert Westenbrink (NEADAP)

Key highlights from the [presentation](#) include:

- ❖ With the increased population growth, sustainable intensification (with fewer cattle numbers) is key to increasing productivity and production efficiency.
- ❖ High quality fodder contributes to increased milk production as the cows eat more.
- ❖ Lack of sufficient fodder is a challenge facing farmers. Fodder productivity and increased animal productivity is a full package concept: Investing in fodder production is the key to increased productivity and requires a new mind-set and trainings. Focusing on producing high quality fodder would reduce the quantity of fodder needed for increased productivity.
- ❖ Future of the youth – a large number of farmers are within the youth bracket; business models need to be more youth inclusive and the dairy sector needs to remain commercialized and professionalized. Youth inclusion can be fostered for instance through

provision of trainings and investments to equip them with the skills necessary for competitiveness.

- ❖ Strengthening the knowledge base, competitiveness and increasing market competitiveness are key to development of the dairy sector regionally.

2.3 Q & A session

The following are key discussion points:

- ❖ Intensification in dairy farming in Africa which is necessary to meet the growing demand for milk and milk products with the growing population comes with increased greenhouse (GHG) emissions associated with feed production and processing e.g. methane which takes longer to eradicate from the atmosphere than carbon dioxide. Animal health innovations, improved feed technologies and other dairy interventions need to take precautions and reduce the environmental footprint. The good news is that GHG has the attention of big multi-nationals. The bad news is that Africa's low producing cows are producing more GHG than high producing cows in Europe, hence the need to increase efficiency and reduce cattle numbers and produce more litres per cow.
- ❖ An issue of concern that was raised was the role of smallholder farmers in achieving sustainable intensification. Smallholders focus more on subsistence farming as opposed to being more market-oriented; hence the need to set realistic targets and incentives for them to shift to becoming more commercialized. Traditionally, in Asia and Africa, dairy farming is centred around metropolitan areas which provides a market for dairy products. However, in such areas, land pressure is an issue for smallholders that inhibits dairy farming. In areas where farmers have poor access to markets which is more in remote areas, these are areas that the dairy sector can look into how to intensify dairy farming. Hence, there is a future for smallholders in sustainable intensification, but it is just as important to think of how to go about it.
- ❖ Climate smart initiatives that can be applied locally include reduction in cattle numbers; reducing from 18.5M to 7M would significantly reduce emissions. Countries need to work together as a region and maximize and collectively invest in innovations that reduce the environmental footprint and meeting productivity goals.
- ❖ KMDP tried to develop a breeding strategy that entails identifying and promoting breeds that can adapt to the changing climatic conditions. We as development partners need to explore policies that address breeding issues and promote breeds that are adapted to climatic conditions and various agro-ecological zones. In light of this, the dairy sector needs to follow breeding goals according to what can be achieved; keeping breeds that can be managed, contrary to keeping breeds that demand a lot of feed in areas that have challenges with feeds availability.

The workshop programme was intertwined with video clips of the dairy sector in Kenya, the Netherlands, Tanzania, Uganda, Rwanda.

The video clips showed milestones and challenges on key topics. The footage was pooled among the Netherlands and East African dairy partners.

The video's will be made available after final edit at <https://agriprofocus.com/dairy-event-with-neadap>



3 Pitch and break-out sessions

This chapter covers discussion points and recommendations made at four breakout sessions on different thematic areas that are key to the regional growth and development of the dairy sector: Milk Quality, Forage, Inclusive Business and Dairy Skills 2.0



*Breakout session moderators presenting on the thematic areas of discussion.
(Source: AgriProFocus)*

3.1 Milk quality session – Moderated by Martin de Jong (Bles Dairies Consultancy)

Objective of this workshop: To have quick thoughts, *based on the dairy sector experiences we have*, in order to formulate quick and practical steps that should be taken (and by whom) so as to shift the milk quality issue from the discussion table onto a roadmap for development (with a focus on raw milk testing & legislation, enforcement, capacity i.e. *Role/tasks of government/dairy board/ farmers/ processors/consumers*).

The participants were divided into five (5) groups and were presented a statement (from the 5 outlined below) to discuss and present. At each working group a moderator of the NEADAP team was included. After a 30 minutes discussion, the group leader presented the outcome of the discussion to other group members. These included:

- a) Introduction of a Quality Based Milk Payment Scheme will add to the collection costs and these costs are to be paid by the farmers
- b) Milk quality is only driven by money
- c) Milk quality is the responsibility of all actors in the chain, but one should take the lead

Although five different statements were discussed, the overall conclusion is:

- ❖ Milk quality is money driven, hence needs to have in place multi-stakeholder agreements on:
 - ✓ Standards
 - ✓ Regulation
 - ✓ Enforcement
 - ✓ Consumers awareness
- ❖ Trust in raw milk testing is secured by:

- ✓ Good legislation
- ✓ Transparency
- ✓ Instant & clear testing
- ✓ Accurate & user friendly technologies
- ✓ Incentives for good quality

3.2 Forage and feeds - Moderated by Anton Jansen (SNV-KMDP)

Forage is one of the thematic areas under NEADAP. In this breakout session, a presentation of a quick scan of the (commercial) forage sub-sector in Kenya, Uganda and Ethiopia was done by fodder experts from SNV and Wageningen University and Research (WUR) in order to assess interventions and opportunities.

1. Findings

The quick scan was done in three East African countries, namely Ethiopia, Kenya and Uganda. The scan started by identifying the dominant farming systems in the three countries which are:

- a) Intensive (zero grazing, cut and carry and peri-urban dairy)
- b) Semi- intensive (pasture grazing and supplementation)
- c) Extensive (commercial pastoralism)

The following were identified as common constraints faced by the forage sub-sector in these 3 countries:

- d) Forage quality and quantity:
 - ✓ Low digestible forage (high NDF %)
 - ✓ Low Feed Efficiency
 - ✓ High Feeding cost
 - ✓ Unbalanced rations
 - ✓ Forage analysis
 - ✓ Seed/Plant Material
- e) Seasonality (highly rain dependent):
 - ✓ Forage preservation
 - ✓ Climate change
- f) Education and training:
 - ✓ Agronomy: animal nutrition
 - ✓ From seed to milk



*Forage and feeds breakout session.
(Source: AgriProFocus)*

2. Recommendations

The following general recommendations were given for the three East African countries to grow the (commercialized) forage sub-sector:

- a) Develop, strengthen and/or expand an internal and external quality based and safe milk market as a driver of quality forage production.
- b) Develop modular curriculum emphasizing climate smart forage production from “Seed to Feed to Milk”; disseminate to the farmer a full package of requisite practical knowledge and skills.
- c) Intensify forage production (productivity and quality) as the main driver to improve profitability of dairy farms in a sustainable way.
- d) Optimize milk production and profitability at farm level through use of quality forages in balanced rations, which is the only best way to reduce cost price of raw milk and enhance productivity of dairy cows.
- e) Encourage and enable private sector involvement to create a vibrant and competitive forage sub-sector

3.3 Inclusive business development - Moderated by Emile Agaba (Agriterra)

Introduction session

Highlights from a presentation on Inclusive Business Development included the 5 New Business Model (NBM) Principles that were shared and recommendations given as shown below.



Recommendations

1. Equitable access to services

The viability and competitiveness of the services have to be put into consideration first. There is need for proper technical support during the incubation period of the products.

Recommendation: Must realize value for money.

2. Effective Market Linkages

Addition to best Practices:

Ensure sufficient production to run sustainable businesses, control operation costs (thus increase efficiency), ensure competitive pricing and apply the hub model approach.

Recommendation: Better enforcement of contracts.

3. Inclusive Innovation

Additional Important Factors & Recommendations:

Infrastructure development, technology improvement, increasing milk quantity and quality, improved access to affordable finance, digitalizing the extension services, building strategic partnerships and advocating enabling government policies.

Youth & Women Inclusion

Some good examples:

- ❖ Youth provided with motorbikes to facilitate milk collection
- ❖ Youth silage making after training and access to chaff cutters
- ❖ Inclusion of women and youth in the organisational structure:
 - a) Women in board, management
 - b) Youth representative in board
 - c) Youth councils established
- ❖ Good discussion point here is that most organisations now have women and youth in the board (some for several years) but what is needed to structurally improve their position and role within dairy, attract membership, develop effective youth councils, change social values related to women and youth and empower them to become more independent is not clear.

4. Chain Wide Collaboration

Recommendations:

- ❖ Implement segmented profit-sharing for both the formal and informal sector
- ❖ Have clear goals that cut across the entire sector
- ❖ Implement the Israeli profit-sharing Model for the formal dairy sector.

5. Fair & Transparent Governance

Recommendation: Need for improved Government regulation and enforcement, proper incentivization of the actors and producer/consumer awareness

3.4 Dairy skills 2.0 – Moderated by Andrew Mwaura (AgriProFocus)

Objectives of the session were to:

- ❖ Understand the necessary skills for future dairy development in East Africa
- ❖ Jointly identify recommendations for dairy learning in East Africa based on emerging trends

In an introduction exercise using the online event tool Mentimeter, **Ilse Hennemann (WUR WCDI)** asked the 18 participants in this session about their social media use and learning needs. The combination of the online tool and the offline discussion, we experienced an example of blended learning.

Next: key dairy sector players were identified to practically share their blended learning experiences and how their skills have been developed and refined over time.

Anastasia Vala (student Van Hall Larenstein University of Applied Science)

Anastasia shares her experience of blended learning through both face-to-face and online learning. She shares her experience of being a student in the Netherlands having a strong Kenyan education foundation and how linking both experiences is critical in her growth in the sector.

Challenges:

- ❖ As a student in a foreign country, communication due to language barrier is a major issue.
- ❖ Tuition Fees are quite high hence limiting many who would love to get the opportunity to access learning from other countries.

Recommendations:

- ❖ Kenya as a country should have an enabling environment and be more resourceful. There's no need to go and get trainings abroad.
- ❖ There's need for alumni to form an association for knowledge transfer.

Simon Omondi (researcher at Kenya Agricultural and Livestock Research Organization)

Simon shares his experience of being a Dutch Alumni and his vision of establishing the Pan-African Value Chain Development Forum that will act as a platform that promotes networking and facilitating communication, learning & knowledge sharing on innovations and practical models for smallholder farmers.

Recommendations:

- ❖ Practical hands-on professionals rather than theoretical knowledge professionals are one of the key transformations that is urgently needed in the country.
- ❖ Formation of Pan-African Value Chain Development Forum will be having the first meeting in September.

Stella Gakuo (entrepreneur at Savanna Circuit Tech)

As an entrepreneur, Stella shares her on-the-job learning and the importance of embracing technology. She also highlights the benefits of embracing the new way of blended learning that is all inclusive and practical, citing the example of YouTube as a source of learning. She represents the youth who are actively seeking innovations in the dairy sector. Other innovations include: Developing an innovative dairy solution that empowers small scale farmers to generate more revenue by reducing post-harvest losses; Integrating real time data collection with dairy cooperatives thus improving on record keeping.

Overall Recommendations on How to Accelerate E-Learning

- ❖ There is need to have an online platform for e-learning to exchange knowledge and skills.
- ❖ There's need to connect students to professionals in different sectors. (Trainer of trainers)
- ❖ Field days organized by both students and government representatives to showcase how the sector is fairing.
- ❖ Demand for practical dairy training (for instance through Students need to be attached to cooperatives)
- ❖ Need for quality accreditation on the experts/consultants doing the knowledge transfer.
- ❖ Formation of alumni associations to bridge the gap between farmers and professionals.
- ❖ Farmers should be mobilized into groups through the cooperative to allow ease of access to knowledge transfer through trainings.
- ❖ Resource centers should be set up and easily accessible to farmers, for instance in form of model farms and practical training centers.
- ❖ Professionals and advisory services should be tailor-made to fit the changing needs of farmers.

4 Top 3 learning and action priorities for dairy sector transformation 2030

This was an interactive session between a panel of 6 dairy stakeholders from different countries and different backgrounds (private sector, government and development programs) and the plenary. These were: Thomas Ole Sikar (SNV Tanzania), Stella Gakuo (Savanna Circuit Tech); Jane Baganda (Uganda Co-operative society), Paul Kimbugwe (SNV Uganda), Philip Cheronu (Kenya Dairy Board) and Martin de Jong (Bles Dairies).

4.1 Factors enabling dairy sector transformation

- ❖ **Knowledge transfer from research and academia to farmers** – Training models need to be designed in such a way as to ensure that the bottom of the pyramid is reached
- ❖ **Linking farmers to markets** – The focus should not only be on production but also exploring ways of increasing local demand for milk. In Kenya, the marketing of dairy produce has been a constraint even in areas where there is surplus milk. When farmers are assured of a market they will be more receptive to implementing best dairy practices & innovations. Opening trade; taking a more liberalized approach; could be considered as a way of increasing market accessibility
- ❖ **Efficiency in milk production** – Key drivers for dairy development in Uganda has been increased processing and exporting. A challenge some farmers face however is not getting value for their money once their milk is processed and exported. Hence the need to focus on efficient production though reduction of production costs so as farmers produce more milk at lower costs.
- ❖ **Feeds and fodder availability** – Total cost of production for farmers in Tanzania is high due to feed & fodder costs. Hence the need to reduce this.
- ❖ **Increasing availability of improved seed varieties** – Farmers lack access to improved seed varieties, hence there is also the opportunity to encourage farmers to produce these improved seed varieties locally because imported feed is costly.
- ❖ **Inclusive agri-business models** – Commercialization of silage making has provided employment opportunities by the youth, though dairy/fodder business models need to be made more inclusive and provide business opportunities for women as well.
- ❖ **Reducing price fluctuations** – Producing alternative market options to reduce reliance on processors when there are fluctuations in prices would help support farmers livelihoods.
- ❖ **Trust & cooperation** among all value chain actors.
- ❖ **Implementation of the Quality Based Milk Payment System (QBMPS)** – Milk adulteration is a major problem in Ethiopia and the QBMPS could be the key to solving this problem.
- ❖ **Fair and transparent governance**
- ❖ **Clustering farmers together to support each other** in quality milk production, as opposed to letting farmers be stand-alone.
- ❖ **Changing the learning method from theoretical** knowledge to practical skills



The 5 panelists that engaged the audience on key learning and action priorities for dairy sector transformation 2030. (Source: AgriProFocus)

4.2 Threats to dairy sector transformation

- ❖ **Regional politics** – The whole sector including processing, policy making and cross-border trade is all controlled by regional politics. For instance, one country could be allowed to export milk to a neighbouring country one moment and the next moment they cannot due to politics.
- ❖ **Non-compliance to milk quality & safety standards** – There is an increasing demand for quality and safe milk. Ensuring compliance increases confidence in consumers who purchase the milk and increases consumer demand, while at the same time the farmers increase their income as they sell the quality & safe milk at a higher price.
- ❖ **Market not in favour of small-scale farmers** – They struggle more to get a consistent market for their milk.
- ❖ **Poor management and governance along the value chain** – When there is good management that pushes for quality milk then this will help increase compliance with milk quality and safety standards. For instance, when there is good management at the dairy farmer cooperatives, they can lobby for their farmers to help address their concerns and meet their needs.
- ❖ **Climate change** – Erratic rainfall and higher temperatures for example reduce (quality) pasture availability. Hence the need for implementation of climate smart dairy practices.
- ❖ **Lack of efficiency in production** – Increased costs of production that results in higher selling prices for milk makes it cheaper to import milk than buy milk locally in some cases.

4.3 Opportunities for dairy sector growth and development

- ❖ **Increasing consumer demand** as the population continues to grow, thereby promoting local market development
- ❖ **Leveraging on improved dairy technologies** to increase production and productivity
- ❖ **Regional trade**
- ❖ **Tapping into the youth population** and promoting their involvement in the value chain
- ❖ **Formulation of policies that are farmer-centred**; helping farmers reach their milk production potential would contribute largely to strengthening the dairy supply chain, because without the farmer, neither processing nor consumption can take place.
- ❖ **Increasing consumer demand for safe products**
- ❖ **Formulating policies that govern issues of liberalization, prices** and other factors that affect competitiveness of the dairy sector

5 Closing Remarks

Rinus van Klinken - NEADAP Project Coördinator (SNV)

NAEDAP's countries of focus as Kenya, Ethiopia and Uganda and the aim is to work more actively in Tanzania and Rwanda as well. Whatever we learn on dairy in individual countries is often relevant for other countries and it contributes to our understanding of the regional dynamics in the dairy sector. The Dutch dairy sector has something to offer to the African regional market; not duplicating Dutch dairy innovations but rather using the innovations as a basis to fine-tune them to meet Africa's dairy sector needs.



Rinus van Klinken making his presentation.
(Source: AgriProFocus)

Philip Cherono (Kenya Dairy Board)

These 4 themes are important in addressing regional dairy challenges:

1. Milk quality
2. Fodder & feeds - 60% of milk produced is dependent on feeding
3. Inclusive business models - the contribution of the youth to dairy sector development should not be forgotten
4. Efficiency? - There is a need to improve efficiency across the dairy value chain; reduce production costs to increase market competitiveness as well as losses/spoilage and deterioration in quality of milk as it moves across the value chain

Provision of extension through the government is no longer sustainable – Hence the shift from public to public-and-private sector extension models.

Investing in technologies used along the value chain – including at farm level, chilling and milk processing.

The dairy sector needs to work towards meeting the demand of the growing population for milk and milk products and increase the local demand – Hence the need to market milk products to increase consumption and not only focus on increasing production.



Philip Cherono making his closing remarks.
(Source: AgriProFocus)

Diversifying milk products by including long-life products – In East Africa, what is mostly consumed is liquid milk hence growth in consumption may be limited because of limited varieties/options. There is a need to produce alternative options that are attractive in order to increase consumption and demand. For instance, developing products that are less bulky for ease of transportation as well as products that have a longer shelf life.

Reducing the environmental footprint – As dairy sector actors engage in dairy activities, mitigating GHG emissions is necessary to reduce the environmental footprint.

Technologies and knowledge transfer – Africa needs to continue embracing technologies and knowledge acquired from the Netherlands to help in sustainable and competitive dairy sector development.

6 Netherlands & East African partners at Dairy Africa expo



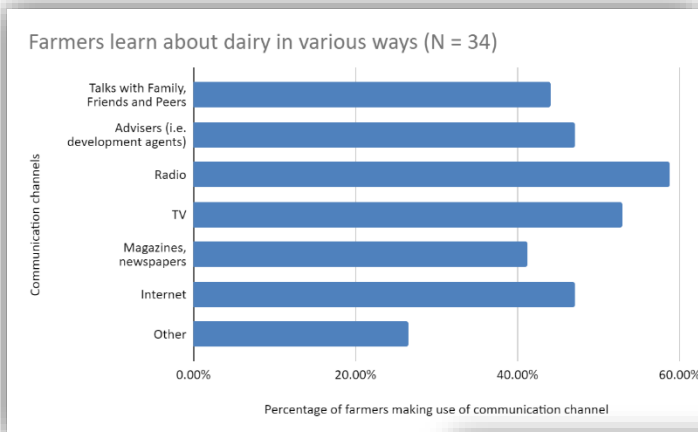
*AfDA exhibition booth shared by Netherlands and East African dairy partners.
Source: AgriProocus*

As a follow-up on the learning event, Netherlands and East African dairy partners also shared a booth at the Dairy Africa expo. 3R, SNV, Solidaridad, VHL University, Wageningen UR, PUM presented their work, products, training materials, videos and practical research briefs.

APF held a smartphone survey among visitors to find out about their demand for dairy knowledge. The survey consisted of 8 main questions and took between 5 – 10 minutes. Among the 60 interviewees, 4 Swahili cow signals training manuals and 15 orange caps were raffled.

Some quick conclusions can be drawn:

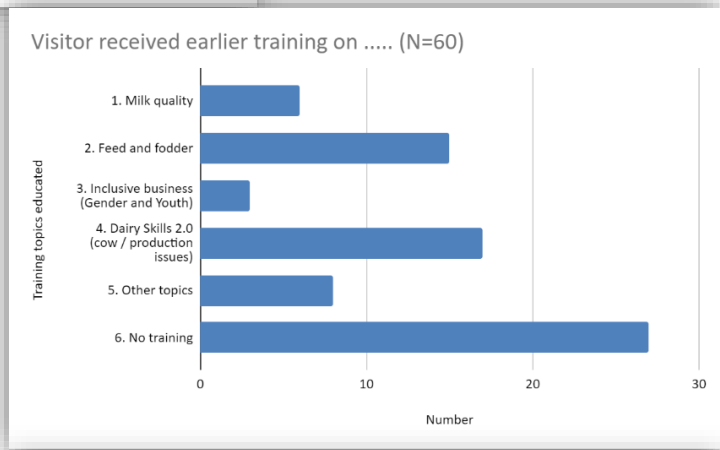
The sample of 60 visitors was mostly Kenyan and included 22 women, 28 youth (<35 years) and 34 farmers. On average, they had little dairy education but 9 years of practical experience. Most came to the Dairy Expo to learn about dairy, only 5 visitors came for business. 89% of visitors got what they came for.



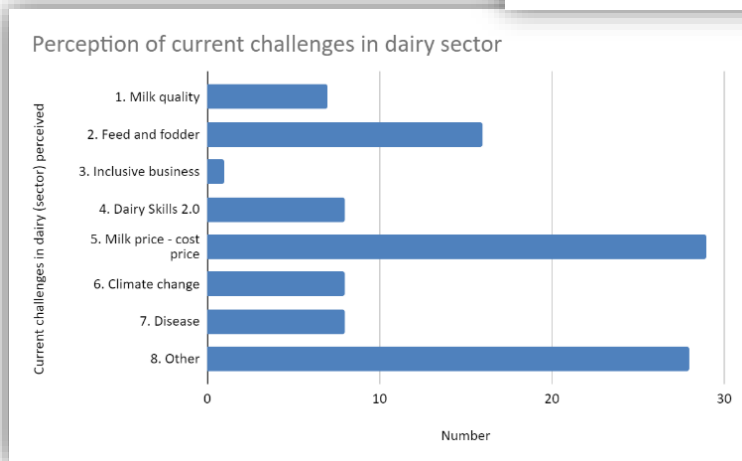
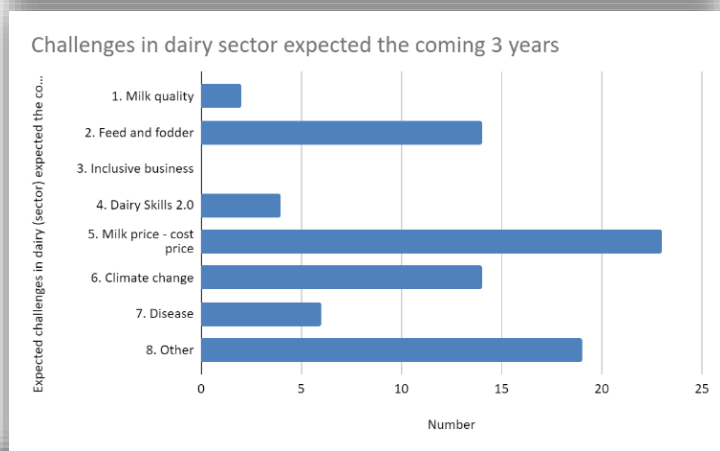
Compared to the other visitors, the farmers learn more via a) talking to family / peers and c) radio.

Learning via internet is mentioned by 47% of farmers and 66% of total sample.

We asked visitors specifically if they had received training on any of the 4 topics discussed at the 13 August event. Out of 60, 27 respondents said no training at all, while the others received training on 1, 2 or more topics.



Comparing the perceptions on current and future challenges, the milk price and cost price remains the top challenge. Climate change is a growing challenge. The open question led to a variety of answers grouped under 'Other'.



Annex 1 Participant List

| Nr. | First name | Last name | Company or organisation | Country |
|-----|------------|----------------------|---------------------------------------|----------|
| 1 | Catherine | Kilelu | 3R | Kenya |
| | Anthony | Githu | Aberdare View Dairies | Kenya |
| | Victor | Muthumbi | Africa Agribusiness Academy | Kenya |
| | Joel | Onyango | African Centre for technology Studies | Kenya |
| 5 | Samuel | Kariuki | AgriProFocus | Kenya |
| | Lucy | Asiimwe | AgriProFocus | Uganda |
| | Emile | Agaba | Agriterra | Uganda |
| | Winnie | Ashaba | Agriterra | Uganda |
| | Wilfred | Chepkwony | Agriterra | Kenya |
| 10 | Robert | Kaganzya | Agriterra and SNV Uganda partner | Uganda |
| | Jane | Baganda | Agriterra and SNV Uganda partner | Uganda |
| | David | Mwine | Agriterra and SNV Uganda partner | Uganda |
| | Daniel | Ortega | Agriterra and SNV Uganda partner | Uganda |
| | Mary | Muthoni | Agriterra Kenya | Kenya |
| 15 | Fikadu | Birhanu Godi | Agriterra partner | Ethiopia |
| | Getnet | Techane Woldasilasse | Agriterra partner | Ethiopia |
| | Jemal | Mohamed Habib | Agriterra partner | Ethiopia |
| | Mesfin | Aklilu Gebremeskel | Agriterra partner | Ethiopia |

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|----|----------|---------------|----------------------------------|-----------------|
| | Negash | Kifle Goshu | Agriterra partner | Ethiopia |
| 20 | Perez | Kambaho | Agriterra partner | Uganda |
| | Shibre | Fikadu Sime | Agriterra partner | Ethiopia |
| | Dereje | Ababu Menderi | Agriterra partner | Ethiopia |
| | Abereham | Girma Kebede | Agriterra partner | Ethiopia |
| | H. G | Mriuki | AIA | Uganda |
| 25 | Samwel | Salbey | BAMSCOS | Kenya |
| | Moses | Koech | Bamscos | Kenya |
| | Berend | de Leeuw | Bles Dairies Consultancy | The Netherlands |
| | Dirk | Harting | Bles Dairies Consultancy | Kenya |
| | Joyce | Mutua | Bles Dairies Consultancy | Kenya |
| 30 | Maria | Maina | CCR | Kenya |
| | An | Notenbaert | CIAT | Kenya |
| | Uwe | Ohmstedt | CIAT | Kenya |
| | Gerald | Katothya | Consultant 3R Project | Kenya |
| | Idah | Kinya | Consumer Unity and Trust Society | Kenya |
| 35 | Faith | Cherono | County Government of Kajiado | Kenya |
| | Thomas | Obiero | Crop Nutrition Limited Kenya | Kenya |
| | Sabdiyo | Dido | CTA | The Netherlands |
| | Peter | Mwenze | Dairy Training Institute | Kenya |

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|----|-------------|------------|--|-------|
| | Lydia | Njuguna | DICOVA | Kenya |
| 40 | Dr. Patrick | Muliro | Egerton University | Kenya |
| | Julliota | Nthoki | ESADA | Kenya |
| | Kipkirui | Langat | ESADA | Kenya |
| | Tom | Mogusu | ESADA | Kenya |
| | Geoffrey | Gitonga | Farming solutions Ltd | Kenya |
| 45 | Gerard | Oosterwijk | Happy Cow Ltd | Kenya |
| | Agnes | Kavatha | Heifer International, Kenya | Kenya |
| | Daniel | Ngotho | IAgriBizAfrica | Kenya |
| | Lewis | Muguro | International Finance Corporation | Kenya |
| | Nelson | Nyamu | Kalia Farm | Kenya |
| 50 | Anastasia | Kagunyu | KALRO | Kenya |
| | Simon | Omondi | KALRO | Kenya |
| | Paul | Kirimi | Katheri dairy farmers co-operative union ltd | Kenya |
| | Brenda | Aluda | KCDMS | Kenya |
| | Daniel | Kiragu | Kenarava Group | Kenya |
| 55 | Dr. Philip | Cherono | Kenya Dairy Board | Kenya |
| | Philip | Ole Koyei | Maasai Integrated Development Initiatives (MIDI) | Kenya |
| | Edith | Karimi | Magati Dairy Society | Kenya |
| | George | Mwangi | Maine Agency | kenya |
| | Beatrice | Kaleli | Makueni Dairy Farmers Cooperative Society Ltd | Kenya |

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|----|----------|-----------------|--|-----------------|
| 60 | Stephen | Mwenda | MCDCU | Kenya |
| | Simon | Kiruja | Meru Dairy Union | Kenya |
| | Cyprian | Miriti | Ministry of Agriculture, Livestock and Fisheries | Kenya |
| | Lydia | Mworia | Ministry of Agriculture, Livestock and Fisheries | Kenya |
| | Caroline | Wanjiru | Ministry of Agriculture, Livestock and Fisheries | Kenya |
| 65 | Caesar | Munyi | Mkulima Bora Dairy Coop | Kenya |
| | Bram | Klooster | Mueller | The Netherlands |
| | Humpkrey | Kaburu | Muthiru Dairy | Kenya |
| | Humphrey | Kinyua | Muthiru Dairy fcs | Kenya |
| | Luke | Karimi | Mviwatha | Kenya |
| 70 | Philip | Langat | Nairobi City County Government | Kenya |
| | Robin | Bongers | Netherlands Embassy | Kenya |
| | Manou | Aelmans | Netherlands Embassy | Kenya |
| | Martine | van Hoogstraten | Netherlands Embassy | Kenya |
| | Angela | Gitau | Perfometer Agribusiness Limited | Kenya |
| 75 | Judy | Kithinji | Policy and Market Options (SNV/KMDP Consultant) | Kenya |
| | Joyce | Kibiru | Provimi Cargill | Kenya |
| | Stella | Gakuo | Savanna Circuit Tech | Kenya |
| | Percy | Lemtukei | Savanna Circuit Tech | Kenya |
| | Mahlet | Yohannes | SNV Ethiopia | Ethiopia |

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|----|-------------|------------------|--------------------|----------|
| 80 | Terefe Taye | Weldesilassie | SNV Ethiopia | Ethiopia |
| | Adugna | Jote | SNV Ethiopia | Ethiopia |
| | Mary | Ng'ang'a | SNV Kenya | Kenya |
| | Gloria | Mbera | SNV Kenya | Kenya |
| | Mary | Njuguna | SNV Kenya | Kenya |
| 85 | Gemma | Kavishe | SNV Tanzania | Tanzania |
| | Thomas | Ole Sikar | SNV Tanzania | Tanzania |
| | William | Mugisa Kihire | SNV Uganda | Uganda |
| | Joseph | Kiirya | SNV Uganda | Uganda |
| | Steven | Aikiriza | SNV Uganda | Uganda |
| 90 | Lucy | Gatwiri Githanju | SNV Uganda | Uganda |
| | Paul | Kimbugwe | SNV Uganda | Uganda |
| | Enid | Molly Musinguzi | SNV Uganda | Uganda |
| | Tom | Katsyamira | SNV Uganda | Uganda |
| | Andrew | Sekitoleko | SNV Uganda partner | Uganda |
| 95 | Dennis | Atuha | SNV Uganda partner | Uganda |
| | Halid | Kirunda | SNV Uganda partner | Uganda |
| | Irene | Mbatidde | SNV Uganda partner | Uganda |
| | Joan | Atukunda | SNV Uganda partner | Uganda |
| | Bells | Katongole | SNV Uganda partner | Uganda |

| | | | | |
|--------------------------------|-----------|------------------|--|-----------------|
| 100 | Erick | Nabimanya | SNV Uganda partner | Uganda |
| | Jos | Creemers | SNV/proDairy | Kenya |
| | Abule | Ebro | SNV-WUR | Ethiopia |
| | Victor | Mirori | Solidaridad | Kenya |
| | Elaine | Muigai | Solidaridad | Kenya |
| 105 | Francis | Shivonje | Solidaridad | Kenya |
| | Maureen | Munjua | Tanager | Kenya |
| | Kawira | Bucyana | United Nations Industrial Development organization | Austria |
| | Charles | Gachuiiri | University of Nairobi | Kenya |
| | Anastasia | Vala | Van Hall Larenstein University | kenya |
| 110 | Florence | Aguda | Van Hall Larenstein University | Kenya |
| | Robert | Serem | Van Hall Larenstein University | Kenya |
| | Adolfo | Alvarez Aranguiz | Wageningen University & Research | The Netherlands |
| | Mercy | Mwambi | Wageningen University & Research | Kenya |
| | Asaah | Ndambi | Wageningen University & Research | The Netherlands |
| 115 | Nieke | Westrik | YOBA for Life | Uganda |
| speakers and organisers | | | | |
| 116 | David | Maina | lead facilitator - Perfometer | Kenya |
| | Peter | Mwaniki | opening address - AFDA Dairy Africa | Kenya |

| | | | | |
|-----|-----------|---------------|---------------------------------------|-----------------|
| | Sanne | Willems | Netherlands Embassy | Kenya |
| | Dominic | Menjo | Office of Vice-President Kenya | Kenya |
| 120 | Geert | Westenbrink | keynote - NEADAP | The Netherlands |
| | Nathaniel | Makoni | keynote - ABSTCM LTD | Kenya |
| | Philip | Cherono | Kenya Dairy Board | Kenya |
| | Jessica | Koge | African Centre for Technology Studies | Kenya |
| | Andrew | Mwaura | AgriProFocus Kenya | Kenya |
| 125 | Lucianah | Lolumosi | AgriProFocus Kenya | Kenya |
| | Neema | Mollel | AgriProFocus Tanzania | Tanzania |
| | Wim | Goris | AgriProFocus Netherlands | The Netherlands |
| | Martin | de Jong | Bles Dairies Consultancy | The Netherlands |
| | Rinus | van Klinken | SNV Uganda | Uganda |
| 130 | Anton | Jansen | SNV Kenya | Kenya |
| | André | de Jager | SNV Netherlands | The Netherlands |
| | Simone | van Vugt | Wageningen University & Research | The Netherlands |
| | Ilse | Hennemann | Wageningen University & Research | The Netherlands |
| | Jan | van der Lee | Wageningen University & Research | The Netherlands |
| 135 | Seyda | Ozkan-Gulzari | Wageningen University & Research | The Netherlands |

Appendix 2 Programme

“Dairy, the motor for healthy growth” Event 13 August, Nairobi, Kenya

| Time | What? | Who? |
|-------|---|--|
| 08.00 | Registration, Coffee & Tea | |
| 09.00 | Transformation of the Dairy Sector | David Maina, Managing Director, Perfometer, Lead facilitator 1. Dominique Menjo, Economic Adviser, Food Security, Office of the deputy president 2. Sanne Willems, First Secretary Food Security & Water, Embassy of the Kingdom of the Netherlands 3. Peter Mwaniki, Executive Director, ESADA |
| 09.30 | Video impression of “Dairy, a thriving Sector” | Communication Team |
| 09.45 | The why and how of dairy intensification in East Africa | Nathaniel Makoni, Managing Director, ABS TCM Geert Westenbrink, Initiator NEADAP Jan van der Lee, Senior Dairy Adviser (WUR) |
| 10.40 | Pitch on Milk Quality, Forage, Inclusive Business, Dairy Skills 2.0 | Martin de Jong, Dairy Specialist (Bles Dairies) Anton Jansen, Team leader of KMDP (SNV) Emile Agaba, Uganda Business advisor (Agriterra) Andrew Mwaura, Kenya Coordinator (APF) |
| 10.45 | Dairy Break | |
| 11.15 | 4 parallel thematic breakout sessions | 1. Milk Quality – Martin de Jong with partners 2. Forage – Anton Jansen with partners 3. Inclusive Business –Emile Agaba with partners 4. Dairy Skills 2.0 - Andrew Mwaura with partners |
| 13.15 | Dairy Lunch | |
| 14.15 | 4 X 4 Corner Sessions with recommendations of the thematic sessions | 2 Representatives of each session with the participants in 4 corners |
| 15.30 | Dairy Break | |
| 16.00 | Video impression of “Dairy, a thriving Sector” | Communication Team |
| 16.15 | Top 3 learning and action priorities for dairy sector transformation 2030 | 5 Panel members at the plenary |
| 17.00 | Dairy Take-aways | Philip Cheron Kenya Dairy Board |

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| 17.15 | Dairy Cocktail | Courtesy of the Embassy of the Kingdom of the Netherlands with the participants |
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The Centre for Development Innovation works on processes of innovation and change in the areas of food and nutrition security, adaptive agriculture, sustainable markets, ecosystem governance, and conflict, disaster and reconstruction. It is an interdisciplinary and internationally focused unit of Wageningen UR within the Social Sciences Group. Our work fosters collaboration between citizens, governments, businesses, NGOs, and the scientific community. Our worldwide network of partners and clients links with us to help facilitate innovation, create capacities for change and broker knowledge.

The mission of Wageningen UR (University & Research centre) is 'To explore the potential of nature to improve the quality of life'. Within Wageningen UR, nine specialised research institutes of the DLO Foundation have joined forces with Wageningen University to help answer the most important questions in the domain of healthy food and living environment. With approximately 30 locations, 6,000 members of staff and 9,000 students, Wageningen UR is one of the leading organisations in its domain worldwide. The integral approach to problems and the cooperation between the various disciplines are at the heart of the unique Wageningen Approach.