

Mission Report – Kenya MSF Exchange and Training Tour to Netherlands, 2017

Organized by Perfometer in collaboration with KMDP, DTC, Landfort Advies and Bles Dairies

20 to 28 August 2017, Netherlands, Friesland



Submitted to the Program Leader, KMDP (SNV-Kenya)

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Abbreviations

AI : Artificial Insemination

DTC : Dairy Training Campus

KMDP : Kenya Market-led Dairy Programme

MSF : Medium-Scale Farmers

SOPs : Standard Operating Procedures

SNV : Netherlands Development Organization

WUR : Wageningen University & Research

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Finally yet importantly, sincere appreciation goes to the 11 participants who determinedly took the time from their busy schedules to be part of the study tour. They remain inspired and new transformers of the Kenya dairy scene henceforth.



2 INTRODUCTION

2.1 SNV/KMDP

SNV Netherlands Development Organisation (SNV) is an international not-for-profit development organisation that provides capacity development services to nearly 2,500 organisations in over 36 countries worldwide. In the Kenyan dairy sector SNV Kenya is implementing the Kenya Market-led Dairy Programme (KMDP).

The Kenya Market-led Dairy Programme (KMDP), funded by the Embassy of the Kingdom of the Netherlands, is now in its fifth year. Phase I of the programme (KMDP-I) started 1st July 2012 and ended 31st December 2016. Phase II (KMDP-II) began from 1st October 2016 till 1st July 2019. The overall goal of KMDP-II and I is to contribute to the development of a competitive, market-driven and private sector-led Kenyan dairy sector, with beneficiaries across the value chain.

The KMDP-II facilitates the transition from aid-to-trade relations as well as enhanced business linkages between Dutch and Kenyan companies active in the dairy sector. It's expected to contribute to a more sustainable model for dairy sector development as well as knowledge exchange, transfer of skills and technology, and cross border investments. In addition to mobilizing and deploying international experts and students (Technical Assistance), KMDP also co-financing study tours for dairy farmer to Netherlands.

2.2 FARMERS EXCHANGE AND TRAINING PROGRAMME

In the past, SNV has successfully organized farmers exchange training programs in 2013, 2014 and 2015 to the Netherlands. In 2017, SNV/KMDP-II, in partnership with Dairy Training Center (DTC) and Landfort Advies both based in the Netherlands, and Perfometer Agribusiness from Kenya (a SNV/KMDP contracted dairy consultancy firm), coordinated the 4th dairy farmers exchange and training program in Netherlands, from 20 to 28 August 2017. The Farmer exchange and training programme included 11 (eleven) participants; being nine (9) farm owners and one (1) farm manager from Medium and Large Scale farms in Kenya, and one (1) dairy consultant from Perfometer.

This report gives a brief summary of the study tour, including feedback and recommendations for future consideration.

2.3 OBJECTIVES OF THE STUDY TOUR

The main objective of the tour was to promote knowledge exchange and learning, and for participants to be informed on best practices on modern dairy management and processes widely used in Netherlands. To achieve this, the design of the study tour was to;

- Give participants the opportunity visit, observe, interact, assess and share the experiences of typical Dutch dairy farmers
- Provide an insight of services, processes and products of Dutch dairy stakeholders; from fodder, feeding, milking, breeding and processing
- Challenge farmers to think of ways to improve the technology and processes that suit their dairy farms back in Kenya

3 SCOPE OF TRAINING

The farmer exchange program for the Kenyan participants included:

- In-class (instructor-led) sessions
- Excursions at the dairy campus
- Assignment for the farm visits
- Practical sessions at the dairy campus
- E-platform with background information and tasks

Participants received a 4-month access to the e-platform from 14 Aug 2017 until 1 January 2018. The platform contained background information and copy of the different training topics, checklists, exercises and benchmarks used during the tour.

The Dairy Campus, located in Leeuwarden, is the headquarters of Dairy Training Centre. Boasting 500 dairy cattle, more than 300 hectares of land and modern training and conference facilities, is inspiring for anyone involved in the dairy sector. The Dairy Training Centre is using another training farm in Oenkerk, with a 300 dairy cattle that specializes training on milking hygiene and techniques.

3.1 IN-CLASS TOPICS AND FARM VISITS

3.1.1 Day 1: 21.8.17: Debrief and Training at the Dairy Campus, Leeuwarden

In the morning hours, the training kicked off with opening remarks from Frans Ettema (Landfort Advies) followed by an introduction of the Dairy Campus/ Dairy Training Center from Harm Wemmenhove (DTC). Later on, Harm Wemmenhove took the participants for a Dairy Campus Excursion and began the workshop with Milking and hygiene topics.



Pic 1: Arrival at the Dairy Campus, Leeuwarden



Pic 2: Workshop training at Dairy Campus, Leeuwarden

In the afternoon, Johannes Brolsma trained the participants on dairy management, economics and record keeping. The last session, by Harm Wemmenhove was on milking techniques, hygiene and SOPs. The participants were guided through a field exercise, to assist them to consolidate their learning during the excursion.

3.2 DAY 2: 22.8.17: FIRST ROUND OF SELECTED FARM VISITS – FRIESLAND

The second day involved whole-day farm visits to six (6) host farms; Brouwer, Van den Bosch, Van der Pol, Straathof, De Jonge and De Jong. The participants, paired in groups, carried a dairy farm benchmarking (DFB) tool for assessing the host farms. For most, that was a day of experiencing the Dutch way of managing dairy farms. Participants also received copies of herd reports from the host farms. See annexed farm visit program.



Pic 3: Carol and Annie at Straathof farm



Pic 4: Francis at Van Den Bosch Farm

3.3 DAY 3: 23.8.17: WITH COACHES AT THE DAIRY TRAINING CENTRE, OENKERK

The participants spent the third day at Dairy Training Centre, Oenkerk. Frans Ettema led the first session where he collected some brief feedback on farm visits. The morning session, by Tsjerk Kaastra focused on forage plan calculation using a feed plan calculator, forage production and planning silage making. After introductions were complete, Tsjerk led the team to a dairy farm nearby, to witness grass silage making process. Towards the end of the morning session, some of key concepts shared comprehensively included role of dry matter when planning for fodder and feeding.

The afternoon session, also Tsjerk Kaastra, involved feed ration calculation examples of different groups of cows and young stock, and later practical feeding skills in the stable in the barn. The training was both theoretical, using exercises and scenarios, as well practical at the DTC barn. The participants also received the forage plan tool and an assignment on the same during the farm visit on the fourth day.

3.3.1.1 Dairy Academy Oenkerk

The dairy farm in Oenkerk is an important part of Dairy Academy Oenkerk. With continuous research, together with their partners, they have been making plenty of innovations to increase the yield of dairy farms and track cow manure emissions. The dairy farm in Oenkerk had; 21 hectares of maize forage, 94 hectares of grassland, 185 dairy cows and a 130 young stock.



Pic 5: Dairy Campus Farm, Onkerk

3.4 DAY 4: 24.8.17: SECOND ROUND OF SELECTED FARM VISITS – FRIESLAND

Having covered fodder and feeding topics, the participant, equipped with dairy farm benchmarking and forage planning tools, set off to assess and learn from the new farms. The schedule included the six (6) host farms with participants visiting different farms from the previous visit. Accordingly, there was something new and observe, assess the selected farms. Notwithstanding, different experiences from the previous farm visit. See annexed farm visit program.



Pic 6: Joseph and Alfred at Brouwer Farm



Pic 7: Sammy and Cyprian at De Jong Farm



Pic 8: Carol, Nick, James and Annie at Van der Pol Farm



Pic 9: Kenneth and Stephen at Van den Bosch Farm

3.5 DAY 5: 25.8.17: AT DTC SUMMARIZING THE LEARNING, OENKERK

The participants returned at Dairy Training Centre, Oenkerk to summarize the learning, and once again, Frans Ettema led the first session where he collected summary feedback on the farm visits done previous day. The first trainer of the day was Mr. Anne Terpstra who presented on managing heats, breeding, fertility, AI and Pregnancy Detection. During the session, Mr. Terpstra demystified key issues around heats and best practices on insemination. After in-class session, the team went to the DTC barn for practical session on pregnancy checks using a vet ultra-sound pregnancy kit and a how to detect pregnancy manually. Each participant also received a copy of heat detection checklist.

During the second session in the afternoon, Mrs. Geraldine Haverkamp taught several topics on Cow health, body condition, cow signals and calf rearing, and after the workshop, the participants, in groups went to the barn for the practical sessions and exercises under the later topics. Participants weighed calves and heifers, checking on growth performance, and were taught on scoring herd health and body conditions of cows. Participants also received checklists for recording calf and heifer growth.



Pic 10: Participants with Terpstra at Dairy Campus Oenkerk



Pic 11: Participants with Frans at the Dairy Campus barn

3.6 DAY 6: 26.8.17: AGRICULTURAL TOUR - SELECTED DEALERS AND SUPPLIERS

The six day was an agricultural tour to Royal A-ware, Heerenveen, Bles Dairies Farm, Broek and new barn under construction by Agriprom, belonging to Erik van der Brandof located in Nieuwleusden.

3.6.1 Royal A-ware

The morning began at Royal A-ware, Heerenveen factory, where the COO, Klaas De Jong, made a brief thought-provoking presentation about the history, production, performance and present day-operations. In 2010, following a merger between two family businesses, Bouter Cheese (1890) and Anker Cheese (1963), A-ware Food Group was formed.

In 2015, this group received the designation 'Koninklijke' (Royal) and the name officially changed to Koninklijke A-ware Food Group trading under the name Royal A-ware. Royal A-ware specializes in producing, ripening, cutting, packaging and trading in cheese, fresh dairy products and cream.

Later on that morning, Klaas De Jong treated the team to a taste of Royal A-ware products, Cheese and different yoghurt brands, before taking a tour of the production facility.



Pic 12: Participants tasting Royal A-ware products

3.6.2 Bles Dairies farm

The second visit to Bles Dairies farm in Broek where the CEO, Mr. Henk Bles, a seasoned entrepreneur and dairy expert, received the participants. Mr. Bles shared about his company operations, solutions and working partnerships with Semex, the Friesian, and DTC. Bles Dairies, founded in 1990 by Henk Bles, inherited this longstanding family farming tradition, which dates back three-generations in 1854, in a modern approach, worldwide. Bles Dairies, with over 25 years' experience in the export of Holstein Friesian, also operates in Kenya as Bles Dairies East Africa.

Some of the highlights from interactions with Mr. Henk Bles included tips on the importance of breeding, genetics, feeding and decision-making based on herd records.

After the presentation, the participants got a glimpse of the herd management software used by the farm and later on, a tour of the farm. During the brief tour of Bles dairies livestock, participants spotted high-yielding cow that had amazingly given 72 kg of milk the previous day.



Pic 13: Aerial view of the Bles Dairies farm, Broek

3.6.3 Agriprom site, Van den Brandhof farm, Nieuwleusden

The final visit the tours was Van den Brandhof farm in Nieuwleusden. Erik van den Brandhof led the participants to the 35 years' old barn and later to the new barn under construction by Agriprom.

A comparison of the old and new barn gave the participants a glimpse of modern dairy infrastructure; bedding floors and cow comfort aspects.

The visit also served as three-decade journey of Dutch dairy housing and barns. Erik also gave participants Agriprom brochures.



Pic 14: Inside the Van den Brandhof barn, Nieuwleusden

Day 7: The seventh day morning, the participants left for Amsterdam after a weeklong study tour in Friesland.

4 MOMENTS IN THE PROGRAM AND FEEDBACK

4.1 MAIN HIGHLIGHTS OF TRAINING

4.2 SUMMARY FROM THE FEEDBACK

After the study tour, an evaluation was conducted and the summary of responses from the participants shared below.

4.2.1.1 *Summary of most impressive things about the farms visited*

- Professional farm management practices
- The level of dedication by farmers to dairy farming
- The partial grazing system
- Effective Labour utilization
- Efficiency due to farm machinery, machine and robot milking
- Cleanliness and orderliness

4.2.1.2 *Overall impression about the Dairy Training Centre*

- Well organized with the use of latest technology
- Good designs, very modern and a great training facility for both practical and in-class
- Very informative and insightful; good application of theory and practical aspects
- Very impressive and a resource centre for farmers capacity building
- Innovative use of solid slurry for cow bedding
- It was very informative and supportive trainers
- Great and one of the best dairy training facilities

4.2.1.3 *Summary responses: the best part of the study tour*

- The farm visits; Interactions with farmers and learning about best farming practices. Sharing experiences with my Kenyan farmers colleagues and creating networks

4.2.1.4 *Summary of responses: the least successful part of the study tour?*

- Time was limiting
- Type of meals

4.2.1.5 *Summary of additional remarks from participants*

- Many thanks for the great hospitality of the organizers, their kindness and sacrifice,
- Need to bring the group together prior to the visit to share tour objectives,
- The Dairy Academy at Oenkirk was a good training facility however there is room for improvement especially on cow comfort,
- Generally the whole tour was excellent and the timing of the study tour also very critical - during silage making,

4.3 MAIN LEARNING POINTS BY PARTICIPANTS

4.3.1 Quality fodder and feeding

One key pillars of dairy farming success worldwide, and one of the easy wins for the Kenyan context, is the ability to manage quality forages, pasture and best practices in preservation. The participants witnessed the grassland management, timely harvesting with quality as focus and grass silage. Such aspects like paddocking and partial grazing practices are easy steps for MSF participants to embrace in the short run. Other aspects of manure application and fertilization were also important learning points.

4.3.2 Breeding and fertility management

The importance of good feeding breeding and fertility management were top consideration for most dairy farmers and part of the success and good herd performance for the Dutch farmer. While some farmers from the team had managed to achieve similar targets for some cows in their herds, management for whole herd was still a challenge. Such success, like high conception rates, calls for a combination of the best management practices; good feeding, accurate data management, around heat detection and use of good semen.

4.3.3 Innovating cow comfort and bedding

On several farms, there was appreciation of the use of solid fraction of the slurry, very light and almost odourless when freshly separated, producing a surprisingly attractive bedding material when mixed with gypsum, which the cows like and with no detrimental effect on milk quality and positive effects on cow welfare. Unlike the cow mattress option, animals in barns using solid fraction had few injuries and were clean.

4.3.4 Technology and mechanization intervention is must

For commercialization of dairy farming, mechanization is a priority. There was no doubt, acquisition or the leasing of machinery, options for embracing new technologies should be developed, adopted and adapted regularly for continuous improvement for dairy farms in Kenya. While it's not possible for farmers in the Kenyan dairy sector to acquire quality machines for fodder or forage preparation, leasing or hiring from contractors may be an option to improve the key processes in improving fodder quality.

4.3.5 Machinery Cooperatives is a possible option for medium scale farmers

With the need for quality fodder at its peak, single farms cannot fully utilize machinery for fodder harvesting, preparation and preservation. To achieve acceptable utilization levels MSFs in groups can purchase and run a machinery contracting entity/outlet to hire machinery to members. Most farmers in Friesland had formed, or were in, cooperatives purposely for machinery leasing and only consulted contractors when needs arose. Through cooperatives, member farmers leased machinery at a discount and every other year, the farmers were able to purchase/barter old machinery for modern ones.

5 RECOMMENDATIONS FOR FUTURE PROGRAMS

5.1 WHY IT IS A GREAT PROGRAM

Our overall experience was very satisfying since we had the opportunity to observe, operate, although for short durations, and understand the procedures and techniques that we had heard the Dutch experts mention and insist. The study tour was very beneficial for participants in terms of understanding in depth of Dutch dairy farmers who kept it simple while maintain quality of the fodder, feed and labour management.

Other aspects of storing and processing of animal slurry for bedding was very innovative. The friendly and relaxing atmosphere of this tour was the perfect starting point for the participants to embrace change, processes and technology like the Dutch farmers. There was great potential to transform farms for the visiting participants upon return to their farms Kenya.

5.2 WHAT COULD BE IMPROVED

5.2.1.1 *Summary of suggestions to improve future study tours*

- To allow for more time especially training at dairy training center for practical training and more class work
- To allocate more time for the farm visits, perhaps visit more farms and more engagement with Dutch dairy farmers
- Have a session to share about the e-learning system with participants prior to the starting the tour so that participants fully utilize and benefit from the platform.
- May be taking the group to used equipment and machineries yards to establish trade links for purchasing arrangement
- Visit a smaller or relevant processor to the Kenyans market
- Follow-up and support for participant farmers who want to establish best practices on quality fodder and forages
- Follow-up for farmers and support those who need to achieve better breeding and fertility programs and perhaps organize for short courses the dairy farmer managers.

6 PICTURE SPEAK



Pic 15: Arrival at the Dairy Campus, Leeuwarden



Pic 16: Workshop training at Dairy Campus, Leeuwarden



Pic 17: Practical Exercises at the barn at DTC, Oenkerk



Pic 18: Visit at Royal A-ware, Heerenveen Factory



Pic 19: At the Dairy Training Centre cow barn, Friesland



Pic 20: Visit at farm making silage, Oenkerk

7 ANNEXES

7.1 ANNEX 1: LIST OF PARTICIPANTS AND THEIR FARMS DETAILS,

Herein below is a summary of the 11 participants and their farm details

First Name	Other Names	Designation	Location	Herd size	Milking cows	Land fodder (acres)	for % cow/herd	
1	Maiyo	Stephen Kiprob	Owner	Eldoret	40	17	35	43%
2	Tarus	Kenneth	Owner	Eldoret	34	14	50	41%
3	Korir	Sammy Kipchoge	Owner	Eldoret	35	19	50	54%
4	Mwangi	Francis Gitau	Owner	Nakuru	36	15	28	42%
5	Mwangi	Annie Wakini	Owner	Kirinyaga	134	38	65	28%
6	Rarama	Joseph Gatobu	Owner	Meru	23	11	30	48%
7	Muriuki	Alfred Kiriinya	Owner	Meru	36	17	25	47%
8	Muindi	John Paul	Owner	Emali	39	14	120	36%
9	Wachenje	Caroline Walegwa	Owner	Kajiado	97	36	40	37%
10	Nambisia	Cyprian Musiomi	Manager	Kajiado				
11	Joseph	James Ngatia	Consultant	Perfometer				
					474	181	443	

7.2 ANNEX 2: LIST OF TRAINERS, THEIR DESIGNATIONS AND THEIR PROFILES

The list of 10 (ten) trainers and facilitators of the study tour include

Trainers profile		Designation	Organization
1	Frans Ettema	Dairy Expert & Consultant	Landfort Advies
2	Wytze Heida	Dairy Expert & Consultant	Bles Dairies, the Fresian
3	Johannes Brolsma	Trainer / Account Manager	Dairy Training Centre (DTC)
4	Harm Wemmenhove	Trainer / Researcher	DTC / WUR
5	Tsjerk Kaastra	Trainer / Assessor	Dairy Training Centre (DTC)
6	Anne Terpstra	Trainer / Dairy Consultant	Bles Dairies, the Fresian
7	Geraldine Haverkamp	Trainer / Vet	Dairy Training Centre (DTC)
Other Facilitators			
8	Klaas De Jong	COO	Royal A-ware
9	Henk Bles	CEO	Bles Dairies
10	Erik van der Brandof	Sales Consultant	Agriprom

7.3 ANNEX 3: EVALUATION TEMPLATE (FEEDBACK TOOL)

7.3.1 Part 1 and 2: Farm visit evaluation

1. Were you able to realize your objectives during the visit?
2. How would you describe the communication with the farmer?
3. Did you get sufficient answers to your questions?
4. Did you get insight in the organisation of the farm? Please describe briefly.
5. Did you get insight in the farm data? Please briefly describe the kind of data you saw.
6. Were you allowed to work along in the daily routines?
7. What was the most impressive thing about the farm?
8. Were you welcomed at the farm, hospitably?

7.3.2 Part 2: General feedback

1. Please rate your understanding after the training
2. What was your overall impression and evaluation of the Dairy Training Campus?
3. The general administration and management of the study tour were well-coordinated.
4. What was the best part of the whole study tour?
5. What was the least successful part of the study tour?
6. What do you feel should be added or removed to the tour to improve it?
7. Would you recommend others for future study tours?
8. Please share any additional remarks that were not captured above?

7.4 ANNEX 4: SCHEDULE FOR FARM VISITS ON 22 AND 24 AUGUST

Visitors Host farms	Stephen Kiprob/ Tarus Kenneth	Sammy Kipchoge/ Cyprian Musiomi	Caroline Walegwa/ Annie Wakini	Joseph Gatobu/ Alfred Kiriinya	John Paul/ Francis Gitau	James Ngatia
Fam. Brouwer		24/08		22/08		
Fam. Van den Bosch	24/08				22/08	
Fam. Van der Pol					24/08	22/08
Fam. Straathof			22/08			24/08
Fam. De Jonge	22/08			24/08		
Fam. De Jong		22/08	24/08			
Farm Dairy Academy, Oenkerk						

7.5 ANNEX 5: PROFILES OF THE HOST FARMS TO VISIT

	Farm Dairy Academy	Brouwer	De Jong	Van den Bosch	Van den Pol	Straathof	De Jonge
# Ha grassland	83	120	150	100	45	36.5	160
# Ha maize	21	30	30	25	14	3.5	30
# Ha other crops	no	no	no		Fodder beets, 4	no	6
# Milking cows (incl. dry cows)	185	260	360	285	130	86	250
# Young stock (replacers)	90	180	80	160	70	48	175
Milk production:							
KG milk / lactation	10,000 kg	9,478 kg	9,000 kg	9700 kg	9,600 kg	9,171 kg	8900 kg
% fat	4.35 %	4.15 %	4.40 %	4.40 %	4.63 %	4.18 %	4.40 %
% protein	3.45 %	3.48 %	3.30 %	3.45 %	3.60 %	3.39 %	3.40 %
Milking system	3 robots	4 robots	swing-over (28 stands)	carousel 22 stands	carousel 24 stands	herringbone 2x10 stands	carousel 24 stands
Milking frequency	2.7	2.6	2 times / day	2 times / day	2 times / day	2 times / day	2 times / day
Grazing	partial	no	yes	no	no	yes	partial
Zero-grazing	partial	yes	no	yes	yes	no	partial
Calving interval days	375 days	404 days	410 days	400 days	420 day	396 days	420 days
Staff (labour)	2	2	3	4	1.5	No hired labour	2 male / 2 female

7.6 ANNEX 6: TRAINING TIMETABLE

Day 1, 21/8	
Morning: 9.00 – 12.30 h.	Person Responsible
Location: Dairy Campus, Leeuwarden	
- Opening	Frans Ettema/Wytze Heida
- Introduction Dairy Campus/Dairy Training Centre	Harm Wemmenhove
- Excursion Dairy Campus	Harm Wemmenhove
- Start workshop Milking and Hygiene	Harm Wemmenhove
Afternoon: 13.00 -16.30 h.	
Location: Dairy Campus, Leeuwarden	
- Management, economics, record keeping	Johannes Brolsma
- Workshop milking technics, hygiene and SOPs	Harm Wemmenhove
- Assignment for the farm visit	Johannes Brolsma, Harm Wemmenhove
Day 2, 22/8 Farm visits (see separate program)	
Day 3, 23/8	
Morning: 9.00 – 12.30 h.	
Location: Dairy Training Centre, Oenkerk	
- Feedback on farm visits and assignments	Frans Ettema/trainer
- Forage plan calculation /feed plan calculator	Tsjerk Kaastra/Frans Ettema
- Forage production and silage making	Tsjerk Kaastra
- Assignments for farm visit	Tsjerk Kaastra
Afternoon: 13.00 – 16.00 h.	
- Feed ration calculation of different groups of cows and young stock.	Tsjerk Kaastra
- Practical feeding skills in the stable in the barn	Tsjerk Kaastra
- Assignments for farm visit	Tsjerk Kaastra
Day 4, 24/8 Farm visits (see separate program)	
Day 5, 25/08	
Morning: 9.00 – 12.30 h	
Location: Dairy Training Centre, Oenkerk	
- Feedback on farm visit and assignments	Frans Ettema
- Workshop Breeding/fertility/AI/PD	Anne Terpstra/Wytze Heida
Afternoon: 13.00 – 16.00 h.	
- Workshop in the barn:	
Cow health, BCS, Cow signals, Calf rearing	Geraldine Haverkamp
Day 6, 26/08 08.30 h.	
- Agricultural tour	Frans Ettema/Wytze Heida
- Royal Aware, Heerenveen	
- Bles Dairies Farm, Broek	
- Agriprom, Nieuwleusden	
Day 7, 27/08	
- Tour and stay in Amsterdam	Organized by Perfometer

