Learning Mission Report

Kenyan Consultants Visiting the Dutch Dairy Sector through SNV-KMDP/PUM Collaboration

AUGUST 2014

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Background

As part of its highly placed localization agenda, SNV through its dairy program (Kenya Market-led dairy Program - KMDP) entered into a collaboration with Netherlands Senior Expert Program (PUM) to build the capacity of its project team. The implementation plan includes incoming mission for the appropriately skilled experts to the project areas but also an opportunity for outward exposure missions. Between 19th and 30th August, 2014, two local consultants Stanley Koech (Eldosirikwa) and David Maina (Perfometer) were involved in an outward mission that was planned to cover different components of Dutch dairy practice. The mission was planned and hosted by PUM representatives Frans Ettema, Jaap de vrij and Halbe Klijnstra. Among the places visited were farms, a vet centre, feed consultants, accountants, fodder contractors, academic institutions and a vocational training centre. To make it both valuable and relevant, the exposure program was planned as per the expectations sent to PUM representatives by the two visiting local consultants.

Acknowledgements

We would like to take this opportunity to thank all those who spent their time and effort to make this mission the great success it was. We thank PUM through the CEO, A.M Van Praag, the coordinator of training programs, G.N Van Der Veen - Hetebrij, for accepting to sponsor the training program and for coordinating the secretariat to carefully and accurately arrange the travel and logistics. We thank you for the smooth coordination of the entire mission through the main representative Mr. Frans Ettema and the co-hosts Halbe Klijnstra and Jaap de vrij. We express our sincere gratitude due to the manner in which we were hosted, how you made sure that the mission was worth every minute spent in Holland.

We thank all the hosts of the different places visited, Broekens machining, Gjalt de-haan of De-Haan contractors, Bertjan Westelaan and Sasha of the vet centre (Dierenarsten), Richard Dijkstra of For Farmers Hendrix, Jan Hulsen of Vetvice and Cow Signals, Farmers Peter Bijen, the Blikkers Jan Zeinstra and Ferdinard Ettema, Rick Hoksbergen of ALFA accountants, Rene Krijnsen of DTC and Professor Jelle Zijlstra of WUR. We also thank Catharinus Wierda of solidaridad who paid a courtesy call to us in the Hotel. We are greatly indebted to Mackenzie Masaki for offering his time freely on Sunday to give us the most needed break-away from the rigorous training program.

We are very grateful to SNV-Kenya office for recommending us positively to PUM and the support in the coordination with the PUM secretariat, we are indebted to you from the country Director Harm Duiker, Anton Jansen the program head of KMDP and the entire agriculture fraternity headed by Mary Njuguna, we thank you all for the goodwill and the confidence you have in us to be part of your high valued agenda of building the capacity of the local organisations in line with market based solutions to sector constraints

We echo the words of G.N Van Der Veen - Hetebrij during the issuing of the training certificate, that "the best way to get things done, is to help people help themselves". We, in return, commit to apply this knowledge in our local context to bring forth the most needed transformation.

Mission in brief

Organised and coordinated by	*Senior Netherlands Experts (PUM)*
Requested and Facilitated by	*SNV – KMDP*
Hosted by PUM representatives	*Frans Ettema, Halbe Klijnstra, Jaap de Vrij*
Mission Dates	*19th August - 30th August, 2014*
Participants from Kenya	*Stanley Koech (Eldosirikwa) and David Maina (Perfometer)*
Objective	*To develop the capacity of the local consultants involved in the implementation of SNV's KMDP*

Table 1: Basic mission details at a glance

Presentation at The Friesian

The mission kicked off with a brief session on the review of the schedule, and evaluating it in the light of the expectations already shared with PUM representatives ahead of the visit. It was also the time to make tentative arrangements for silage making as it was still very wet on the week that was arrived.

Later at mid- morning we had the first kick-off presentation at The Friesian. The presentation was facilitated by Wytze Heida (The Friesian) and attended by Frans Ettema (PUM), Jaap de Vrij (PUM), Halbe Klijnstra (PUM), Lammert Fopma (MD, The Friesian), Stanley Koech (Eldosirikwa for KMDP) and David Maina (Perfometer for KMDP).

The presentations covered the Dutch dairy practice, its traceable history dating 2000 years back, the growth from the days of hand milking to machine milking and to today's robotic milking techniques. It also covered the positioning of The Friesian as a consulting company, their competences, product offering and international networks. Among the highlights in this presentation was the essence of the increasing demand for food globally.

The presentation (annexed herewith) provided a profound basis for discussions on cost reduction strategies through health, fertility, optimized feeding. Feasibility and business planning for dairy enterprises, forage production, cow housing aspects, milking systems, breeding, dairy farm management, training and knowledge transfer and dairy backstopping. Some of the data that described the sector at a glance are as follows:

Basic Growth Parameters

PARAMETERS	YEARS		
	1970	***1990***	***2012***
Dairy farms	*116,000*	*47,000*	*17,000*
Total numbers of cows	*1.9 million*	*1.9 million*	*1.48 million*
Ha's of Grassland	*1.33 million*	*1,1 million*	*950 thousand*
Ha's grass + fodder crops	*13.0*	*26.0*	*48.0*

Table 2: Basic growth parameters across the years.

(i) 17.000 Dairy Farms (>90% free stall), 70% pasture-grazing in summer

(ii) 350 dairy farms + on-farm processing

(iii) Average > 75 milking cows, Q= 610.000 kg/year

(iv) 11 billion kg of milk, 15 main dairy processing companies

(v) 1 main cooperative dairy (>80% of the milk)

a. One National Milk testing Lab (QLIP), 2 small private labs

b. Milk payment based on composition (fat/protein) & hygienic quality

Table 3: Dutch Dairy Sector (lately)

High milk production per ha:	*12.000 – 16.000 kg*
High Milk Production per cow (all HF)	*9.330 (358 days) & 8.505 (305 days)*
Number of dairy farms in milk recording:	*16.048*
Average productive life-span of cows:	*1.264 days (3,4 lactations)*
Average lifetime production of cows:	*30.318 kg milk*
Number of cows with lifetime production > 100.000 kg.:	*20.656 head*
High level concentrate feeding:	*≥ 2000 kg per cow*
Forage production:	*80% grass, 18% maize, 2% others*

Table 4: Dutch dairy Farming – Main characteristics 2013

Some points of reflections during the presentations and discussions:

(i) The Friesian started off offering services across many subsectors – poultry, piggery, horses, etc. but has now positioned as a dairy advisor. Dairy consulting can keep a firm in business and there is need to build specific expertise that responds to the dairy needs instead of doing 'everything' within Agriculture.

(ii) Hay appears to be exiting the feeding systems in Holland, and giving way to silage. Is it a good ideas that the dairy sector in Kenya can adopt maize silage when the sector is still young, with high value grass as the counterpart energy forage?

(iii) There is no more government extension in Holland, It has since been privatized. Could the future of extension in Kenya also be private?

(iv) With increased intensive (zero) grazing comes hoof problems. And yet in Kenya, the dairy farming is growing fastest among the medium-size farmers who adopt grazing. From a service provision perspective, there will be need to have hoof trimming services.

(v) The Friesian through its subsidiary, Bles Dairies in involved in export of heifers, and in order to ensure that the receiving clients (the importers) are well prepared to receive the heifers, The Friesian offers advisory as an embedded service. The concept of offering advisory to farmers as an embedded service works well to support a mix of goods and services in the product offering.

Broekens Machining Company

This is a machining company in Stiens. The purpose of visiting this showroom was to see both new and used machinery, and discuss with the company about the realities of selling such equipment to other countries and the costs involved in such exports. We had a meeting with the persons in charge to compute the prices with a view of assessing whether it could be a viable opportunities for the large scale farmers in Kenya especially those in the North Rift.

Picture 1: (New) Manure Applicator

Jaap and Frans took time in the workshop to also explain how the various equipment work. On my part, it was a learning point to comprehend how a manure applicator work while in action, as well as other equipment involved in fodder processes.

Meeting with PUM Representatives

This was a tight-scheduled day as we also had a close of day meeting with both Frans and Jaap to discuss our views about the PUM support to KMDP. This was a good opportunity to discuss and explain at length the benefits that the PUM collaboration has brought into our work in Kenya. We also gave our perspectives on how useful PUM will be in the coming years. Frans had been supporting KMDP clients on Total dairy management while Jaap had been actively involved with supporting the commercial fodder producers with land preparation and other agronomic aspects. As local consultants benefiting from PUM, we had a common view that besides the support that clients receive directly from PUM, there is tremendous coaching on the local consultants who host the international experts. We projected that total dairy management support for medium size farmer forums was just beginning in readiness for Frans support, and that the commercial Fodder Production interest was growing with some of the farms already beginning to implement the advice given by the expert. It was also during this meeting that we discussed the next mission for Frans that was set to begin in two weeks' time.

A day with a Dutch farmer

On this day Stanley and I were placed in different farms to be with the farmer all day. This was a typical day with a Dutch dairy farmer on his farm. Besides observing what was being done at the farm, it was also an opportunity to participate in the work and to ask questions about processes carried out at the farm.

Picture 2: Peter Bijen and David Maina standing at the edge of the feeding array

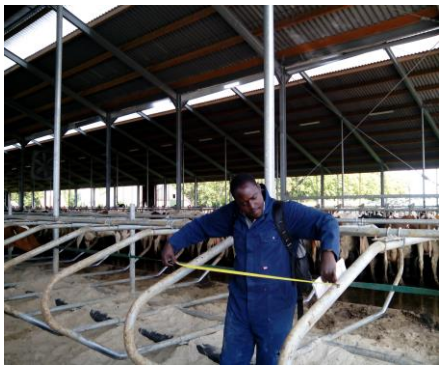
Peter Bijen's farm at a glance (David's Host):

- A total herd of 500 animals, 330 in one farm and 170 in the other excluding the young stock.
- Started with 80 cows in 2000, grew to 180 in 2004, 260 in 2007 and 500 in 2013.
- Farm is operated by 4 people, three family members and one employee.
- The herd's calving interval is 380 days
- Daily production of 8400 litres of milk per day with an average daily production of 20 litres which he considers low.
- Sells milk at 39.25 euro cents,
- Daily labour per hour is valued at 16 EUR (Ksh. 1920)

Learning points (David)

- Checking the hoof condition on the herd is a weekly routine.
- The hoof trimming is done 100 days in to lactation
- He feeds the poorer grass to the dry cows and the heifers, and the rich feed to the milking herd.
- Feeds one metre a day of well compacted silage – this has to do with the dimensions of the bunker.
- Feeds sufficient fibre in the TMR – that the cows achieve sufficient rumination and digestion
- Plants 100,000 maize seeds per hectare
- Obtains 2-2.5 tons of dry matter per hectare in one cut.

- Confirmed and understood the principles behind the different dimensions of the barn sections, especially the sleeping area, the resting area, the watering points.
- The cost of the barn calculated on per cow basis.
- The 'current-ness', accuracy and application of farm data in making changes and decisions at the farm.
- The role and prioritization of different consultants on the farm, and the way they are managed by the farm owner.
- The order of activities from the very first steps at 6am (milking, scrapping, checking the close up herd of the dry cows), and the others that follow.
- The frequency of various routine practices like hoof trimming, tail cleaning and shaving,



Picture 3: David Maina, a Kenyan dairy consultant confirming barn dimensions

Interdependence of Consultants

This was a more eye opening learning point, as it explains how the feed lab stays in business and how the demand for such services comes from the producer – demand driven.

The coordination between consultants from the contractor, to the feed lab, to the feed advisor, to the veterinary, and how the output of one consultant becomes the input of the other in such a way that there is complete interdependence between them.

It is the producers need for quality and professional dairy practice that keeps the consultants at work not the other way round – not supply driven.

Blikker's farm at a Glance (Stanley's Host)

The Blikkers have their dairy farm set in 95ha (235 acres) of land. 76ha is on grass, 3ha on maize, 8ha each of wheat and barley. The farm has 115 mature cows (110 of which are in milk). Mr. Blikker and his wife run the farm, with the help of a milker who comes three times a week.

Key learning Points

(i) There is power in farmers working together, sharing data, information and experiences;
(ii) Clovers can be intercropped with grass for baling or silage making;
(iii) Dutch farmers are increasingly moving away from maize into grass silage;
(iv) There is flexibility in family-owned farms
(v) Contractors play a critical role in land preparation, manure spreading, silage making and cleaning of water canals
(vi) Farm efficiency is the focal point of every farmer

De-Haan Contracting Services (hosted by Gjalt De-Haan)

The business of contracting services. There are at least 3000 agriculture contracting services, 1- 50 and sometimes to 100 employees. The larger ones are those who do 'other things' over and above contracting.

Typical contractors have less employees because the work is season sensitive, which means that they still have to incur fixed cost even during the seasons of less work. The main market for the contracting is the 19,000 farmers in Holland though not limited to them.

Picture 4: Images of a raker and manure applicator at De-haan contractors

Holland is importing huge volumes of proteins from Brazil (ranking second from China). The country has surplus phosphate due to the feed importation process. Yet the rest of the world has a shortage of surplus.

De-haan baled an average 12000 tons of silage of hay per month, they not only offer services but also selling fodder. There are about 100 farmers being serviced regularly. 20% of these farmers contribute to 50% of the total turnover.

In principle, a farmer needs only one tractor for spraying, the others can be leased from a contractor.

Grass drying company

The company's core business is drying grass, to over 90% dry matter content. In most cases it is the farmers who bring their grass for drying and processing in to pellets. But the company also buys its own grass to dry for selling. The company maintains a sample from each farm for traceability, the samples are then disposed after one year.

Picture 5: Fresh Grass dried into Pellets

The charge is 18.5 – 23.5 Euro Cent per kilo of dry matter, this pricing includes the cost of drying, storage and transport. In terms of energy use, 2.5 tonnes of steamed coal can for three days when the grass is dry.

The two drying systems have a capacity is 600 tons of fresh grass in 24 hours. It steams out not less than 10,000 litres of water.

The Bio-digester

It has a turnover of 1.2 million Euro annually, with a capacity of Six million kilowatts annually. 5.5 euro cent is received for each kilowatt sold to the grid, even though the grid charges 24 cents for each kilowatt consumed. The price paid by the grid is low. But the project runs on a subsidy 17.5 Euro cent per kilowatt.

Smaller Dairy Farm – Ferdinand Ettema

There were more lessons to learn from this farm. The farm takes 48 hours at maximum to make all the silage for one cutting. It takes 6 hours to ensile 35 hectares of grass. These six hours include cutting it, transporting it to the ensiling location, packing it and compacting it. The covering and putting the weight is done by the farmer.

Before the contractor comes, the farmers mows (cuts) the grass, tends and rakes it. The farmers pays Euro 435 per hours to the contractor. In the current bunker the farmers paid a total Euro 2610 for all the work.

There was a question as to why a contractor would not delay in the work, if he was indeed going to be paid on per hour basis. But among the contractors, it's the competition that makes the various contractors do the work well and in less time, if the contractor takes longer than expected, then the farmer can seek the services from another contractor. The assessment of the contractor is not just in the price but also in the quality of the work.

The grass was ensiled at 30% dry matter per kilo of material. Farmer then contracts BLGG to take an evaluation on the volume of silage in the banker and also pays for the analysis. The totals cost for the last analysis was Euro 60 for feed rationing and EUR 30 for mineral balance. The report from BLGG is the accessed directly by the feed consultant and the veterinarian because they should both know what the cow is feeding on.

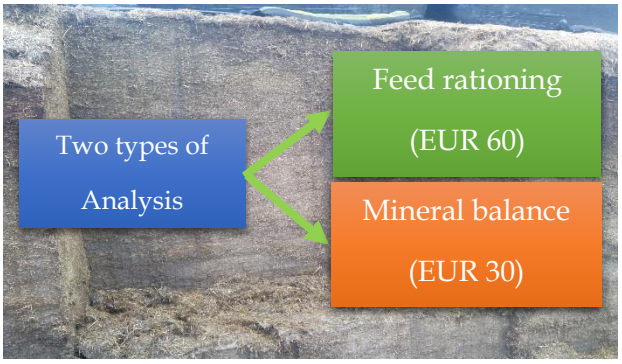


Figure 1: The two types of analysis – a properly compacted grass silage bunker on the background

Base on this report, Agri-firm provides the feeding table and ration advisory that is based on the analysis. This also (again) explains why the feed laboratory is in business because the analysis is needed by

the other consultants for them to deliver their services.

There is an important learning point at this point that data is not for data sake, but for advisory and management decisions.

In this farm, one of the sales executives of Lely explained their work as major suppliers of dairy mechanization equipment. The company's website was given as www.lely.com.

The farm manages such consultants as the veterinary, the feed advisor, and the accountant. The veterinary is paid directly and earns a standing (fixed) charge of EUR 43 (Ksh. 4945) per visit, the work of the vet is however charged at EUR 106 (Ksh. 12190). The contract between the farm and the visit mainly refers to the 30min visit which occurs once every month. During these visits the vet does a profiling of the cows, fertility checks and confirming the records. It should be noted that what saves the time of the vet and in effect benefits the farmer is the level of preparation of the farmer. If the farmer does not prepare, then he pays for his *'lack of planning'*.

Specialization and Division of Labour

But why can't the farmer gradually learn some of these less technical practices e.g. feeding to make the use of the feeding advisor unnecessary? This is because the amount of inquiry needed on each area, and being able to take in new information that comes from new research and benchmarking from these industries, if the farmer were to concentrate on the dairy farming they would not probably be able to keep up in the same way the specialized consultants would.

Dairy Study Groups

It became clear that the Dairy Study Groups (Groups) has been one of the ways through which the Dutch Dairy sector has grown. The peer farmers operate on information sharing. '*You get information on condition that you bring information*. The farmers in the group are not in competition with each other. The farm data sheet had multiple economic data that indicate the farm's status.

The Feed Advisors

This was a session with Richard Dijkstra who manages a team of feed advisors at For Farmers Hendrix (FFH) which is the main sponsor of the European Dairy Farmers (EDF). FFH has a total client base of 11,000 world-wide with 5000 of these in the Netherlands. It is a cooperative, with 80% of shares owned by the farmers 6% by internal staff and 14% by investors.

The advisor confirmed that the most highly utilized and sought for consultants are the feed advisors. The feed advisor visits the farm about 10-12 times a year.

In Holland, making of feeds for a feed manufactures is not enough, their business model is to offer to the farmers a full package, the feed and the advice. The full package may also include grass seeds.

The most important part of the Dutch farmers is getting up to 75% of own feed from the farm which in this case is maize and grass silage, the feed company then provides all types of

compound feed. It is estimated that one hectare would maintain 2-3 cows. However, one can have more cows if they have a place to sell their cows. In terms of milk production 1 hectare can support production of 15000 – 20,000 litres (based on a 300 day lactation period). The highest producing farms reach up to 30,000 litres per hectares. In terms of fertilization, phosphate and nitrogen are regulated (potassium is not) and every farm has a quota for phosphate and nitrogen depending on the size of land. Only a maximum of 250kgs of nitrogen can be applied per Ha. One cow produces at up to 60 litres of manures per day (solid + urine) plus five more litres per cow used in cleaning, adding up to 65 litres in total. Farmers also conduct manure and soil analysis to know how to fertilize different sections of the farm.

Picture 6: Debrief session with Richard Dijkstra of For Farmers Hendrix (Right) and Frans Ettema of PUM (left)

While the average holding is between 80-100 cows per farm (lower than Denmark's 150). In terms of labour one man can take care of a herd of 80 in a mechanized farm.

Balancing milk and Manure

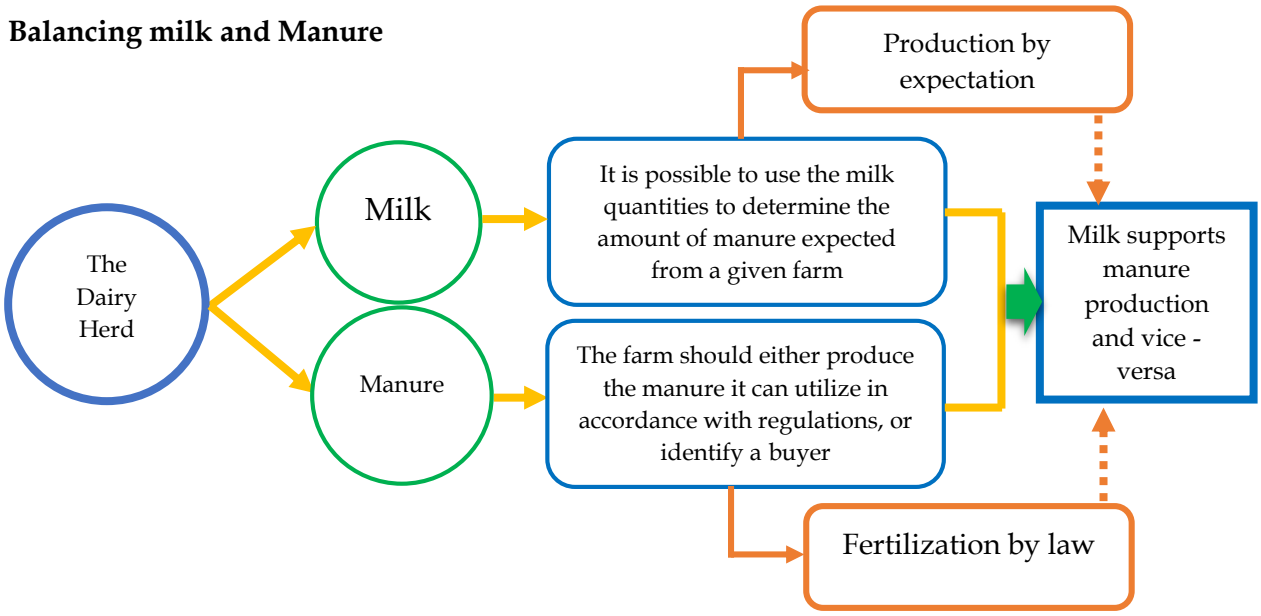


Figure 2: The intricate balance between Milk and Manure

Consultants earn back their time and value by the products they sell, not by charging for advisory. The busiest months are January to March. The consultants are busy. Though the farmers are reducing, the herd is increasing, there are at least 16,000 professional dairy herds. A PDH is defined to be every farmer who has 10-15 cows and delivering milk to a processor. It is generally perceived that Holland has more than enough data on the farms but not enough analysis – a lot

more analysis can be done to inform the sector. Only the veterinary data is considered 'quite open'. The sector (Holland) is an exporting country. This also explains why Holland has to be professional and to comply with many set standards. 75% of the total production is exported and only 5% of the total production is consumed as liquid milk. The per capita milk consumption of Holland stands at 80 litres, compared to Kenya's 120 and Vietnam's 18%.

FFH has a total of 5000 customers, 3600 of these customers are electronically connected (app), and are therefore able to receive alerts directly on the phone on various types of information.

"In general, farmers are decreasing, but the professional dairy herd is increasing" Richard Dijkstra, For Farmers Hendrix.

A typical consultant's report contains, numbers of farmers they have visited, numbers of prospects visited (30% of the farmers visited should be prospects), actions undertaken in the farm and the discussions held with the farm visited. Comparative data between (EDF) farms is designed to benchmark on optimization and efficiency. It must be noted that it took many years for Holland to get to this level of data management. The development in milking systems has also made the work much easier because the latest robotic versions are able to carry out a lot of operational processes on the farm even heat detection and sicknesses, and are enabled to send the information to the farmer and the vet depending on the input phone numbers.

On the costing of feeds, 20% of the price of one litre of milk goes to feeding cost of the outsourced feeds. Feed efficiency can save farmers up to EUR 10,000 (Ksh. 1.15 Million) a year. The cost of the advisory offered adds to the price of the concentrates by about 2 Euro Cents (Ksh 2.30) per Kilo. Total Feed Business (TFB) is the concept of selling feeds in full package that includes the advisory business.

Zeinstra's Farm

This is the farm where grass silage making took place. They have a herd of 250 animals. One unique learning point about this farm is that they maintain a healthy bull for heifers due to the difficulties with heat detection at that stage, and then use artificial insemination for older cows.

Picture 7: Jan's Farm -the two dimensions of the silage (roll-up) system (1&2), and the system rolled-up (3)

The bull is also used for any cow that has two failed A.I attempts. The bulls are sourced from the

breeding company. For a good bull, they have to establish through accurate records; Identity of the mother, the father, and the production capacity of the female grand parent of the bull.

On the silage processes, the farm has installed an automatic roll-up silage covering that covers the silage properly with the canvas material, maintains the weight through water contained along the parallel tubes. The whole silage cover costs EUR 15,000 (Ksh. 1.725 million), there are three of such in the farm. While one roll-up system costs EUR 40,000 (Ksh. 4.6 Million), and the farm has two of such systems. The farm is 15km from the Leeuwarden and the land in this area costs 40,000 (Ksh. 4.6 Million) which is about two million per acre. The land values are determined based on fertility. One of the major advantages with the financing facilities is that such a farm can access an agricultural loan at 4% with a repayment of 30 years.

A Day with Vets of Dierenarsten - Osterwolde

The day was designed to expose the Kenyan dairy consultants to the typical practice of the Holland vets, also the vet centre concept that enables vets to work from one corporate centre with shared resources. The centre is well equipped with vet facilities and provides an environment where the vets can have consultations among themselves about the issues in different farms. Stanley spend time with Drs. Bertjan Westerlaan (picture alongside) while David Maina spent time with Drs. Sasha. Apart from the technical information passed by the vets to us as they treated animals and consulted pregnancy checks. The learning points were mainly on the efficiency of their practice and the prepared ness of their clients.

Picture 9: Drs. Bertjan Westrlan of the Vet centre conducting pregnancy checks in one of the farms

Picture 8: Drs Sasha with David after working on the first farm

Sasha was able to attend to 26 animals in 3.5 hours, she had arrived at the farm at 9am and was already back at the station at 12.30pm. The 26 animals were in three different locations (three farms). There was a good preparation on the part of the farmer. At the time agreed with vet (9am), the farmer had already selected the animals to be checked, and marked them with different letters, where each type of coding was understood by both the farmer and the vet. This level of preparation ensured that no time was spent waiting.

The vet centre offers services to farms that have a contract with them. They are busy with treatments and routine practices. The law requires that some practices are only conducted by vets

as the farmers are not allowed to do it on their own. Farmers are not allowed to dehorn, to castrate, to administer sedatives, and cannot burn or bury a carcass.

The vet centre marks up drugs with a 5% on top of the cost of drugs and charges EUR 33 (Ksh. 3,795) for every 15 minutes of the vet work at the farm.

Farm Management Applications

The session was delivered by a representative of Uniform-Agri through a Skype call and a real-time demonstration of one of the management application systems used in different farms. The systems costs EUR 1200 (Ksh. 138,000). The system would be accurate and effective in an environment where data practices are adhered to, otherwise there would not be much value if the original entry data is erroneous.

Meeting with Cow-signals

The dinner meeting focused on the opportunities of enriching the Kenyan trainers and consultants with the wealth of research-originated knowledge from Cow Signal trainers. Two main points discussed were;

(i) The details of implementing the upcoming project of cow signals, The Friesian and the two local consultants Eldosirikwa and Perfometer. The two international Dairy consulting firms had applied for a competitive bid responding to a call on Cow- House Designs by SNV in Kenya.

(ii) Possible training in Kenya for a maximum of 10 people per session. The training would take four days at a cost EUR 8000 (Ksh. 920,000) per session. SNV would be approached to advice on how the knowledge can benefit a higher number of their local capacity builders beyond Eldosirikwa and Perfometer. The certified trainers would then proceed with training of farmers and other interested parties in Kenya and beyond. Cow Signals would release all their training materials to the certified individuals and firms.

(iii) The development of the cow signals East African version, that would have local photos and illustrations and customized to reflect structured made from materials available in the East African context. This would provide yet another opportunity for the international dairy consultants to work with local dairy consultants in developing the content thereby upgrading their capacities to offer such services in this market. The local consultants would be involved in the distribution of the books at an agreed consideration.

Wageningen University of Research

The session was hosted by Professor Jelle Zijlstra, a Dairy Economist at WUR. The discussion was based on a very informative presentation annexed herewith that revolved around the Dutch Dairy practice. Among the highlights were the trends where an average 3% of farmers are exiting dairy farming every year. The current milk production levels were featured at 8000 litres per 300-day lactation. Another trend was also the ending of the milk quota system in 2015, and yet the

manure quota system will continue bringing in the dimension of manure regulations controlling or checking on milk production. The

Picture 10: Presentation and discussions at WUR – with Frans Ettema (PUM) and Prof Jelle Zijlstra (WUR)

presentation featured the sector numbers as at 2012, the research and quality aspects of the sector, percentages of processed products, export destinations for Holland dairy products, threats of the Dutch dairy Sector, opportunities, regulations, sustainability, farm management data, extension pathways, key decisions at the farm, Technologies and growth ambitions, and aspects of customer satisfaction.

ALFA Accountants

The farm deals mainly with accounts and economic advisory services. They have a data sharing arrangement with the milk processor and that ensures accuracy and consistency. The company has 15 persons, 5 deal with tax related issues and another 4.5 FTE's deal with advisory services.

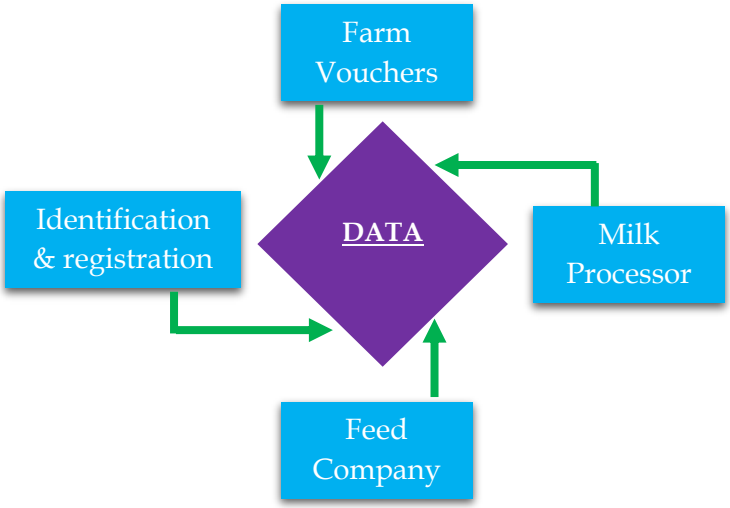


Figure 3: sources of farm Data sources used by ALFA accountants

Advisory services include environmental compliances, business improvement and farm strategy. They are currently supporting 400 farms on both matters of efficiency and compliance. For efficiency related services farms pay EUR 1500 (Ksh 172,500) annually while for compliance related services, farms pay EUR 3000 (Ksh. 345,000) annually. Efficiency refers to how the farms can improve their productivity. How they can optimize on labour income, earning per kilo of milk and net earnings. Evaluation for efficiency purposes uses own historical data and comparisons with other farms in the same category as the farm in question. The company and their work is highly supported by

the level of formalization of the sector. The farms value the services of the accounts advisors mainly because all the regulations, environmental, antibiotic and the quota are based on figures, hence the need for every farms to have their figures right.

Dairy Training Centre (DTC)

There are management changes to DTC (the former PTC+) but it will still be available as a training centre, but with a different owner. The institution has provided capacity to trainees from all continents in the past. It no longer receives funding from the government. They have a herd of 180 cows that are producing up to 10,000 Kgs per cow per year, slightly above the Holland average of 8,000kgs. Their philosophy is learning by doing.

Picture 11: Some of the training facilities at the DTC

It currently has five trainers. It costs EUR 20,000 (Ksh. 2.3 million) for an international diploma in dairy processing and husbandry. The most clients are students more than farmers and all their training is based on a curriculum that they have already established.

Mission Conclusion

The mission was concluded with an evaluation session from PUM led by G.N Van Der Veen – Hetebrij and Frans Ettema, during this session we wrote down feedback and gave a verbal gratitude to the program for the training opportunity we had received with specific reference with its smooth planning and resourceful contacts. We undertook to compile a simple but precise report to document the experience. This write-up represents the report thus committed. The general impression from Both Stanley and I was that the training expectation were met fully and that it is now up to our efforts to apply and benefit our sector and grow our consulting programs in the process.

Annex (i) – Lists of Hosts

Name	Organisation	Role
Frans Ettema	*PUM*	*Main Host*
Jaap de Vrij	*PUM*	*Co-host*
Halbe Klijnstra	*PUM*	*Co-host*
Gjalt De Haan	*De-Haan Contractors*	*Fodder Contractor*
Drs. Bertjan Westerlaan & Sasha	*Vetvice/Dierenarsten*	*Veterinary*
Richard Dijkstra	*For Farmers Hendrix*	*Feeds Advisory Supervisor*
Drs Jan Hulsen	*Vetvice*	*Cow Signals Trainer*
Ferdinard Ettema	*Ferdinard's Farm*	*Farmer*
Catharinus Wierda	*Solidaridad*	*Int. Program Coordinator*
Rick Hoksbergen	*Alfa accountants*	*Accounts Advisor*
Rene Krijnsen	*Dairy Campus*	*Sales Manager*
Zeinstra	*Farm*	*Farmer - silage making site*
Peter Bijen and Blikker	*Farm*	*Farmer*
Zijlstra Jelle	*Wangenigen UR*	*Professor*

Annex (ii): Reflection of learning points by S. Koech
Green Grass is made

It takes effort to have an efficient system, circumstances notwithstanding. Most of the Dutch dairy farms are productive because of concerted efforts driven by the farmers themselves and with support of external management experts. Of not, is that most of the soils in Netherlands are clay or sand (soils considered non-productive in Kenya), a situation which when Kenyan farmers find themselves in consider helpless. Every square meter of land in The Netherlands is productively utilized (land is very expensive – as high as €50,000/ha). The challenge of making land more productive in Kenya presents a great opportunity for Eldosirikwa to expand investment and possibly build partnerships with Dutch companies so as to tap into their experiences.

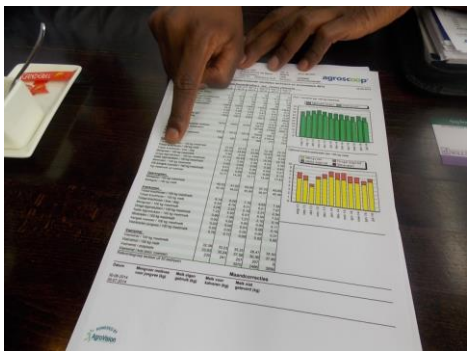
Advisory services on development of quality fodder is one of the main key to unlocking the potential of dairy farms in Kenya. In this regard, Eldosirikwa shall be seeking the services of qualified associates in fodder development and feed formulation with the intention of improving the milk production while at the same time bringing down the cost of production amongst the farmers we are dealing with.

Cross-Ownership of Related Sectors

There is more vulnerability in focusing on one line of engagement with a farmer whose success is dependent on a number of players. To reduce dependence on other companies, especially in core areas, it is safe to invest in close areas that have greater impact/return on your business. For example, instead of paying to dispose manure collected as a contractor from farmers, one can earn double (collecting the manure) by investing in generation of green energy.

Invest in sectors that have the ability to sustain your business while at the same time earning you extra returns. Eldosirikwa has just invested in vet service provision for a start.

Data: the Heart of Farm Management



Facts never lie, so they say. The Dutch dairy industry is driven by efficient data management cutting across the entire sector. Data and information is shared, for example, amongst vets, feed consultants/suppliers, breeding firms, processors, and accountants. Data management is one of the main businesses and it provides an objective engagement with the farmer.

In conjunction with SNV, Eldosirikwa has embarked on developing recordkeeping culture in farms. This will go a long way in improving our consultancy services with the farmers and we hope later on, we hope to up-scale the same (contractual data management) to other sectors of the dairy sector.

It is about Service not Sales

You want to 'milk' the farmer, serve him. In Kenya, in most instances, for one to earn from the farmer, one has got to have great sales abilities. Service to the farmer is Netherlands is well structured and aimed at improving the state of the farm business. It is about improving the farm productivity and efficiency at the least cost possible. With a satisfied farmer (fact-based), it is possible to sale your services or products. This farmer-driven/focused approach to business pushes the industry to invest in research and development to ensure that innovations are generated to improve farm efficiency (thus the ability of one farmer being able to manage 130 dairy animals alone or with the help of one family member; in Kenya one will find about 20 workers if not more in such a farm).

Though farms are highly mechanized, the focus is to give the farmer greater freedom and less dependence on outside support. Where capital is limiting, the contractors come to fill the gap but they have to earn the business from the farmer.

Collaboration Vs Competition

Service providers are moving more towards collaborative engagement. This provides them with an environment in which they can share facilities, knowledge and top of all, ability to serve the farmer at all time. When one is not available, the other service provider shall cover up. This is common amongst vets.

With the instruction from the farmer, the data from the farm is shared. For the example, milk production records can be accessed by vets, feed consultant, bank, accountant etc. and the same applies to feeds/vet records. This pushes those engaging with the farmer to be more focused and dedicated.

Successful Systems were supported by Government at Formative Stage

The private sector needs the confidence of a sustainable operating environment. An environment anchored on strong and enforced legal and policy framework. Dutch systems: training, land adjudication, water system, infrastructure, processing, breeding/animal registration, etc got a lot of government support during the earlier stages before the private sector took a lead role. This calls for us as consultants to seek for strategies that enable us to influence the government (County and National) to develop policies and regulations that will speed up the development of dairy. This also includes seeking for ways to influence resource allocation to priority areas.

The legal framework in the Netherlands is very strict and a contributor to the high cost of farming. This, though, has contributed to a responsible market interface that does not discriminate against a person/business (as long as you abide by regulation). The high demand for dairy products in Kenya and the East/Central Africa against short supply presents a great investment opportunity with relatively higher returns (meaning more business opportunity in providing business development services by our team).

Annex (iii) Expectations sent to PUM by Local Consultants
Summary of Training Expectations - From Local Consultants to PUM

Area of interest for training	What I expect for this to be addressed	Why this is Important
1. Routine Operational Practices	To interact with a professionally operated farm, observe the practices carried	We are faced with a task of developing good practices for medium sized dairy farms – and it's difficult to find a farm where all these practices have been

	out daily, on feeding (rations per category of stock), calf management, data capture, cleaning, supervision	(near) perfected. An experience with such a farm would be very helpful for purposes of benchmarking.
2. Farm Data Systems	Observe data systems at the farm level, and engage and learn how to use simple data sheets that have proved user friendly at the farm level in the Netherlands – up to the level where this data is used to make decisions at the farm management level. Physical data sheets, or simple Ms. Computer applications	Data/records remains the most conspicuous weaknesses of even the most popular farms in our context. Yes, it is appreciated as important but it is not carried out beyond the recording of milk productions and insemination dates. Yet there is a lot more data that can be captured to properly manage a dairy farm.
3. Optimization	Understand the concept of optimization in different aspects of dairy management. Proven concepts of optimization in feeding, calf weaning, and fodder production, silage preparation processes among others.	Kenya has a growing dairy sector, and many reports have been written, there are theoretical (hypothesized) optimization propositions, but for an advanced sector – there could be already documented concepts out of practice on certain farms – This will be done with the appreciation that the two sectors differ in certain ways, and that some principals of dairy practice will remain the same in all contexts.
4. Monitoring/measuring performance in dairy farm.	To understand which key parameters to look at when rating (assessing) a dairy farm, which are the **Key Success Factors** in a (medium to large) dairy farm and how can they be benchmarked or measured to show improvements, stagnation or deterioration- so that	As a consulting we are involved in farm visits to do a diagnosis on what is going right, and also what is not going wrong. It would be good to identify certain areas that will be subjected to measuring so that every time the consultant comes to the farm, The scoring can be assigned to each of these areas (aspects).

	an improvement can easily be demonstrated.	
5. Consulting Practice	To share experiences with the consulting firms, how they profile themselves, how they charge their clients (dairy farms),	Perfometer/Eldosirikwa is launched in the market as a dairy consulting firm, we would like to see how the consulting practice is like in the more developed sector. In Kenya, farms do not pay consultants as yet (apart from vets), but this is the direction it is heading.
6. Manure	To understand the handling, and use of manure in an integrated dairy farming system, where manure is treated and administered back to grow fodder. To learn how to integrate the subject of manure in a dairy training programs	There is no ongoing programs to advise farmers on manure utilization. Ii was involved in a pre-project scan with an expert from WUR, on a project that was hoped to address this issue more elaborately, during this scan it was incredible how manure gets wasted or poorly administered in Kenyan farms.
7. Contractors	To learn how the business of contracting is operated, the various business processes that are best contracted, how they are charged, the agreements between the farmer and the contactors are done, and how the quality of the contractor's work is measured/assessed.	Kenya leads its neighbours in the scale of dairy, and it is growing fast, with the medium and large scale farmers moving faster than the research stations and the policy development processes. As at now, leading farmers buy their own equipment and carry out processes by themselves. It is expected that over time, as more investors move towards dairy, the practice of buying own equipment may shift to contracting, we look at contracting as an emerging business opportunity.
8. Trading prospects	To visit a forage (grass) based pellets manufacturer, work out/ explore the possibilities and costs of exporting to Kenya.	The Dutch dairy sector has advanced in pastures management, if we have companies/industries in Holland that are able to make enough pellets for local and export market, our context would benefit from grass pellets coming from a research supported production and processing systems.
9. International partnerships	To discuss with Cow Signals regarding use of their electronic	The materials used by cow signals for training are applicable in our context and we need not develop new ones if

	training materials, published content, and dealership in Kenya. To purchase additional materials from Cow Signals and other reputable institutions – for use in our capacity development programs.	we can access the materials at a fee. This is a growing market especially for the service providers in dairy (not really farmers at this point). The cow signals material hare hewed from practical dairy situations and their scope of application is global.
10. Mechanized Land/Seed bed preparation	Understand the recommended practices in seed bed preparation, the agronomic rationale behind the recommended practice of seed bed preparation and the calibration of farm machinery for best results	The PUM expert on seed, land preparation and fodder agronomic practices has observed weaknesses in the quality of our seed bed, and in the calibration of the farm machinery. It will be important to see the (near) accomplished part of these practices.
11. Farm Planning	To understand the basic of dairy farm planning. The cows house design fundamentals. To see one of the best (by compliance to fundamentals) cow houses in Holland.	We expect (in the coming months) to add to our skill base the knowledge of cow house designs. It will be important to have in mind the right picture – as we engage this subject in Kenya.
12. Dairy Feasibility and dairy business planning.	To learn what to look at when conducting a feasibility study on dairy. Which are the subtopics to be interrogated in such a study, and what leads to a YES or NO verdict to such a study.	In Kenya, Medium dairy farming (for example 10 – 100 dairy cows), attracts people who have (above average) financial resources, they are mostly senior in work places, or have served in such places in government or private sector. More and more middle income investors are getting interested and they appreciate feasibility and business planning before they put their money in the business. We would our advice to be as accurate as possible – without ignoring any fundamentals.