

Peter Edmondson and Owen Atkinson helping with a calving demonstration



Milking in Mozambique

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and Owen Atkinson spent two weeks carrying out voluntary work in Mozambique, helping to reintroduce dairy farming to the Manica province

THE aim was to train smallholders under the XLVets FarmSkills for Africa umbrella to assist the overall project. This is an area where fresh milk has not been available until very recently.

Mozambique is one of the poorest countries in the world – life expectancy is 41, while a third of the population is HIV-positive and cholera, TB and malaria are rife. Kids are barefoot, wearing rags and may walk two or three hours to school. Polygamy is common and seven kids would be the norm, but some families had as many as 12 or 15.

People really have nothing and the poverty is quite profound. It makes India seem like America. The minimum agricultural wage is £22 per month, but most people get paid less. Most people live in the countryside and their life revolves around food production to feed the family. Oxen and donkeys are being introduced to plough and help with the heavy work. However, most of the land work is done by hand.

The people of Manica province are mainly subsistence farmers living in small mud-hut villages growing groundnuts, beans and millet, all by hand tillage. They have some supplementary income from the likes of pineapples and avocados.

Land O'Lakes International Development is managing a US\$5m project in the area. It's a non-profit charitable arm of Land O'Lakes, a farmer-owned agricultural cooperative based in Minnesota. Land O'Lakes International Development has more than 30 years' experience of overseas agricultural development work, largely using USAID donations. Its ethos is to facilitate market-driven business solutions that generate economic growth, improve health and nutrition, and alleviate poverty.

This dairy project only started two years ago. The concept is very simple – supply a trained smallholder with an in-calf Jersey heifer. She calves down and the farmer sells most of the milk back into the community project, and this

is used to raise the nutritional status and provide the farmer with a much better income. The farmer has to rear the calf, which he then gives back to the project. If it's a female, she will become another milking animal for another farmer. If it's a bull, then it will be trained and used for traction, ploughing, tilling and pulling carts.

Before any smallholder gets an animal, the smallholder must build a corral and facilities for one Jersey heifer and cut enough hay for six months, before attending 10 training days. Owen and I were delivering one of the training days covering a number of areas, including milking, utensil hygiene, calf rearing, fertility, calving and mastitis – all of which had to be delivered in five hours.

Into the unknown

As always, nobody really knows what to expect when you head out into the sticks. No change here. The first day was just settling in, buying food, meeting the project staff and finding out about the project. We then went to meet a few farmers.

The first person we met was Mr Sabado – a "lead" farmer who has managed his cows very well. As he is a very good showpiece, he has two cows that live in a corral by his house. They need to be here so he can keep a careful eye on them and make sure nothing happens to them at night time. These cows looked really well. Good forage was available all day long, along with a shaded area to lie under in the heat of the day, a covered water trough so that leaves and other debris did not make the water dirty and a clean milking area. He was so proud of his animals. He also has some local cattle that are taken outside the village to graze every day by a couple of local children. They always come back at night.

One of his cows had given birth to a female calf. He told us: "I am rearing the calf as if she were a diamond. This animal belongs to the programme and will be passed on to another deserving family in the community." It's a slightly different

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Walking milk to the co-op.

view to calf rearing on some farms in the UK. Every animal here is very valuable.

We met Mr Giuvenmore, a true entrepreneur, who used to grow cabbages. He saw the value of cows and now has 14 that are milked through a portable milking machine. He and his wife make yoghurt in the kitchen, which is packed into quarter-litre plastic bags – you can have strawberry, mango or caramel flavour. He employs a staggering 50 people, improving their quality of life. His aim is to grow to 50 cows and move into ice cream.

The mud-hut villages have no electricity or running water, and are served by dirty roads. It's not unusual to carry water and forage from two miles away. Just imagine carrying more than 100L of water and 40kg of forage two miles each day just for your cow, then add on what you need for home use. The reason many have so many children is to help at home. One might be a water carrier, another sources forage and a third takes milk to the cooperative. Three people are needed just for one cow. It shows how inefficient agriculture is here. Milking for the smallholders is, of course, done by hand.

The family will drink some milk to improve nutrition, a few litres might be sold to villagers and the rest is sold to the farmer co-op. No electricity means no refrigeration, meaning milk is walked to the co-op twice daily. These co-ops can be up to seven miles away; 28 miles walking each day to sell your milk – no wonder they are so fit.

Storytelling culture

Owen and I delivered the first day's training together. We set off from town, through dirt roads, passing school children and their teachers under trees and eventually ended up in a small village. Training was under the shade of a large tree – no PowerPoint here. Smallholders came from near and far, many carrying their own chair. They didn't speak English, so we needed translators. The national language in Mozambique is Portuguese, but everyone speaks Shona in the villages. We had someone who could translate from English to Shona directly.

How do you start training in such an environment? We tended to focus on role-play and demonstrations, for example. They have a culture of storytelling, so their ability to retain information is excellent. Men sitting on chairs, women sitting on bamboo mats breastfeeding – just like training at home.

Imagine trying to successfully communicate the importance of accurate heat detection to a Mozambique lady through role-play (because she does not speak your language, and cannot read or understand graphs and diagrams). It opens your mind to new and better ways to communicate messages to farmers back home. Owen and I learned so much about how to convey simple messages in a role-play situation.

The Mozambique people have an excellent sense of humour. On day two, we were training separately and I asked one man how many children he had. The reply was seven, so I shook his hand saying what a good job he had done. However, in the same group were four men who had more than 12 children. This then turned out to be an excellent way to open the day. We all fell about laughing, which is so important with any training.

Getting someone to put on a stethoscope and watch their face as they heard a heart beat for the first time was so funny. One man couldn't hear anything and was concerned he might be dead.

The project has excellent support. The cows are visited every week by a "paravet". A paravet is someone who is interested in animals and has had some basic training. Their main job is to spray animals against ticks every week. Tick-borne diseases are rife and the imported Jersey animals have no resistance. As they are always in the corral and sprayed weekly, these diseases are rarely a problem.

Owen and I spent a day training the paravets in a few topics. They have little equipment, so we came out armed with dozens of thermometers and stethoscopes and enough embryotomy wire to dehorn every animal in Africa. There were also books and a burdizzo, to name a few. It's so difficult to know what to bring, but we soon discovered they didn't have a flutter valve to administer calcium in a case of milk fever. They only had small syringes. There were antibiotics provided you only needed oxytetracycline.

Paravets come and go. Some have their own animals, others might also be trained artificial insemination technicians. They use a project motorbike to visit the smallholders. Driving around on any form of bike on dirty roads is very hazardous. Three people ended up in hospital the month before we got there and this is not a place where you want to go to A and E; it's a bit of a lottery. Arnaldo

continued overleaf



One of the training venues was situated in the shade under a tree.



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“Dairy produce is a valuable source of nutrition (fats, protein, vitamins and minerals) to a local population where nutritional deficiency is rife.”

■ MILKING IN MOZAMBIQUE – from page 27

had a broken leg and waited three weeks for surgery – pain relief was very limited.

When a cow is bulling, she is either walked to the nearest Jersey bull or inseminated. Despite the odds being stacked up against the technicians, the results are very good. Every three or four months Rachel, a Zimbabwean vet, visits every cow in the project and carries out preg checks and an overall health assessment.

A high mortality would be expected in any project such as this, as cows are going to people who have no history of looking after such animals. The Land O'Lakes staff tell us that 10 to 20 per cent loss in the first year would be considered normal. Their mortality is just two per cent, a real testament to how the project is set up and supported.

Self-improvement

So, some might ask why dairy-ing? Dairy farming lifts subsistence farmers out of poverty. Selling milk creates a good year-round cash flow compared with crops. In addition, cows create capital; a cow is an investment that will grow as calves are born. So capital and cash flow help to create a hope of self-improvement through educa-

tion of children and by affording some basic health care.

Cows convert cheap forage into milk. In Mozambique, land is not the limiting factor, as there is loads of good, fertile land in areas of good annual rainfall. However, the ability to cultivate it, given that it is all done by hand with hand-tools, is labour intensive at present. Grass is abundant, at least at certain times of year, and only requires young boys to cut it (by scythe) for feeding to the cows, which is then converted into milk. No machinery is required and no time-consuming cultivation and weeding.

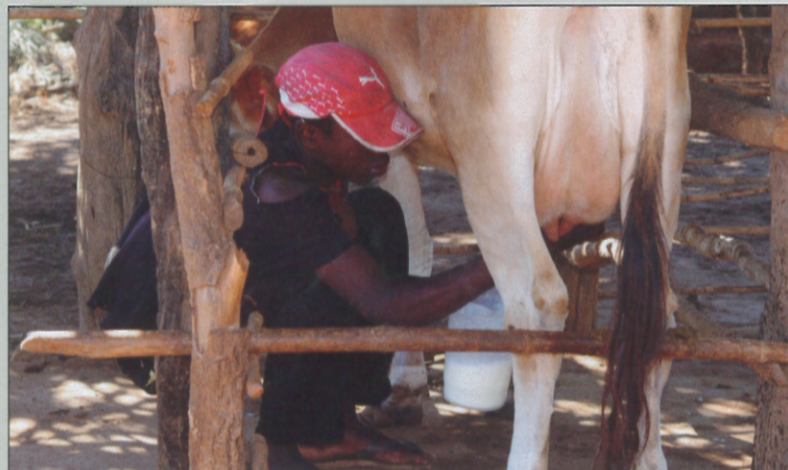
Dairy produce is a valuable source of nutrition (fats, protein, vitamins and minerals) to a local population where nutritional deficiency is rife. Pot-bellied children fed a protein-deficient diet of maize meals are depressingly common – the condition is called kwashiorkor. So, is this project or the XLVets FarmSkills for Africa input a waste of time? Certainly not. Every person who has one Jersey says it has transformed his or her lives. It has increased income, improved family nutrition and provided spare money to educate children. Owen and I were somewhat sceptical

when we arrived, but could see the long-term benefits from the whole project by the time we left. The project would like to get to phase two where two cows are given to each smallholder so milk was available to sell all year round.

Mozambique's people are amazing, happier than most in the UK. They don't complain, not even the farmers. They are so keen to learn and improve and have excellent land. In time they will become more than self-sufficient. When they get mechanisation, then they really will start producing food. ■



PETER EDMONDSON is one of seven dairy vets in Shepton Veterinary Group in Somerset that looks after more than 24,000 cows on 150 dairy herds. His main interests are mastitis, milk quality and the interaction of the milking machine and cow. He provides consultancy services and tailor made training for vets, farmers and the pharmaceutical and agriculture industry.



Top: Most work in Mozambique is labour intensive and farming work is often done by hand. Bottom: Ox and cart – one of the few modes of transport available to many farmers.