



REPORT

# Making a difference with eggs

Swaziland is prone to famine and malnourishment. The eggs of project Canaan are distributed via a network of 31 local churches.

PHOTOS: KIRSTEN GRAUMANS

Two poultry houses, 5,000 laying hens and 1,5 million eggs annually make a difference in Swaziland, a country plagued by drought and aids. With the aid of the international egg industry, a poultry company was founded within the development of 'Project Canaan'. It contributes to the project's mission: becoming self-supporting with the use of agriculture.

By Kirsten Graumans

**I**t is the middle of winter in Swaziland. The afternoon temperature rises quickly to 20 degrees Celsius and up. The air is dry and full of dust. An aerial photograph of last year shows green trees and bushes surrounding the two new poultry houses. Now, everything is turning brown, dulled by the drought plaguing the country. It will not spoil the mood today. The poultry houses are officially opened in Project Canaan at the end of June. In front of the houses is a

tent that protects guests against the sun, among them dignitaries such as Swaziland's ministers of agriculture and health. "This project changes the lives of people in this region," says agriculture minister Moses Vilikati in his speech. "This country has a serious problem. Children do not have access to the essential nutrients they need. Bringing in eggs will help with that." Together with the lead partners, International Egg Foundation and Egg Farmers of Canada, Sanovo Technology Group and Lactosan-Sanovo Ingredients Group began to work on building an egg farm from the ground up at the Project Canaan Farm.

## Epidemic

A large HIV/aids epidemic has left its traces in the small kingdom of Swaziland, which is surrounded on three sides by South Africa and shares its eastern border with Mozambique. The epidemic is retreating after reaching a high point just after the turn of the century, when over a third of the adult population was infected. The country still has the highest infection rate in the world. According to Unicef, 26% of the approximately 1,2 million people is infected at this moment. Moreover, HIV and tuberculosis often go hand in hand. The human rights organisation expects that the number of orphans in Swaziland will increase to 250,000 in 2016.

It is some of those orphans that Project Canaan offers a home to. The project that occupies over 1,000 hectares of land, situated against a mountain in the Manzini region in the middle of Swaziland. The project, that is part of the Heart for Africa organisation, was started by the Canadian couple Ian and Janine Maxwell. They bought the land in 2008, when it was still covered in bushes. Most flat pieces of land needed to be cleared before any buildings could be placed on them. Eight years later, there are 44 buildings, from housing and a kindergarten to stables for cattle and an art centre where various jewellery are made. The project's own building crew is happily building on. The whole project breathes the Maxwells' vision: providing help in a self-supporting way in a region struggling with many problems, such as the many vulnerable children, hunger, poverty and a lack of education. Preferably not by being dependent upon donations, but by generating their own income, educating people and creating employment in the region. Agriculture plays an essential part in all of this. The production does not only provide food for their own children (the Maxwells are the official guardians of 124 children who live at project Canaan), but the sale of produce also generates income.

The 2-tier cage system of Big Dutchman is really suitable for housing layers in hot climates.

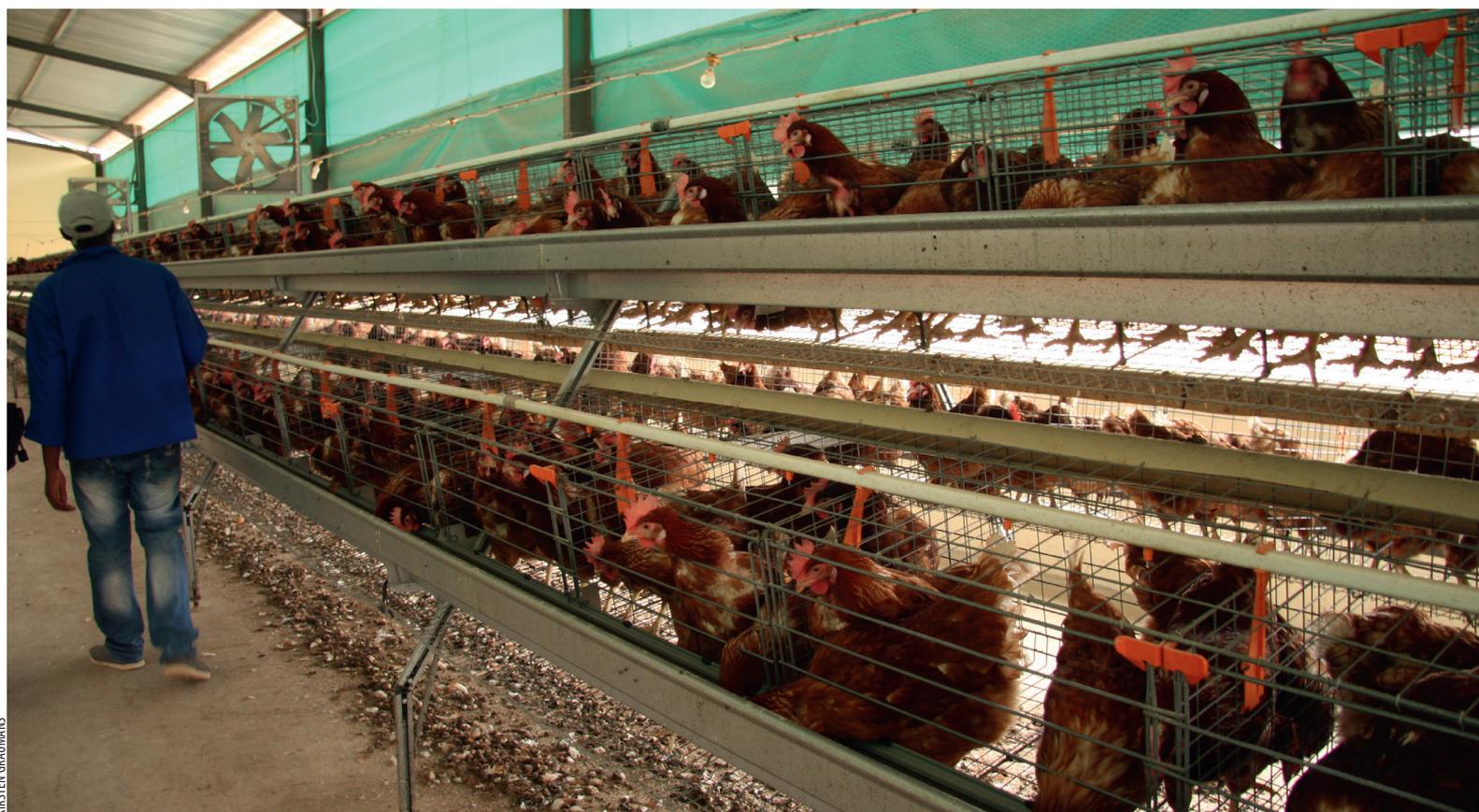
**Self sufficiency**

The poultry branch set up in Canaan this year fits exactly in the long term vision of self-sufficiency. With the aid of several international poultry organisations, two poultry houses have been built, both offering room for 2,500 laying hens. Since

January of this year, the first 2,500 Hy-line Brown hens have arrived and the next flock of 2,500 will come in July. "Protein deficiency is a big problem here," according to Tim Lambert, CEO of Egg Farmers of Canada. His organisation was a forerunner in realising the poultry company. "Eggs are the logical choice, biologically speaking." In addition to 6 grammes of protein, each egg contains essential vitamins and minerals. Eight Canadian poultry farmers, impressed by the Maxwells' work in Swaziland, decided to help build the poultry farm. Egg Farmers of Canada helped to realise the egg farm as a whole: from designing poultry houses that work with Swaziland's climate to finding out how young hens and feed could be delivered. One poultry farmer visits every month, according to a schedule within the group of eight, to advise employees on the spot. Through Egg Farmers of Canada, the egg industry's International Egg Foundation became involved as well, and with them companies such as Sanovo, Big Dutchman and Lohmann, who donated both expertise and material.

**Basic setup**

Both the poultry houses on the farm and the equipment within are as basic as possible and can easily be scaled up if so desired. Two rows of the Big Dutchman double deck cage systems are placed inside each barn, with open wire cages fitting the climate in Swaziland. Right now, it is pretty cool in the poultry houses and the fans are turned off, but in the summer, the outside temperature can rise to the high thirties. Both the open stables and cages easily let through fresh air. The climate is



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controlled with a combination of fans at the ceiling and curtains over the house's full length. Plastic curtain slats in the doorways and mesh in the open sides keep vermin out. The tidy looking poultry house is virtually non-automated: eggs are hand-picked and employees sweep under the systems on a daily basis to remove manure. This is done from both a practical point of view (everything done by hand cannot break) and because of the limited availability of power. Swaziland is dependent on South Africa for 80% of its power supply and faces occasional outages when there is a shortage.

Both the young hens and the feed are delivered through the local commercial poultry company Eagles Nest. This collaboration is highly valued. "We need to be careful not to disturb the local, fragile market," says Steve Manton, chairman of the International Egg Foundation. The foundation (*see box*) values working in projects with local market players. The three employees responsible for poultry at Project Canaan learned their craft at Eagles Nest. They acquired knowledge about poultry farming and matters such as biosecurity. Eagles Nest keeps 300,000 laying hens and owns 90% of the egg market in Swaziland, together with the only other sizeable commercial poultry company, Usuthu Poultry. When young hens arrive at the company, it delivers extra animals for Project Canaan. A company vet pays a monthly visit from South Africa.

The collaboration fits Project Canaan's eventual goal: self-sufficiency. The cage eggs that are produced now, are for the project's own consumption and are also distributed through a partnership with 31 local churches. The plan is to expand the poultry branch with a free range house with the aid of international poultry organisations. Free range eggs can count on a (small) market in Swaziland, mostly for expats. Eagles Nest wants to provide those eggs. However, it has little expertise in

this field. In the long term, Project Canaan wants to produce free range eggs to sell them to their partner Eagles Nest or rather: trade them for all the poultry feed, the largest cost item.

#### Boiled eggs

The eggs, 2,200 daily from the 43-week old hens, are stored in a separate egg room and then boiled. Essential, both from a food safety point of view and because transporting uncooked eggs from the project over unpaved roads would be a challenge, to say the least. A machine, designed specially by Sanovo

A machine, designed specially by Sanovo to cope with the local circumstances, cooks 720 eggs each time, 15 minutes on 95 degrees Celcius.



The first 2,500 Hy-line Brown hens arrived in January and are now 43 weeks old.



Dignitaries such as Swaziland's minister of agriculture and health Moses Vilikati open the Canaan project.

Technology Group to cope with the local circumstances, cooks 720 eggs each time, 15 minutes on 95 degrees Celsius, after which the eggs are cooled for about ten minutes in cold water. The machine partly works on solar energy, obtained through solar panels on the egg room's roof. "From the beginning of the project, it was very clear that in order to make the chicken farm at Project Canaan successful, they needed a boiling and cooling machine for all the eggs that were produced," Vicky Engsted of Sanovo Technology Group explains and continues, "We felt very confident that we could help, however, the

machine had to be smaller and less complex than we are used to, and additionally, we had to think about issues like power sources and water usage. This immediately got us working hard on engineering a machine that was 100% designed for the needs and conditions at Project Canaan, and the machine they have now is therefore totally unique and does not exist anywhere else in the whole world."

The boiled eggs are partly destined for the project's own children and are also distributed through a children's hospital in Manzini and through churches to children in local communities. Because refrigerators are not a commodity in Swaziland, eggs cannot be distributed for more than four days. Because Canaan supplies the churches every two weeks, it still searches for a solution to preserve the eggs for a longer period of time. At the moment, they're considering containing them in a bucket with a rice vinegar solution.

Distributing food parcels that contain manna packs (rice packages with added vitamins and minerals) and sugar beans, in addition to the cooked eggs, has a large impact on the local communities. Pastor Zaplon Mangwe witnesses that impact in his own congregation, that normally has 27 children. There are 176 children when Project Canaan's volunteers deliver food on the Saturday afternoon after the official opening of the poultry houses. For many of them, it is the only meal they will consume that day. People from the community want to attend this church especially now, Mangwe finds. He does not yet know how to handle this surge adequately and hopes that Canaan can distribute food through more churches in the community. Make Nkambyle, Canaan's contact with the different churches, knows that at home, the children mostly get porridge from ground corn.

Famine and malnourishment is becoming more and more pressing because of the enormous drought that afflicts the south and east of Africa. Harvests have failed because of the lack of rain in the last rainy season. A Heart for Africa volunteer shows one of the dams at Project Canaan – there is still some water behind it, but not enough to pump out. The project uses water from boreholes for its households and cattle, but those are not inexhaustible either. The rainy season starts with light rain in September. Heavy downpours are only expected from November and December onwards. The land at Project Canaan is left empty because there isn't sufficient water to irrigate.

Canaan wants to bring water from the mountain top in the future, because there are natural sources there. To get the water down, 8,4 kilometres of steel pipes are needed. Because of the hard soil, those pipes need to be placed above ground. Steel is the material of choice because of the many forest fires in the dry season. It fits the overall vision from Canaan of being as self-supporting as possible, despite the sometimes challenging circumstances for farming in Swaziland. The project's goal is to be self-supporting in 2020, independent of donations. The collaboration with the egg industry serves the same purpose. The Egg Farmers of Canada have agreed to support the project for at least seven years, after which the project should be able to run independently. Social responsibility, Lambert calls it. "With a lot of these projects, the ideas are there but it never really happens. Because they do here, people want to stay involved. We believe in it."

## Egg industry shares its knowledge and expertise

The International Egg Foundation (IEF) was founded in 2014 from within the International Egg Commission. The poultry farm in Swaziland is the first large project in which the foundation is involved. "The first project has to be successful," says Steve Manton, chairman of the IEF. That is why the foundation was very cautious to commit itself to a project. IEF wants to share the expertise and the knowledge to up the production of eggs in countries in which there is malnutrition. However, a thorough evaluation of the local situation and a screening of the participating organisations has to be conducted first. The poultry houses and the processes which were undertaken during Project Canaan form a roadmap for future projects in other countries. IEF doesn't limit itself to Africa. When asked about his 10 year vision, Manton states he hopes to go global. "It would be nice to have a project on every continent of the world." Manton says, "We need to show the world that we care." Donations are gathered from companies from all around the globe. That said, the IEF prefers to gather knowledge and expertise from people of the egg industry to meet the demands of each individual project. Companies in the industry are enthusiastic about that approach as well. "We wanted a project our employees could relate to," tells marketing manager Vicky Engsted of Sanovo Technology Group, which was one of the main partners in the egg farm project of Project Canaan. "In this project we can use our industry specific knowledge and network to help people in need." A tailor-made approach is what works best in developing countries.