

‘You are better off
with camels than
with children’

Ethiopian nomad, page 34





10

DELTA'S LEARN FROM EACH OTHER

The new international Delta Alliance knowledge network plans to research how the world's deltas can cope with rising sea levels, increasingly frequent floods from rivers, and extreme droughts.

16

A RESORT FOR GEESE

The Netherlands has turned into a paradise for geese, which are damaging farmland. The government is torn between protecting the geese and limiting the damage they do. There is no sign of a solution to the geese dilemma.



34

CLIMATE ADAPTATION IN ETHIOPIA

The nomadic tribes of Ethiopia have been forced to adapt their lifestyles to climate change. The camel is gaining popularity. Wageningen UR is among the organizations involved in the adaptation processes.



COLOPHON Wageningen World is the quarterly magazine for associates and alumni of Wageningen UR (University & Research centre) and members of KLV, the Wageningen Alumni Network. A PDF version of the magazine is available at <http://www.wur.nl/UK/publications/Periodicals> **Publisher** Wageningen UR, Viola Peulen, with KLV, Paul den Besten **Editorial board** Paul den Besten, Hans Bothe, Ben Geerlings, Wilbert Houweling, Petra Kanter, Jeanette Leenders, Francine loos, Jac Niessen, Nicolette Meerstadt, Helene Stafleu, Erik Toussaint, Hans Wolkers, Gaby van Cauil (editor-in-chief Resource), Pauline Greuell (Corporate Communications Wageningen UR) **Managing editor** Miranda Bettonville **Copy editor** Rik Nijland **News editor** Maaïke Breedveld **Translators** Clare McGregor and Clare Wilnson **Language editor** Clare McGregor **Art direction and design** Wageningen UR, Communication Services (Jenny van Driel) **Cover picture** Corbis **Magazine design** Hemels Publishers **Printer** Mediacenter Rotterdam **ISSN** 2210-7908 **Address** Wageningen Campus, Akkermaalsbos 12, 6708 WB Wageningen, Post box 409, 6700 AK Wageningen, telephone +31 317 48 40 20, Wageningen.world@wur.nl **Change of address alumni** www.wageningenalumniportal.nl **Change of address associates** wageningen.world@wur.nl, giving code address label **Personal details** alumni@wur.nl



4 UPDATE

Wageningen UR news in brief.

14 AGROFOOD

Wageningen PhD researchers aim to save local bean varieties.

22 SYNERGY

Wageningen UR is helping the Dutch Salvation Army make more use of leftovers from the food industry.

24 SOCIAL MEDIA

Should scientists throw themselves into online debates, to stand up to the power of the social media?

28 NUTRITION AND HEALTH

The long-awaited results of the major study on fatty acids and heart disease were a little disappointing for Professor Daan Kromhout.

32 INNOVATION

Kirsten Steinbusch stumbled upon a new method of making biodiesel from organic waste quite by chance.

40 AUGMENTED REALITY

The smartphone is the field guide of the future.

FEATURES**42 LIFE AFTER WAGENINGEN**

One year after graduation: life for Forest and Nature Policy alumni Dieter van den Broeck and Marco Visser.

46 WAGENINGEN UNIVERSITY FUND

We won't subsidize holidays, says the advisory committee on subsidies to stimulate student activities.

48 ALUMNI

News for and about alumni, announcements from KLV and the alumni office, activities and personal columns.

The mission of Wageningen UR (University & Research centre) is 'to explore the potential of nature to improve the quality of life'. Wageningen UR includes nine specialist applied research institutes, Wageningen University, and Van Hall Larenstein University of Applied Sciences. These institutions have joined forces to contribute to finding answers to crucial questions related to healthy food and and living environment. Wageningen UR has a staff of 6,500, 10,000 students, 35,000 alumni and 40 sites, with a turnover of 662 million euros.

Institutes of Wageningen UR: Alterra, LEI, Plant Research International, PPO, Wageningen UR Livestock Research, Central Veterinary Institute, Wageningen UR Food & Biobased Research, IMARES and RIKILT. KLV is the largest Wageningen alumni network, with more than 7,000 members. The association dates back to 1886, and provides a network for Wageningen graduates and other professionals with a link with Wageningen. The aim is to promote contact between members and with the university, and to establish an online network that provides a lively virtual meeting place.

**Hoorah for Nagoya!**

'In the Netherlands we have been so preoccupied with our elections and the formation of a new government that the Year of Biodiversity has somewhat passed us by, as have many other international issues. That's a pity, because the dramatic conclusion was drawn this year that we are far from reaching the biodiversity targets we had set ourselves as a global community.

'But I am not pessimistic about this. Natural systems are resilient: as long as plant and animal species are not extinct, a recovery is still possible. What is more, the agreements reached during the Biodiversity summit in Nagoya at the end of October are not based solely on goodwill – unlike previous ones. For example, it was agreed to scrap all subsidies that are harmful for biodiversity by 2020. That is quite something. The system of agricultural subsidies in Western Europe is a major threat to species diversity. And this is not just about the felling of primeval forest: it's also about the future of field birds such as the black-tailed godwit. The Netherlands and our neighbouring countries have now actually committed themselves to scrapping these subsidies. Another positive development is that the Nagoya treaty signatories have made binding agreements to designate at least 17 percent of the world's land surface and 10 percent of the oceans and coastal waters as protected nature areas by 2020.

'As I see it, Nagoya is also of great significance for the mission of Wageningen UR. In ten years' time only sustainable fisheries will be sanctioned; agriculture and forestry are no longer to be allowed to damage biodiversity. And that is exactly the direction we want to go in, here at Wageningen: a healthy agriculture sector and sustainable exploitation of natural ecosystems.'

Herbert Prins, professor of Resource Ecology at Wageningen University, part of Wageningen UR.

Higher score for Wageningen University

The most recent World University Rankings show that Wageningen University, part of Wageningen UR, is highly regarded internationally. The university climbed from number 155 to 144 in the British Times Higher Education (THE) rankings, whereas most other Dutch universities fell.

Wageningen also went from 38th to 36th place in the Shanghai Index for Life and Agriculture Sciences. Along with the THE rankings, this is considered the most important global quality index.

Info: wouter.gerritsma@wur.nl

FISHERIES

Don't can young tuna



The canning industry must play a key role in making tuna fisheries more sustainable, says an international tuna think tank brought together by Wageningen UR and the Worldwide Fund for Nature. It is very difficult to reach international agreements on quota and fishing methods. The issue is complicated by the fact that threatened and less threatened species are found in the same shoals. By making agreements across the industry to stop canning young fish, you create a financial incentive for fishers to leave young fish alone. Info: simon.bush.nl



Right salt means fewer deaths

Food containing relatively high amounts of potassium and calcium, such as vegetables, fruit and dairy products, lowers the blood pressure. A study in 21 countries shows that increased consumption of 'good' potassium salts can reduce the risk of death from cardiovascular diseases.

Mortality due to cardiovascular diseases can be cut by about 10 per cent through higher potassium intake, according to food researcher Linda van Mierlo. In her doctoral research, Van Mierlo looked at the effect of minerals and other nutrients on blood pressure, and found that potassium and calcium have the biggest positive effects.

Van Mierlo investigated the consumption of potassium in 21 countries together with colleagues at Unilever and at Wageningen University, part of Wageningen UR. The researchers published their findings in *Archives of Internal Medicine*. The average intake of potassium around the world ranges from 1.7 to 3.7 grams a day, although the recommended intake is 4.7 grams. Van Mierlo says this is because people consume too much processed food and

not enough fruit and vegetables. Processed food often contains too much 'bad' sodium salt and too little 'good' salt. 'Systolic pressure would fall by an estimated 1.7 to 3.2 millimetres of mercury on average if people consumed the recommended 4.7 grams of potassium,' she claims. A similar reduction in blood pressure would be achieved if consumers ate four grams less sodium salt (kitchen salt) every day. Both a higher intake of potassium and a lower intake of sodium help to reduce blood pressure. The blood pressure of about three out of every four people is higher than the ideal level of 120 over 80, according to Van Mierlo. 'You can achieve a lot within that large group with the right diet. Reducing blood pressure by a few points can lead to a substantial reduction in the incidence of cardiovascular disease.'

Info: frans.kok@wur.nl

BEHAVIOUR

Consumers do not choose rationally

Consumers do not choose the foods they buy on a rational basis, but are influenced by their relationships with other people. This is the conclusion of environmental sociologist Michiel de Krom in his doctoral research on consumer behaviour. Many people prefer to listen to the opinion of their local shopkeeper or a reliable acquaintance rather than to scientific information. In fact, his research shows that consumers' faith in scientists is diminishing. De Krom received his doctorate from the Environmental Policy Group at Wageningen University, part of Wageningen UR.

Info: peter.oosterveen@wur.nl



NATURE

Organic cowpats full of insects

Cowpats on organic dairy farms contain 50 percent more insects than those on conventional farms. The cowpats of cattle in nature reserves are richer in insects, too. The insects are an important food source for field birds such as the black-tailed godwit and the lapwing. The quality of cowpats may play a role in the falling bird population in the Netherlands, suggests PhD researcher Flavia Geiger of the Nature Management and Plant Ecology chair group at Wageningen University, part of Wageningen UR.

Info: flavia.geiger@wur.nl



EROSION



PHOTO: HOLLANDESE HOOGTE

Oysters combat erosion

Could oyster reefs stem the erosion of sandbanks in the Oosterschelde estuary in the Netherlands? Together with the Dutch Institute for Ecological Research, IMARES, part of Wageningen UR, hopes to answer this question. Researchers are placing large banks of shellfish, which should subdue the waves and retain the sediment. Initial trials with constructed oyster reefs suggested they will help combat erosion in the estuary.

Info: tom.ysebaert@wur.nl

DOPING

Backdated doping test

Researcher Michel Nielen of RIKILT, part of Wageningen UR, has developed a new drugs test for athletes. The new test, which he developed with Greek colleagues, can catch athletes out in retrospect. It makes use of a special form of mass spectrometry which identifies all the substances in urine, even new substances not yet on the drugs list. Nielen and his colleagues have shown that their test works: in tests on archived samples for the international anti-doping agency WADA, they found traces of the designer drug 4-methyl-2-hexanamine.

Info: michel.nielen@wur.nl

NATURE

Saving birds would cost 20m

To preserve the field birds of the Netherlands would require at least 20 million euros per year, according to calculations made by Jules Bos of Plant Research International for the Netherlands Environmental Assessment Agency PBL. Birds such as the partridge, the skylark and the yellowhammer depend on arable farmland in the Netherlands, and are therefore known as field birds. The meadows are no longer suitable as they are so intensely farmed that birds can no longer raise their young there. Only the arable fields are left in peace until the harvest. Yet Dutch field bird populations are in trouble. Together with SOVON, the Dutch Centre for Field Ornithology, Bos outlined the measures needed to save the field birds. It would require doubling current investments in their conservation. The birds need better brooding and foraging places, such as field borders that have not been sprayed with pesticides.

Info: jules.bos@wur.nl

BEHAVIOUR



FOTO HOLLANDESE HOOGTE

Good neighbours make good health

Good neighbours are more important to the health of the elderly than their family or friends, concludes epidemiologist Simone Croezen in her doctoral research for the Human Nutrition group at Wageningen University, part of Wageningen UR. She analysed data on nearly 25,000 people aged 65 and over in the Gelre-IJssel municipal health district in the Netherlands. She found that senior citizens with more social contacts were far more satisfied with their health. Health shows the strongest correlation with contact with neighbours, followed by contact with friends. There is no evidence that family contacts have a positive effect on health. Info: pieter.vantveer@wur.nl

NUTRITION AND HEALTH

Stone age diet good for modern humans

Excavated prehistoric skeletons show that Stone Age humans were healthy. Their diet would also be healthier for modern humans than the food of our affluent society. 'It suits our genetic makeup better', says Harry Wichers, professor of nutrition at Wageningen University, part of Wageningen UR.

'From prehistoric food to cyber snack' was the theme of this year's Food4you, the Wageningen science festival about tasty and healthy eating. Our prehistoric ancestors ate what nature had to offer: game, fish, eggs, vegetables, fruit and nuts. The diet was low in carbohydrates and saturated fat but high in protein, fibre and essential micronutrients. 'Genetically, we are still adapted for eating prehistoric food', says Wichers. 'Our genome changes by only 0.5 percent every million years.' And yet our eating habits have changed dra-

matically over thousands of years. Our diet has become steadily more unhealthy. We cannot go back to the Stone Age diet, says Wichers, but he and other scientists are drawing inspiration from it for their efforts to make food healthier. For instance, Wageningen UR is working on a project to measure the effects of a 'prehistoric diet' on the health of people with metabolic syndrome, a disease typical of



affluent societies and characterized by obesity and high blood pressure. An earlier experiment with pigs gave positive results. Info: harry.wichers@wur.nl / www.food4you.nl

NATURE AND FISHERIES

Tropical island nature management

On 10 October the islands of Bonaire, St Eustatius and Saba (the 'BES islands') became part of the Netherlands, making the country responsible for thousands of new species of plants and animals. Research by Wageningen UR is helping with the management of unique habitats.

In September on the island of Bonaire, a week-long fire at BOPEC oil storage company posed an environmental threat. For marine biologist Dolfi Debrot, this incident served to make it clear that environmental management on the island is inadequate and that the oil industry carries great risks. For many years, Debrot was director of the Caribbean Research and Management of Biodiversity foundation. Now he is working at IMARES, part of Wageningen UR, where he is in a workgroup on the management of the Exclusive Economic Zone, an expanse of sea in which the Netherlands has fishing and mineral rights. He is also researching the needs on the islands in terms of nature management. 'Of course everyone is familiar with the sea turtles, but these islands and the seas around them are home to

many more rare species.' This is certainly true of the coral reefs, which are threatened by rising temperatures, water pollution and acidification. 'Of course we can't do much about rising temperatures at the local level', says Debrot, 'but the Netherlands should do everything possible to remove the local stress factors for the coral.' This is being done by constructing a sewage system and establishing marine reserves. Another example of an outstanding nature area is Lac Bay on Bonaire: a lagoon with seagrass and mangrove forests. The mangroves are suffering from erosion and overgrazing. IMARES is going to carry out a pilot project together with the Bonaire National Marine Park: dredging out sediment to regenerate the forest. Info: dolfi.debrot@wur.nl



Corals near Bonaire.

PHYTOPATHOLOGY



PHOTO HOLLANDESE HOOGTE

A nose for potato disease

Odours in the air can reveal the presence of *Phytophthora infestans* in potatoes, and Wageningen researchers have developed a fully automatic detection system for doing so. When plants are attacked by harmful insects or pathogens, they give off alarm signals in the form of alcohols or hormones. Detecting these volatile substances in the air makes it possible to take fast action against the disease. Currently the potato disease *Phytophthora* is detected in the air by measuring spores, but once spores have formed, the farmer is actually too late, says Roel Jansen of Wageningen UR Greenhouse Horticulture.

Info: roel.jansen@wur.nl

ENERGY

Future for biodiesel from algae

Within 10 to 15 years it will be viable to produce sustainable biofuels from farmed algae, say researchers from Wageningen UR Food & Biobased Research in the leading journal *Science*. There are big advantages to generating energy from algae, but it is still far from cost-effective. The production price of farming algae would have to be cut tenfold, while production would need to triple. This can be done by investing in algae technology, claim Wageningen environmental economists in the journal *Energy Policy*. Besides technological improvements, upscaling the technology can also cut costs.

Info: rene.wijffels@wur.nl



Dozens of Phds on photosynthesis

Over the next five years, Dutch universities and companies will be collaborating on the large-scale BioSolar Cells research project, aiming to develop sustainable energy innovations using photobiological solar cells. Wageningen UR has a leading role in the consortium.

The consortium's research will focus on three themes. The first is the optimization of photosynthesis in plants, leading to the production of more biomass per hectare of land. A second research track will explore the large-scale breeding of microorganisms for the production of biofuels. These could include cyanobacteria or algae that produce butanol. Thirdly, research will be done on the imitation of photosynthesis by making artificial leaves that generate energy from sunlight and CO₂.

It is estimated that 40 to 60 PhD researchers will set to work on the BioSolar Cells project, 10 to 15 of them in Wageningen. Thirty companies are taking part on the project, funded to the tune of 25 million

euros by the former Dutch ministry of Agriculture, Nature and Food Quality. The participating organizations will provide the remaining funding of 42 million euros. René Klein Lankhorst of Plant Research International, part of Wageningen UR, is the operations director for the consortium, and the overall director is Raoul Bino, head of the Agrotechnology and Food Sciences Group at Wageningen UR. Huub de Groot of the University of Leiden is scientific director. Besides Wageningen and Leiden, other participants are the universities of Delft, Amsterdam and Groningen, agricultural research foundation DLO and the Applied Sciences University in Den Bosch. Info: rene.kleinlankhorst@wur.nl

Science at primary school

The Wageningen University Science Interchange was launched on 6 October 2010. This initiative is bringing scientific knowledge to primary school children, to encourage and challenge them to adopt an inquiring attitude. Pupils will go on excursions to the university, get lessons on a particular theme or go on a camp. Wageningen University's partners in the Science Interchange are the Gelderland Science and Technology Expertise Centre and the Christian University of Applied Sciences in Ede (a primary school teacher training institution).

Info: wetenschapsknooppunt@wur.nl

More toxic gluten in bread



Increasing numbers of Dutch people are suffering from coeliac disease, an autoimmune disorder in which gluten from cereal products causes inflammation of the small intestine. Hetty Busink of Plant Research International, part of Wageningen UR, discovered that this rise is partly due to an increase in certain gluten proteins in modern wheat varieties. She compared 36 modern wheat varieties with 50 old varieties. Two sections of gluten protein that are known to make patients ill were far less prevalent in the traditional varieties. Wageningen researchers are hoping to develop a coeliac-safe wheat variety in partnership with the plant breeding company Limagrain.

Info: hetty.busink@wur.nl

ENTOMOLOGY

Fungus plus insecticide defeats mosquito

By combining biological and chemical weapons, you can combat malaria mosquitoes effectively. Researchers from Wageningen UR and Benin have shown that fungi and insecticides reinforce each other's effectiveness against highly resistant mosquitoes.

Global estimates suggest that more than one million people per year die of malaria. Malaria parasites are transferred by *Anopheles* mosquitoes, and in many areas, particularly in West Africa, these mosquitoes are increasingly resistant to chemical pesticides. This is reducing the impact of impregnated mosquito nets and indoor spraying.

Last year, Wageningen researchers showed that fungal spores can effectively kill malaria mosquitoes as well as make them more sensitive to insecticides. Researcher Marit Farenhorst of the Laboratory for Entomology at Wageningen University, part of Wageningen UR, did follow-up research in Benin on the effectiveness of using a combination of fungal spores and insecticides. Together with colleagues at

the Entomological Research Centre in Cotonou, she tested the effect of fungal spores on malaria mosquitoes that were resistant to the common insecticides DDT and permethrin.

Both laboratory-bred and wild-caught mosquitoes could be effectively killed with fungal spores of *Beauveria bassiana* and *Metarhizium anisopliae*. It also turned out that the fungal infection made the wild mosquitoes more sensitive to permethrin, while exposure to this chemical seemed to increase the impact of the fungi.

An incidental advantage of the fungi-insecticide combination is its long-term effectiveness. The researchers published their findings in the journal *PLoS One*.
Info: marit.farenhorst@wur.nl



Impregnated mosquito nets are losing their effectiveness.

MICROBIOLOGY

'Friendly bacteria' drinks do work



Commercial probiotic drinks affect the activity of genes in the intestine. This result was published by researchers from Maastricht University, NIZO Food Research, the teaching hospital UMC St Radboud and Wageningen UR in the journal *Proceedings of the National Academy of Sciences* (PNAS). They examined the intestinal mucosa of seven healthy volunteers who had drunk probiotic drinks. The drinks produced a local reaction in the intestinal mucosa. The effect was similar to the positive effects of certain medicines, but milder, says the research project's manager, Michiel Kleerebezem of the Wageningen institute TI Food and Nutrition.

Info: michiel.kleerebezem@nizo.nl

HEALTH

Tracing pathogens fast

Medics, chemists and engineers are going to develop a chip with which the pathogen causing an infectious disease can be identified in minutes. Currently it takes several days for a laboratory to pinpoint the precise nature of an infection. The new chip will identify the messenger RNA of immune cells. Wageningen UR is leading the project, for which 8.5 million euros has been made available for the next four years.
Info: han.zuilhof@wur.nl





DELTAS LEARN FROM EACH OTHER

Rising sea levels

Delta regions all over the world are particularly vulnerable to the effects of climate change. Led by Alterra, part of Wageningen UR, a new knowledge network called the Delta Alliance is working on finding solutions to this. The key seems to lie in being less fearful of the water.

TEXT RENÉ DIDDE PHOTOGRAPHY HOLLANDSE HOOGTE ILLUSTRATION SCHWANDT INFOGRAPHIC

The Mekong delta, an area of Vietnam as large as the Netherlands, lies at sea level. The delta is home to about 17 million people, most of whom work on the land or in fisheries. Fish farming has been a booming sector in recent years, due to the rising demand for farmed fish on the Western market. On the edge of the delta lies Ho Chi Minh City, with another ten million people.

Like all deltas, the Mekong delta is fertile, thanks to the silt deposited there. In this still largely rural area there are many farmers, but in several other parts of the world deltas have been urbanized, and are home to major harbours and trade hubs. And a few of these have grown into large conurbations such as the one around Rotterdam in the Netherlands, called Rijnmond (mouth of the Rhine), or the Mississippi delta at New Orleans. But deltas are vulnerable areas too, as rising sea levels threaten their fertile land while swelling rivers bring more water down from the hinterland. There can be massive peaks during heavy rains or just the opposite: severe fresh water shortages during extreme droughts. 'An additional problem in the Mekong delta is that much of the fish farming is not yet very sustainable. Polluted water is drained into the delta, making the water balance extra difficult', says Le Quang Minh, vice-president of the Vietnam University of Ho Chi Minh City. Le Quang Minh is a Wageningen alumnus who went back to his country after completing his MSc and PhD. He is the coordinator of the Vietnam wing of the new knowledge network Delta Alliance, a platform of

scientists and consultancy bureaus who are joining forces across the globe to make deltas such as the Mekong more sustainable and resistant to climate change.

SALTWATER SHRIMPS

For the Mekong delta this means purifying and recycling the water used on fish farms, collecting fresh water in ponds and alternating salt and fresh water, both in agriculture and fisheries. 'It could mean eventually that for a few months we only breed saltwater shrimps and no freshwater shrimps', Le Quang Minh explains. In land-based farming too, small steps are being taken in Vietnam to make agriculture more 'climate-proof'. Farmers are adapting their sowing schedules so as not to have to harvest during heavy rains when floods threaten. They are also experimenting with new rice varieties which are more tolerant of long-term salinization or which can adapt to the flooding of the plain. Dutch expertise has a contribution to make to these climate adaptations. Scientists from Wageningen UR are supplying knowledge about rural areas, soil quality, water, and the state of ecosystems, while Deltares knowledge institute in Delft and consultancy bureaus such as Haskoning are collaborating on developing and exchanging knowledge.

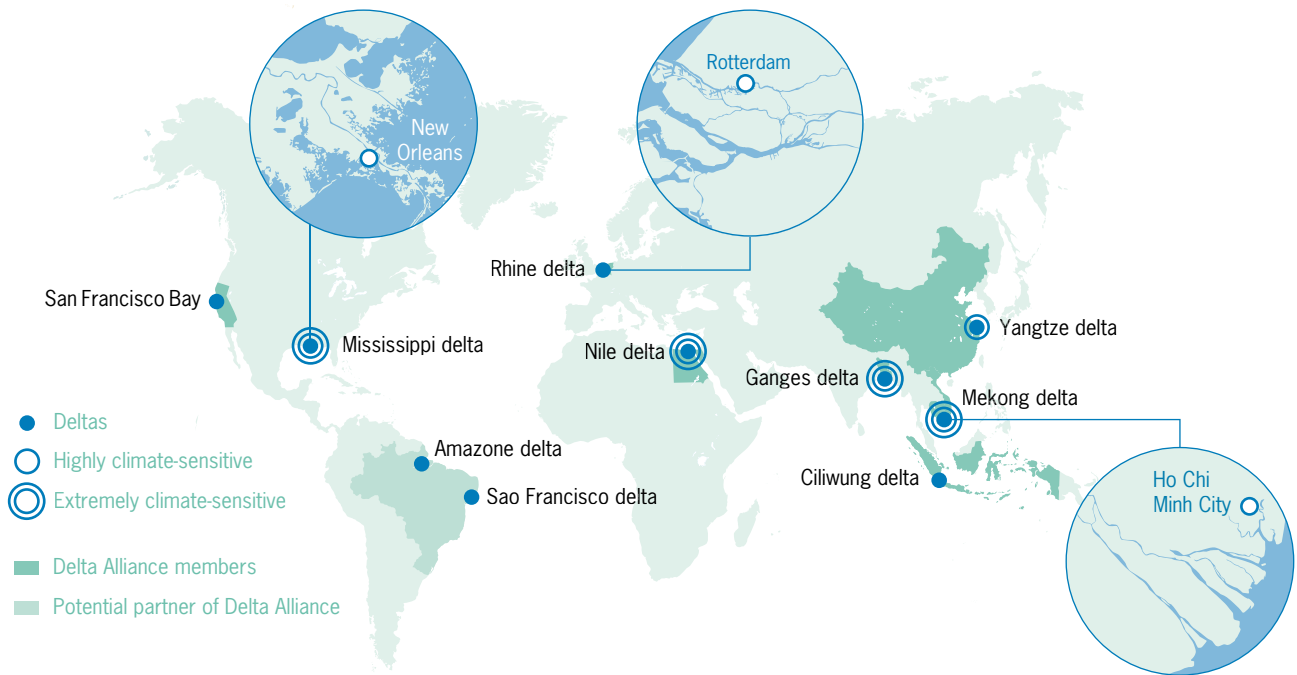
SAMPHIRE AND SEA LAVENDER

According to Wim van Driel, project leader of the Delta Alliance, the situation in Vietnam is a striking example of the way the new collaborative network intends to work. 'Not by laying down from the Netherlands how things should be done, but by sharing expertise with international counterparts. Our aim is to link up experiences in the delta in Vietnam with comparable experiences in, say, Bangladesh. But Dutch farmers in Zeeland, who grow saltwater crops such as samphire and sea lavender, can learn from the developments in Vietnam too', says Van Driel, who works at Alterra, part of Wageningen UR. The important thing, Van Driel thinks, is to approach the sea with an open mind, and he believes this view is gaining ground elsewhere in the world too. He talked to *Wageningen World* just before setting off for New Orleans to draw the Mississippi delta into the programme. This area has been blighted first by hurricane Katrina and then by the BP oil disaster. 'What is really remarkable is that people in this American delta have made the switch in a very short time span from a traditional defence system of dykes to a less fearful relationship with the water, for instance by creating water storage facilities right in New Orleans itself', says Van Driel. 'They still have to get the general public and the Army Corps of Engineers (a kind of water management board in the US) on board, though.'

LINKING UP WITH THE DELTA ALLIANCE

The Delta Alliance came out of the paragraph on the international context in the Knowledge for Climate programme (2007). In this document the last Dutch government set out plans for working on making the vulnerable climate 'hotspots' in the Netherlands climate-proof. Funds amounting to fifty million euros were released for research and projects, two million euros of it for international work. Part of the programme is knowledge exchange between comparable hotspots abroad. In the Delta Alliance, the focus is on collaboration between delta countries. The platform started with the Netherlands, Vietnam, Indonesia and California. At the official launch in Rotterdam at the end of September, Bangladesh, Egypt and China joined the alliance too. Brazil is at the door. 'Our ambition is to grow to between 10 and 20 members. In Europe, other potential members are Italy, with the Po valley, Portugal, with the mouth of the Tagus, and Romania, with the Danube delta. Nor has Russia yet joined, with its deltas such as that of the Volga', says Wim van Driel, project leader of the alliance. If this succeeds, the remaining budget of one million euros will not be enough and supplementary funding by the EU and regional development banks will be needed. Besides Wageningen UR, other active partners in the Delta Alliance are the Dutch Deltares institute, UNESCO-IHE and consultancy bureaus such as Royal Haskoning and Arcadis. *Info: wim.vandriel@wur.nl*

DELTA ALLIANCE AND CLIMATE CHANGE



‘Zeeland farmers can learn from Vietnam too’

An important theme in the Delta Alliance is a delta’s resilience. The more a delta can adapt, the more resilient the region becomes. In a comparative study by the alliance, the current situation and the land use in the deltas will first be described, threats will be identified and their impact analysed, says Cees van de Guchte from Deltares in Delft, who is the coordinator of the Dutch wing of the Delta Alliance. ‘The aim here is to develop a score card for resilience and to keep track of this score over time.’ Changes in the scores provide insight into the effectiveness of policies. The study will also address issues of knowledge and possible answers to the problems. It looks as though a multidimensional strategy is going to be crucial to this. Rice farming alongside fish farming – as can be seen in Vietnam. Arable farming and saltwater farming in the Netherlands, as well as agriculture and recreation combined with water storage.

BENEFITTING FROM FLOODS

Deltares researched the situation in several deltas including the Mekong delta in Vietnam, in collaboration with Alterra, the Worldwide Fund for Nature and experts in the countries concerned. The resilience of a delta is not just a factor of its physical parameters, but also of the resilience of the local people. Both Van Driel and Van de Guchte are full of praise for the flex-

ibility of the inhabitants of the Mekong delta. ‘The Vietnamese are not afraid of the water. That may be because traditional rice cultivation has always benefitted from a certain degree of flooding by the river’, is Van Guchte’s analysis. Yet the Vietnamese are going to have to adapt further. ‘Increasing flooding from the sea may mean that farmers can achieve two rice harvests per year, not three. If the sea flooding period becomes longer, the land could even eventually become unfit for traditional agriculture.’ Aquaculture with alternating saltwater and freshwater products, with shrimps for example, could provide a way of compensating for this kind of loss of income. ‘We are still in the phase of trails and pilot projects. A few pioneers are opening up new territory, but most of the farmers still have a wait-and-see attitude’, says Van de Guchte. ‘But they do realize that developing in the direction of a more mixed farm helps to spread the risks. Running several farming activities in tandem, or farming alongside fisheries, provides a better guarantee of an income in the long run.’ ■

Keeping beans on the menu

Twelve Wageningen PhD students are figuring out ways of preventing local food crops in developing countries from passing out of use. 'It is better for countries to maintain their food sovereignty', says project leader Tiny van Boekel. TEXT ASTRID SMIT PHOTOGRAPHY LINEAIR

All over the world, local crops are in danger of disappearing from the menu. Many consumers are opting for globally popular food crops such as wheat, rice, maize or soya beans, because they think they are more modern and easier to prepare. A pity, says a group of sociologists and nutritionists including Tiny van Boekel, professor of Agrotechnology and Food Sciences at Wageningen University, part of Wageningen UR. Risky too, because it will make people dependent on those global food crops. And that will make them vulnerable. What happens if the price of wheat or rice shoots up, or war breaks out? 'It is better for countries to keep on growing their own traditional crops, thereby maintaining their food sovereignty. This is particularly important for poor countries where food security is already shaky', says Van Boekel.

With this in mind, Wageningen UR launched a major new project in 2007 – Telfun: Tailoring Food Sciences to Endogenous Patterns of Local Food Supply for Future Nutrition. Telfun seeks answers to such questions as: How can you stimulate the cultivation of local food crops? What are the obstacles to doing so? And what solutions can

be found? Van Boekel: 'The project aims at modernization. We are researching how we can shorten the preparation time of a crop, for instance, or how we can raise its nutritional value.'

FOUR DISCIPLINES

Telfun is focusing on three crops in three regions: cowpeas in Benin, lupin in Ecuador and mung beans in India. All three bean

'We aim to produce critical academics who can solve food problems'

crops are in danger of disappearing due to the globalization of the market, whereas they are a highly valuable local source of nutrition. Van Boekel: 'There are four local PhD students working on each project. They come from four different disciplines – plant breeding, nutrition, sociology and food tech-

nology – and they think up solutions together.' The twelve PhD students spend half their research time in their own country and the other half in Wageningen.

One of the researchers is Yann Madode from Benin, who is currently spending a few months in Wageningen. He is at the University of Abomey-Calavi in Cotonou and he is researching how to increase the nutritional value of the cowpea. Many people in Benin suffer from iron and zinc deficiencies, which can slow down children's physical growth and cognitive development. Meat is full of iron, but is too expensive for many people. Yet the iron- and zinc-rich cowpea is losing popularity, especially in the city. 'People are opting for rice and bread and less for local crops', says Madode.

FLATULENCE

Although cowpeas are rich in iron and zinc, these nutrients are poorly absorbed by the human body because they are bound to polyphenols, which are also found in the beans. Madode: 'I am researching how we can reduce the effect of polyphenols on iron and zinc, for instance by fermenting or heating the beans.' Another reason for the de-



Bean seller preparing his market stall, Kerala India.

clining popularity of cowpeas is the flatulence they cause. Madode is looking for a solution to that too. The African researchers are not just looking for technical solutions; they are also pondering how the diet of the people of Ghana and Benin could be adapted. 'Our research shows that the leaves of the cowpea plant contain lots of iron and zinc, in better proportions than the beans themselves. West African people occasionally eat cowpea leaves, but they ought to do so more often. We are researching how that

could be promoted', says Madode. Each of the groups of PhD researchers is aiming to address questions that arise in their own regions. In Ecuador there is a team seeking to speed up the preparation of lupin beans for cooking; at present, the beans must be left in running water for days to get rid of the toxic alkaloids they contain. And in India a group is researching how women could gain more say over the mung bean harvest. Current practice is that men dominate the trade and they sell their mung beans on

the local market, whereas they could give them to their school-aged children. Telfun has been running for three years. There are no concrete results yet; nor does Van Boekel expect that in another year's time there will be earth-shattering news of solutions that will save these crops at a blow. 'It is a slow process. I hope above all that the PhD students themselves will gain a lot from it. Our aim is to produce critical academics who are able to analyse their own food problems. And solve them.' ■

Dutch paradise for geese

The Netherlands has become a winter paradise for geese, but much to the distress of Dutch farmers, the birds find such rich pickings that more and more of them are staying all summer as well. Some farmers are reaching for their guns.

TEXT HANS WOLKERS ILLUSTRATIONS WAGENINGEN UR, JENNY VAN DRIEL

A BUSY SCENE

Almost 2 million geese in December



NO EXPENSE SPARED

Harbouring geese costs 17 million per year

COMPENSATION

The Fauna Fund compensates farmers for damage to land

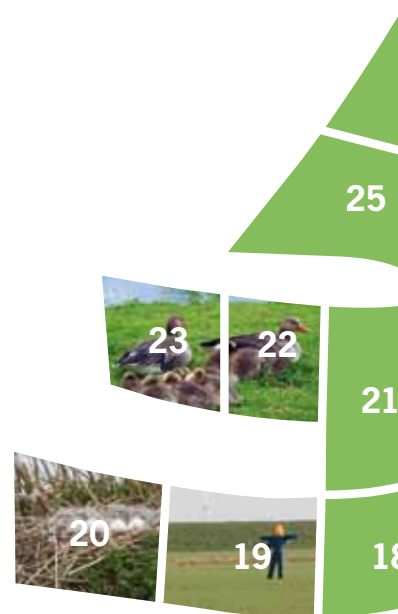


OPEN ALL YEAR

Now in summer too: plenty of breeding space

HOUSE RULES

Winter geese should to stay in their foraging



TRESPASSERS

Geese found outside their foraging areas will be chased away



50

SPEND THE WINTER IN HOLLAND!

More and more geese discover the hospitable Netherlands

PLENTY OF SPACE

More than 80,000 hectares of foraging area

FRIENDLY

Many farmers open up their land

HOME COMFORTS

Tasty meadows and comfortable nature reserves

GREAT FOOD

Farmers' fields serve generous meals

NUISANCE AND DAMAGE

Shooting is permitted where there is severe damage

The Dutch countryside teems with life in December, when the numbers of overwintering geese from the Arctic circle reach their annual peak of almost two million birds. It is quite a sight for nature lovers, but a nightmare for Dutch farmers, whose meadows and winter wheat crops get trampled and grazed by the birds. The government compensates farmers for this damage, and in seven years, the claims for winter geese damage to the government's Fauna Fund more than tripled to more than eight million euros in 2008. On the one hand, the EU Birds directive sees it as an international responsibility of the Netherlands to provide the various species of geese with overwintering places. And on the other hand, the government is afraid the costs are going out of control. There seem to be more birds every year.

NUMBERS UP TENFOLD

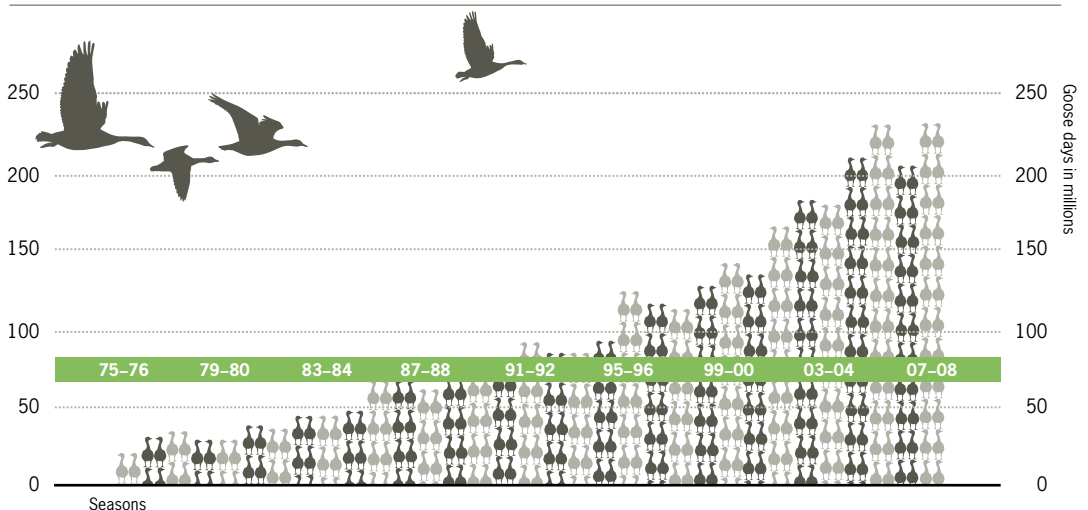
Since the nineteen seventies, the government has restricted goose hunting, says Berend Voslamber, geese researcher with bird research organization SOVON. 'In those days people were just starting to appreciate nature. Geese were one of the first species to be protected.' The restriction on hunting caused the number of geese overwintering in the Netherlands to shoot up, explains Voslamber. There are eight times as many 'goose days' – the number of geese multiplied by the number of days they stay – now than there were thirty years ago. That is due not solely to growing populations, but also to longer stays: the geese are arriving earlier and earlier and leaving later and later for their breeding grounds in the far north.

According to researchers at SOVON and Alterra (part of Wageningen UR), the rising geese population is also due to the abundance of food on Dutch farmland. The growing season is getting longer, and yields per hectare are increasing. This means there is food available for longer on the farmland, and the geese make good use of it. The birds have also put new foods on their menu, such as the leftovers from the maize and sugar beet harvests. To make matters worse, more and more geese are spending the summer in the Netherlands: they have become permanent residents in fact. This is probably because of the excellent food supply in combination with the many nearby nature areas in which the geese can brood in peace. So the agricultural damage caused by summer geese has also more than tripled since 2006. The main culprits are the greylag goose, the barnacle goose and the exotic Canada goose. In ten years, numbers of these species have increased by ten times, to more than 250,000 birds.

RUINED CROPS

Summer geese are an absolute disaster for farmers, says Toon Voets, a geese expert with the Dutch society for the protection of birds. 'For the individual farmer, the damage from summer grazing is much greater than that from winter grazing. On top of that, it's an emotional business for the farmer to see his lovely crop being ruined by geese. That creates a big problem before you even mention the money side of things.' According to Voets, it is the summer geese that cause the most problems. The nuisance caused by the winter geese is manageable, he thinks. Not least because the number of

TRENDS IN GEESE NUMBERS AND LENGTHS OF STAY IN THE NETHERLANDS



overwintering geese seems to have stabilized, and with it the extent of the damage they do.

BACKUP CULLING

Since 2001, when shooting overwintering geese was banned outright, farmers have been able to claim for damages to the Fauna Fund. Two years later, in an effort to control rising costs, the Dutch government introduced foraging areas, in total 80,000 hectares spread across the country, of which 65,000 hectares were farmland. Winter geese were to be allowed to graze undisturbed in these areas, but were to be chased off land outside them.

‘The idea is to teach the geese where they are allowed to graze and where they are not’, explains geese researcher David Kleijn, from Alterra. Farmers who want to cooperate on the foraging areas get a fixed payment for this as long as they also make sure the overwintering geese get enough food. Any damage is compensated by the Fauna Fund. Kleijn: ‘By working with a fixed payment, the government had more of an overview of the financial situation.’

Outside the foraging areas, it is compulsory for farmers to chase off the geese if they want to qualify for damage compensation. This is difficult to check up on, but in practice most farmers do their best to chase the geese off their land. By any means possible, including ‘backup culling’ of greater white-fronted geese and greylag geese. At least 100,000 geese are shot every year.

In spite of the new measures, the total costs of sheltering overwintering geese have doubled to more than 19 million euros per year, according to an Alterra report.

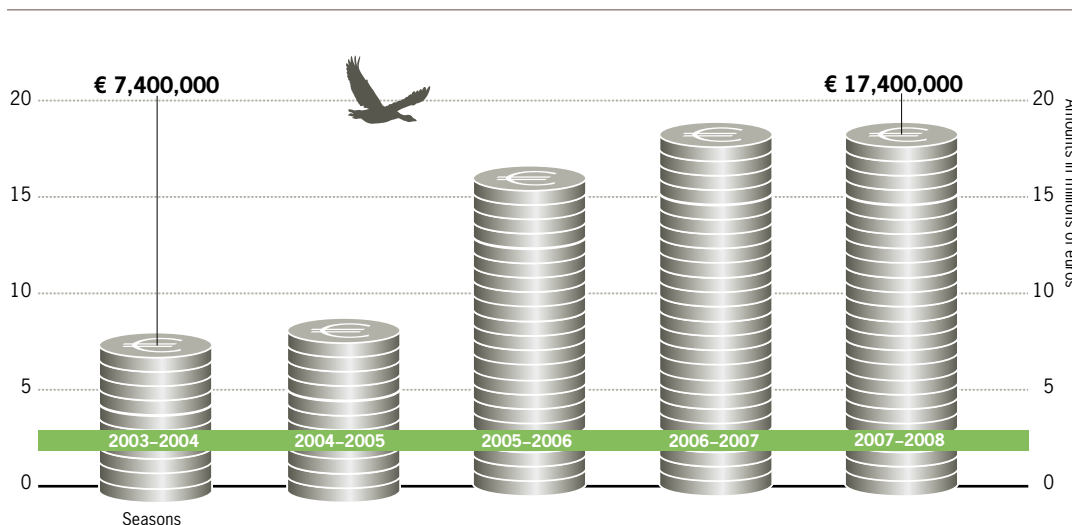
Remarkably, the amount of damage has stayed the same,

while the fixed payments to farmers account for much of the rise in costs. There is also a lot of criticism of the policy of designating foraging areas, as more than 40 percent of the geese forage in ‘out of bounds’ areas. One of the reasons for this, says Kleijn, is that ‘the geese always weigh up the food supply in an area against the risks they take by being there. So you have to ask yourself how much effort will have to go into scaring the geese away from particular areas.’

Bird protection expert Toon Voets agrees that foraging areas do not work well. The main issue, he says, is that there are far too few of them to cater for the food preferences of the various species of geese. Greylag geese and greater white-fronted geese prefer longer grass and once they have grazed one meadow, they move on to another one. Then the barnacle geese keep the grass short, so that this field is no longer of interest to the graylag and white-fronted geese. ‘In the end, a patch of land like this doesn’t provide enough food for these species and they trek from one area to another’, explains Voets. ‘Like that you end up with not enough suitable land.’ So the greylag geese are responsible for a large proportion of the damage: more than 40 percent. And the white-fronted and barnacle >

‘Culling is not an effective way of limiting the damage’

COST OF HARBOURING GEESSE AND PAYING FOR DAMAGE



geese are responsible for thirty and twenty percent of the claims, respectively. Voets reckons that, to work properly, the foraging areas would have to cover at least 150,000 hectares, rather than the current 80,000 hectares. Peter de Koeijer, director of the agricultural and horticultural organization LTO, is more impressed by the foraging areas. And he thinks the designated 80,000 hectares ought to be enough. 'But then they should be sown with more nutritious food sources', he asserts. 'Clover would be very suitable.' Another condition for successful foraging areas is to be strict about chasing the birds off the

surrounding land and, even more importantly, to drastically reduce the summer geese population. They are the real troublemakers, says De Koeijer. 'Half of the overwintering greylag geese and about 20 percent of the barnacle geese are summer geese', he says. 'Once the real overwinterers have gone in March, the summer geese start grazing the crops, which are extra vulnerable at that point.' De Koeijer thinks that ten percent of the present summer goose population would be about right for the Netherlands. 'Then you are talking about a few tens of thousands of birds.'

'A DRAMA FOR NATURE'

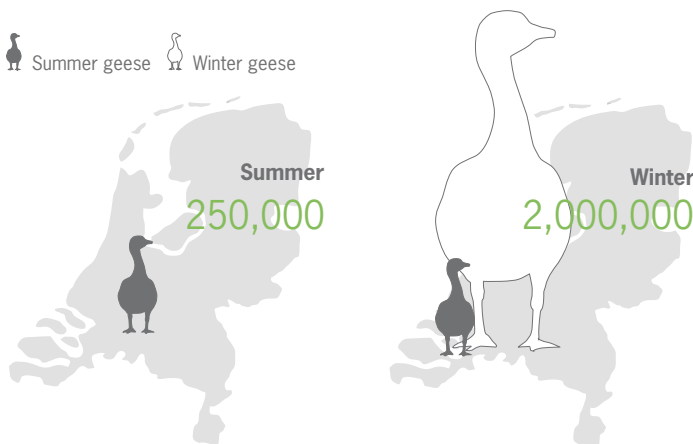
It is not just the farmers in the Netherlands who are suffering from the goose population. Jurjen Annen, ecological manager with nature conservation organization *Natuurmonumenten* at the Vechtplassen lake area, sees for himself the damage done by the summer greylag geese in particular. 'Twenty years ago *Natuurmonumenten* had hardly any geese in the Vechtplassen area, and now there are just under four thousand', he says. 'A drama for nature here.' When the birds are moulting they keep to the reed beds and strip them bare. As a result, the reed beds are disappearing and the breeding grounds for rare species of heron such as the great and little bitterns are shrinking dramatically. With the rise of the summer goose, these species are therefore dwindling rapidly, as are the great reed warbler and the black tern. It is true that catching moulting geese is permitted by the provincial authorities, but Annen does not think the public would stand for it. 'We cannot afford to lose members', he says. So *Natuurmonumenten* adopts the strategy of collecting eggs. 'It seems to help, but not enough', says the nature manager. 'The population goes on growing at quite a rate.'

CUTTING COSTS

In order to cut the costs of the damage done by geese, the Agricultural Economics Institute LEI (part of Wageningen UR) calculated the costs of several policy options. Cutting the winter goose population by 15 to 30 percent would lead to savings of 11 to 19 percent, says LEI. Kleijn does not think this would be effective, if only because culling is such an enormous job. For the white-fronted geese alone, you would have to shoot between 150,000 and 300,000 birds. Not to mention 35,000 to 70,000 greylag geese. Besides the logistical difficulties of doing this, the researcher says it would disturb a lot of other animals. 'If you want to harvest the animals, this is a good way to go about it, but culling is not an effective way of limiting the damage', claims Kleijn. He believes it is the conditions in and around the breeding grounds that are causing the growth in the winter geese population. If 20 percent of the geese in the Netherlands are shot, a smaller population will return to the breeding grounds. There, more of the young will reach adulthood, because their chances of



GEESE NUMBERS IN THE NETHERLANDS per season



FAVOURED FORAGING GROUNDS FOR GEES

The areas where geese forage in winter are increasing in number and size. They already cover about 25% of Dutch land.



survival will go up with a lower population density. In short, this is what the Dutch call ‘mopping with the tap open.’ What is more, you would have to shoot hundreds of thousands of geese every year. And such a massive reduction of the population is undesirable, says Kleijn, in view of the obligation the Netherlands has to host the geese. ‘About three quarters of the entire European population overwinters here. If you decimate that every year, you won’t exactly make a good impression abroad.’

YOUNG GEESE

So what is the answer then? ‘We can think up all sorts of measures, but we don’t have the knowledge to really predict their impact’, says Kleijn. ‘To get an idea of the future scale of the winter geese problem, the main thing is to assess the carrying capacity of the Arctic breeding grounds, and then you know what you are up against.’ Many species of geese expanded their breeding areas when the population grew after hunting was banned. There is a limit to that expansion. Once you know what that limit is, you can remove most of the uncertainty around the goose population growth and with it the uncertainty about the maximal costs.

Breeding success is equally crucial to keeping the summer geese under control. Because the young geese trek from their breeding grounds to the food-rich meadows of the Netherlands, their breeding rate is kept artificially high. ‘The nature areas themselves should determine the carrying capacity and the breeding rate of the geese, and not the surrounding farmland’, says Voets. ‘You should therefore keep the young geese out of the nature areas – by fencing them, for example.’

‘There are far too few foraging areas’

LTO director De Koeijer agrees that the carrying capacity of the nature areas should determine the numbers of summer geese, but he thinks fencing them would be hypocritical. Better, he says, to shoot adult geese on their nests, with a gun with a silencer. ‘There is a taboo on active goose population management, but it is needed, even in the Natura 2000 areas’, he claims. But researcher Kleijn thinks fencing might not be a bad idea. ‘It’s an effective measure for limiting chick survival.’ SOVON researcher Voslamber sees another option. ‘In the Ooijpolder, large areas of the water meadows are grazed by cows and horses all year round. Like this the area turns to wilderness and there is less suitable grass for geese. That reduces chick survival too.’

According to the society for the protection of birds, the best solution is the simplest: leave the geese in peace so that grazing pressure is more evenly distributed over the Netherlands and the damage is less for the individual farmer. The society would ideally like to go back to the situation of ten years ago. Voets: ‘There was no hunting then and farmers were simply compensated for damage. There was a lot less fuss that there is now.’ ■

GEESE IN THE NETHERLANDS

Five different species of geese overwinter in the Netherlands. The white-fronted goose is the most numerous, with almost one million birds. Other species that spend the winter months in the Netherlands are the barnacle goose – 360,000 birds, the greylag goose – just under 300,000 birds, and about 150,000 pink-footed geese. A relatively new phenomenon is the presence of summer geese, which do not leave for the Arctic circle in the spring, but stay in the Netherlands to breed. In total, there are about 250 thousand summer geese, most of them greylag geese. Their summer numbers have increased from 30,000 to almost 200,000 within ten years. The population of barnacle geese grew in the summer from 4,000 to more than 35,000.



Greater white-fronted goose



Barnacle goose



Pink-footed goose



Greylag goose



Brant goose



SALVATION ARMY KITCHENS TO GET A MAKEOVER

Good meals from leftovers

The Salvation Army in the Netherlands cooks millions of meals every year for groups including elderly people, teenage mothers and drug addicts. Wageningen researchers collaborated on a plan to make more use of surplus products from the food industry.

TEXT KORNÉ VERSLUIS PHOTOGRAPHY MICHEL VAN NIEUWKERK

You certainly cannot call it rubbish, say chain researcher Joost Snels and John Jalving of the Dutch branch of the Salvation Army, an evangelical Christian organization. Food companies sometimes have large quantities of food left over that they cannot sell. Sometimes due to a production error, and sometimes due to disappointing demand. Snels: 'A good example would be a worker at a soft drinks factory who sets the carbonization pressure just a little bit too low, so that the drinks are not fizzy enough; or a filling machine that puts that bit too much or too little in a pot or bag. There is nothing wrong with the product in terms of quality, but because of a small fault it cannot go on

the retail shelves.'

Every now and then the Salvation Army gets a call from a food company to ask whether it could use a load of salami, soup, or even fresh products such as tomatoes. John Jalving researched whether this could be done more systematically. His main objective was to create more jobs in the kitchens. Jalving heads the Work for Everyone project which is part of the Salvation Army's work in the Netherlands, and aims to create jobs for people who cannot get work easily. Up to now, the organization's kitchens have been stocked primarily with readymade meals. Cooking from raw ingredients – of which the food industry often has leftovers – would be far more labour-intensive. And

it would have the added advantage of doing something to combat food wastage.

The Salvation Army received 25,000 euros from the former ministry of Agriculture, Nature and Food Quality to research the potential for a 'matching kitchen' that processes waste food.

MORE FLEXIBLE

Joost Snels of Wageningen UR Food & Biobased Research worked on the research project too. 'Our recommendation is to work more flexibly in two senses. Firstly, by processing the ingredients that are delivered in a way that makes them usable for longer. Meat can be roasted and vacuum-packed, for example. And secondly, by



Joost Snels, Wageningen UR (left) and John Jalving, Salvation Army.

being more flexible about menus and what you offer Salvation Army clients. If you approach the process differently, you can offer them more choice.'

Elderly people in a Salvation Army nursing home could indicate their preferences in advance on a form, for example. Snels: 'By taking a different approach to serving food, by letting them help themselves for example, you give them more of a feeling that they have some choice. That way they enjoy their food more.' Jalving: 'We don't need to make money from it. What we save on purchasing, we'll give back to our clients. You could do that by serving more luxurious food – ice cream once in a while perhaps – and above all by offering more choice.'

Besides the advice on flexibility, the Wageningen researchers designed an optimization programme for processing the 'non-commercial waste products'. The programme takes account of the use-by date, the product's processing potential, and storage capacity. It should make it possible for the Salvation Army to respond more quickly to offers of food. Snels: 'If companies have to wait too long for a clear answer, they won't call again.'

Snel says that many companies like working with the Salvation Army. 'It is a large, professional and reliable organization with which you can make clear arrangements. For example, some companies want to be sure that their waste product will be made unrecognizable, or that it won't end up for sale by some other route.' Jalving: 'That was a big eye-opener to us. We didn't realize beforehand that companies would be so keen to work with us on this professional basis.' He hopes that he will soon be able to give one of the Salvation Army's kitchens a makeover so that it can be used for this new approach to cooking.' ■



Should scientists speak up online?

Social media such as internet forums, Facebook and Twitter undermine the authority of the experts. So should researchers get involved in online debates? TEXT GABY VAN CAULIL PHOTOGRAPHY GUY ACKERMANS ILLUSTRATION RHONALD BLOMMESTIJN

Swine flu is a Satanic trick'; 'Flu shot leads to paralysis'; 'Vaccination is part of global genocide depopulation'. Such dire warnings against the swine flu vaccine were all over the internet in 2009. According to articles and videos on stopthevax.com and justanothercoverup.com, the toxic vaccine was a plot by the World Health Organization to decimate the world population. The messages spread like wildfire through the likes of Facebook, weblogs and chat rooms. It is not known whether these suspicions led to fewer people being vaccinated against the swine flu. But it is known that in the case of a campaign to vaccinate teenage girls in the Netherlands against a form of cervical cancer, an internet scare led to only half the targeted girls turning up for the shot. (To put this in perspective: uptake of vaccinations is usually 90 percent in the Netherlands.) After this experience, the government public health organization RIVM admitted that it had underestimated the influence of the internet. Social media cover anything, including sci-

ence. Yet compared to the more traditional media, the scientist is almost entirely absent from the debate, which makes it easier for misconceptions to spread. Food-related internet forums spread claims that go unfuted that food colourings, aromas and flavourings can cause allergies and cancer. Similarly, health-related scares like those about the swine flu circulated by stopthevax.com last year go 'viral' as they are unthinkingly reiterated in weblogs and chat rooms.

CONSTRUCTING REALITIES

The expert should therefore take the plunge and join online debates, says Cees van Woerkum, professor of Communication Strategies at Wageningen University, part of Wageningen UR. 'I think scientists are responsible for the way their results are used. This means being able to get in touch with the people who are affected, and to do that you have to know what is being said about your results on the social media.'

Researchers should recognize that the gener-

al public constructs a reality which is not based on reason alone, says Van Woerkum. 'The social media make it easier for people to share information. Then they go on talking about it and bring their own experiences and normative considerations into it. Unlike scientists, they do not draw a clear line between scientific knowledge and any other kind of knowledge. They blend all their knowledge together. And in that blend they come to see a truth.'

So scientists must join in digital discourse, says Van Woerkum. 'They should explore what makes people say certain things. That is the only way to make people reflect and to influence them.'

SHORT MEMORIES

Marcel Dicke, professor of Entomology at Wageningen University, is an expert known for engaging in public debate. He initiated the massive 'City of Insects' exhibition in Wageningen, he runs the Insects and Society lecture series, and he frequently travels around the Netherlands to give talks and >

take part in discussions. 'I deliberately stay out of the social media. I don't have time for that and I don't want to make time for it. When I see the comments you get on websites, I see that people don't read things properly and have short memories. People tend to use social media just to get something off their chests. They come across something when they are surfing the net, they think, 'ridiculous' or 'fantastic' – and they respond straightaway. But the next day they seem to have forgotten all about it. This tells us something about how people experience things, but it doesn't generate any exchange of information.'

DON'T TAKE IT TOO SERIOUSLY

According to Erik den Hoedt, director of the Public Communications Service of the Dutch Ministry of General Affairs, experts



CEES VAN WOERKUM,
Professor of Communication Strategies
at Wageningen University

'A scientist needs to know what is being said about his results'

such as Marcel Dicke should not take such comments so seriously. Social media provide a place for people to let off steam, just like a local pub.

'The social media are a digital pub, where the world's problems are solved forever over a few beers. Do people really think it is as simple as that? Of course not. Global issues have a social function in this context. In the pub, it's the emotions that matter, and the feeling that 'we understand each other.'

Nevertheless, Den Hoedt does think government and scientists should make themselves heard online. 'But if your message is controversial, don't be surprised at the vehemence of the responses. Let people meet their social need for connection and mutual understanding.'

Dicke has had bad experiences of emotions expressed online. On the website of Wageningen University magazine Resource, twenty keen gardeners got very cross because he cast doubt on the seriousness of a new outbreak of destructive weevils. They called Dicke a 'show-off', and accused him of smear tactics and looking out for his own interests or business ones. Dicke has withdrawn from the online discussion on the weevils, but he is not avoiding the discussion completely. 'If a couple of gardeners show up at my doorstep, I will be happy to talk to them. I know how distressing it is if the leaves on your plants are being devoured. But whether it is a country-wide plague in the Netherlands is something I would have to investigate first. I would very much like to explain that to them face to face.'

SHOUTING MATCH

Dutch science journalist Hans van Maanen agrees with Dicke. 'People have always gossiped, but now they do so in public. There



ERIK DEN HOEDT,
Director of Public and Communication
Services at the Dutch ministry of General
Affairs

'The social media are digital pubs. Global issues have a social function'

is nothing of interest in it for the experts. They are better off phoning a journalist and telling him that the truth is very different from the claims being made. That will be a lot more effective than joining in the shouting match.'

Van Maanen stresses that old wives' tales are nothing new. He points to the fluoride debate in the nineteen sixties and seventies. 'A couple of anthroposophists from the Dutch town of 't Gooi launched a protest against government plans to add fluoride to drinking water. It was no holds barred then, too: they claimed that there had already been deaths from cancer in Germany caused by fluoride supplementation. That debate went on for eight years, but it was essentially no different to what happens now.'

'So even forty years ago, people were able

‘The expert is better off phoning a journalist than joining in the shouting match’

to club together – they didn’t need the social media to be able to do that. When people feel uneasy, they find ways to get in touch with others. The social media may have speeded up this process, but I don’t think it works any differently to the way it worked in the past. Citizens react when the government is pushy: wanting to make

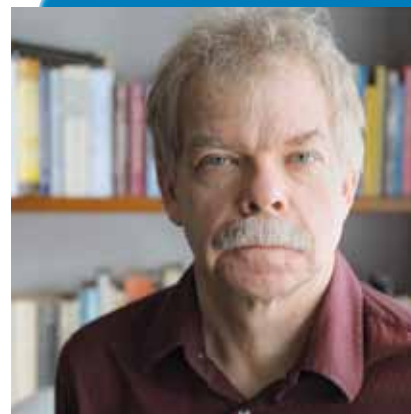
them drink fluoride, or give them an injection. Experts go on believing in the power of scientific evidence to convince people. And never the twain shall meet.’

SELLING THEIR MESSAGE

According to communications professor Van Woerkum, it is possible for scientists and the general public to come closer together, but only if the experts learn to take people seriously. ‘When it comes to nutrition and health, there are countless topics that are surrounded by controversy. Scientists need to get skilled at handling questions on these subjects. You can’t get away with just saying: that’s what you think, but I know better.’

But that is exactly what experts do, warns Van Maanen: ‘Many experts are arrogant. Secretly, they rather look down on ordinary people. People sense that and they develop an aversion to authority. If three experts have already behaved patronizingly when you enter the debate, you are at a huge disadvantage. It is already clear that you don’t stand a chance of winning.’

For these reasons, Entomology professor Dicke does not see social media as a suitable setting for a debate. ‘You shouldn’t solve a difference of opinion via the social media. It’s the same as when you are angry: you shouldn’t send an email because that’s



HANS VAN MAANEN,
Science journalist

‘People have always gossiped, but now they do so in public. There is nothing of interest in it to the experts’

a bad medium for emotions.’ He finds social media particularly useful for ‘evangelism’. ‘You can sell science on them. Social media – Twitter certainly – have to work through one-liners. I think the biggest use of social media is for advertising. How else can you explain the presence of so many politicians on Twitter? They want to sell their message.

So is it mainly one-way traffic? Den Hoedt, from the government communications service, thinks the social media have the potential to be more than that. He notices that citizens are starting to talk back at last. ‘As government, we assumed for a long time that our advice and instructions were gratefully received. We didn’t get much feedback. How different that is in the digital era of social media, web forums and blogs. The citizen is talking back alright, and everyone is listening in.’ ■



MARCEL DICKE,
Professor of Entomology
at Wageningen University

‘I deliberately stay away from the social media. People just use them to get things off their chests’



Daan Kromhout: 'Just keep on eating fish.'

25 YEARS OF STUDYING FISH FATTY ACIDS

‘Cardiology has overtaken us’

Daan Kromhout attracted international publicity with a major study of the effects of fish fatty acids on heart disease. The results were somewhat disappointing. Yet ‘the underlying conclusion is that heart patients in the Netherlands in the past ten years have had very good treatment.’

TEKST ASTRID SMIT PHOTOGRAPHY ROGIER VELDMAN

Daan Kromhout, professor of Public Health Research at Wageningen University (part of Wageningen UR), was the focus of much attention at the end of August, when he announced the long-awaited results of the famous Alpha Omega Trial in *The New England Journal of Medicine*. It was hoped that this large-scale double-blind research on the effects of fish fatty acids in five thousand heart patients would provide definitive proof of the beneficial effects of omega 3 fatty acids from fish on cardiovascular disease. Sadly, that proof was not forthcoming. At least, not across the board. It turned out that only heart patients who also have diabetes benefit from the fish fatty acids. A pity for the research, but not a bad outcome in itself, says Professor Kromhout. ‘Cardiologists have been treating heart patients so well in the last ten years that we can no longer measure any possible effects of omega 3 fatty acids.’

Anyone who talks to Kromhout’s colleagues, hears positive opinions. What emerges is an image of someone who can inspire colleagues and students tremendously, who discovers gold mines where other only see a mess, who works with the utmost dedication on one subject for years and only gives up when there is not a glimmer of hope left. ‘I recognize the last bit of that’,

says Kromhout in his office at the Biotechnion building. ‘Once I’m grabbed by something, I go for it.’ Kromhout has been working on the relation between fish and cardiovascular disease for more than 25 years. It was at the university of Leiden that he first discovered the added value of fish. As a researcher and later as professor of Nutrition and Epidemiology, he devoted his attention to the Zutphen study, a research in which the eating habits and health of around 900 middle-aged men were monitored for years. ‘With this database I could make my dream come true: researching the link between nutrition and health.’

HALF-JOKING

For a colleague’s farewell symposium, Kromhout looked, half-jokingly, to see whether he could find a link between fish consumption and heart disease in the Zutphen men. And sure enough, those who ate fish once a week lowered their chances of a heart attack by as much as fifty percent compared to the men who never ate fish. ‘A beautiful result’, says Kromhout, who has lost none of his enthusiasm. ‘We first offered the article to *The Lancet*, but they didn’t want it. *The New England Journal of Medicine* did, and it was published in 1985. It was an immediate hit.’ >

OMEGA 3 FATTY ACIDS FROM FISH

It is not entirely clear why omega 3 fatty acids from fish can be health-promoting. There is a hypothesis though. Daan Kromhout thinks that two mechanisms play a role. With low consumption levels – from one to twenty grams of fatty fish per day – fish fatty acids lower the risk of a serious heart rhythm disturbance. They are absorbed into the membrane of the heart cells, promoting flexibility. The conduction of electrical impulses is improved by this and the chances of developing a serious heart rhythm disturbance – a frequent cause of sudden death – go down. With high consumption levels – one to four hundred grams of fatty fish per day – the omega 3 fatty acids reduce the build-up of fatty deposits in the arteries and cut the risk of thrombosis. The fish fatty acids increase the stability of the plaque that builds up on the artery walls, so that it breaks up less easily. And if this does happen, a blood clot is likely to form.



Four years later, British epidemiologists confirmed the link in an intervention study. Heart patients who were advised to eat fatty fish at least twice a week had a thirty percent smaller risk of dying of a heart attack in the next two years. A similar link was found in the Seven Countries Study, of which the Zutphen study was a part. In Finland, the Netherlands and Italy, the consumption of fatty fish went together with a lower risk of fatal heart disease.

A GLASS OF WINE

But these are all correlations, not hard evidence. In the British study, the patients knew which group they were in – the one advised to eat fish or the other one. That could have influenced the result. It could be that someone who is advised to eat fish adopts some other new and healthier behaviour as well. And this could mask the effect of the fatty fish. Moreover, the doctors knew too much and could therefore have misinterpreted the medical results. And in the Seven Countries Study, it could have been another factor that caused the lower death rate from heart disease in Finland, the Netherlands and Italy. The glass of white wine that many people enjoy with their fish, for example.

To rule out these confounding factors, Kromhout decided to conduct the Alpha Omega Trial: a double-blind nutritional intervention study in which heart patients did not know which group they were in. He asked Unilever to develop four margarines: one with fish fatty acids (both EPA and DHA), one with alpha-linolenic acid (ALA), a precursor of the omega 3 fatty acids, one with

all three – EPA, DHA and ALA, and one with none of the fatty acids: the placebo. These margarines were given for a period of forty months to almost five thousand patients who had had one heart attack. 'It is the first double-blind nutritional intervention study on omega 3 fatty acids with what we call hard endpoints', says Kromhout. 'We recorded exactly when people went into hospital, what sort of treatment they received and when they died.' The study cost seven million euros, an amount that was only raised after some hard lobbying and thanks to the Dutch heart foundation, the American National Institute of Health, and Unilever, who agreed to deliver the margarine to the patients' doors for three years free of charge.

NO PROOF

The ten-year project came to an end this year. The blow came when Kromhout looked at the data from the trial at the beginning of April: the main hypothesis – that omega 3 fatty acids from fish lower the risk of cardiovascular disease – had not been proven. There seemed to be no difference between the groups eating the different margarines. 'I was a bit disappointed, yes', laughs Kromhout now. 'Later I came to see it differently. Because after all, the underlying conclusion is very positive. Cardiologists have been giving heart patients such good treatment over the past ten years that we can no longer measure the possible effects of omega 3 fatty acids. Cardiology has overtaken us.'

On the basis of intervention research projects in the nineteen nineties – in which some of the participants

who had had one heart attack were advised to eat fatty fish twice a week – he had reckoned on 360 deaths from heart attacks in the Alpha Omega Trial. But there were only 138. Kromhout: ‘The risk of death from a heart attack went down from the expected 80 percent to 30 percent.’ The reason: Dutch cardiologists have started prescribing more medicines. Ninety percent of the heart patients were taking blood thinners, 85 percent were taking statins – to lower cholesterol – and 98 percent were taking anti-thrombosis drugs such as aspirin. By contrast, the heart patients in the British study in the nineteen eighties were on hardly any medicines. In 1994, research on statins showed how effective these medicines could be in reducing cholesterol. ‘When our research started, cardiologists were starting to prescribe statins a lot. Our trial was actually conducted ten years too late. But, well, we hadn’t raised the funding until then.’

INTERESTING CORRELATIONS

Although the main hypothesis of the Alpha Omega Trial was not proven, some interesting correlations did come out of it. Diabetics did benefit from the omega 3 fatty acids: in the group eating fish fatty acids, the death rate from heart attacks dropped by fifty percent. And in those taking both the fish fatty acids and alpha-linolenic acid, the number of severe heart rhythm disorders also dropped by fifty percent. However, no hard conclusions can be drawn from these subgroup analyses. ‘In Oxford there is now a big research being done on the relation

‘If you can’t entirely prove your hypothesis, that is just bad luck’

between fish fatty acids and cardiovascular disease in diabetes patients. If those researchers confirm our results, we can still raise the flag, as far as I’m concerned.’

The Alpha Omega Trial is not quite the hoped-for glorious conclusion to 25 years of research on fish fatty acids, Kromhout admits. But he is by no means a disappointed researcher either. ‘I am far too optimistic for that. If you are a true researcher, you test hypotheses you believe in. And if you cannot entirely prove them, that’s just bad luck.’ Kromhout is taking a break from omega 3 fatty acids from fish. For the time being there are no more possibilities for proving that these fatty acids can have a beneficial effect. Other intervention studies are either too expensive or not feasible.

So what should an ordinary mortal do about the advice to eat fish twice a week? Just keep on following it, says Kromhout. The evidence from epidemiological studies that fatty fish can prevent cardiovascular disease is still very strong. ‘There’s a lot more in fish besides fatty acids, too. There are other healthy substances such as vitamin D and selenium, so perhaps it’s about the total package.’ Another glimmer of hope. ■

DAAN KROMHOUT (60)

Daan Kromhout is professor of Public Health Research at Wageningen University, deputy chairperson of the Health Council in The Hague and part-time professor at the University of Minnesota in Minneapolis in the US. He is also professor at the Royal Dutch Academy of Sciences in Amsterdam. Kromhout has published more than 330 scientific articles, 200 other publications and two books about the Seven Countries Study. His research focuses on cardiovascular diseases, lifestyle, nutrition and healthy aging.

Kromhout’s career began in Wageningen, where he studied human nutrition and obtained his PhD. He then moved to the University of Leiden, where he was professor of Nutrition and Epidemiology from 1984 to 1994. After four years he was also appointed to the National Institute of Public Health and Environment (RIVM). In 1994, Kromhout moved from Leiden to Wageningen. He left the RIVM in 2005, when he was asked to help chair the Health Council. Since then he has combined this role with his job as professor at Wageningen.



MAKING BIODIESEL FROM GREEN WASTE

‘That is why you do it’



Kirsten Steinbusch with her testing apparatus in the lab.

During her doctoral research Kirsten Steinbusch stumbled upon a new method of making biodiesel and other useful chemicals from green waste. She set up a company to develop the process further, with support from Wageningen UR.

TEXT HANS WOLKERS PHOTOGRAPHY SAM RENTMEESTER

It was with a little bottle like this that I discovered my method of making biofuel from green waste', says environmental technology researcher Kirsten Steinbusch, holding up a simple glass bottle with a tube in it. She routinely checks the connections in some complex-looking experimental apparatus, a maze of tubes, humming pumps and glass test tubes. 'Look, in these little yellow sponges are the bacteria that cause the chemical conversions', she explains enthusiastically.

Nowadays, the lab work is just one of Steinbusch's activities. She spends two days a week networking and talking to potential investors in her company Waste2Chemical, a business that focuses on further developing the production method for biodiesel that she invented. So far this is unpaid work. She also works as a postdoc researcher in the Environmental Technology department at Wageningen University, part of Wageningen UR.

FERMENTING SLUSH

Steinbusch laid the foundation for the new enterprise during her doctoral research at Environmental Technology. After getting her PhD she bought back the patent for the production of useful chemicals from organic waste from the university and brought it under her own company. Now she and her business partner Niels van Stralen are working on developing the discovery. Steinbusch discovered the new production method by chance. She was working with micro-organisms which convert sugars, proteins and fats in green waste into smaller molecules. Under the right conditions – without oxygen – you end up with mainly

volatile fatty acids, hydrogen and CO₂. Steinbusch initially concentrated on the conversion of the volatile fatty acids into alcohol, but that did not get her very far. 'We found less alcohol than there is in a malt beer', she says. Steinbusch had a hunch that the alcohol that was formed was immediately reconverted by other micro-organisms. So a student was put to work to investigate that further. 'He took rather a long time over his report and the little bottle of fermenting slush just stood there. When we came to take measurements some months later, we suddenly found relatively large quantities of the larger fatty acids such as caproate and caprylate.' This was a great discovery, because these substances can serve as the basis for polymers, paint, solvents and biofuels. 'I went crazy. That is what you do it all for.'

The formation of these valuable fatty acids has massive advantages. The raw material, green waste, is relatively cheap and the end product is easier to harvest than bio-alcohol. What is more, Steinbusch's method does not make any demands on agricultural land, so there is no competition with food production or rainforest.

TECHNIQUE WAS NEGLECTED

The company that funded her research did not see much future in the new production method, but Steinbusch was sufficiently motivated to do something with her discovery anyway. 'You have a valuable technology here, and a big company says 'We are not going to do anything with it.' I thought that was a pity. And anyway, I was very curious to find out whether the method also works on a large scale. And it is very nice to watch

your own child grow up.' Her first step was to follow a few courses on entrepreneurship in the Netherlands and the US. After launching Waste2Chemical, Steinbusch was coached by StartLife, a Wageningen UR foundation that supports young entrepreneurs with loans, networking and advice. Step by step, Steinbusch worked together with Wageningen UR on improving the new procedure. She studied how to optimize several aspects of the process, such as the conversion speed. 'At the moment we are also doing tests for potential clients. In one of these, we are looking at whether potato peelings are a suitable raw material for making caproate', she explains. One of the company's targets is to set up a larger trial plant in 2011. 'We are looking for extra funding for that. Still a long way to go? Well, I like a challenge. I am enormously driven to make a success of this.' ■

KIRSTEN STEINBUSCH (1980)

- Graduated in Environmental Hygiene from Wageningen University, part of Wageningen UR, 2004
- Patented her process for converting organic waste into valuable chemicals, 2007
- Entrepreneurial boot camp: University of Wisconsin, 2008 and Wageningen University, 2009
- PhD in Environmental Technology from Wageningen University, 2010
- Launch of Waste2Chemical company, 2010



CLIMATE ADAPTATION IN ETHIOPIA

Living with drought

In the climate change hotspot of Ethiopia, increasingly frequent droughts affect nomads more than anyone. They have no choice but to adapt their lifestyle. Some pastoralists have started growing crops, while others are keeping camels. Wageningen UR is working on climate adaptation in a land full of traditions.

TEXT KARIN ANEMA **PHOTOGRAPHY** LINEAIR & KARIN ANEMA **ILLUSTRATION** SCHWANDT INFOGRAPHIC

The village chief at Logrian in southern Ethiopia greets me with a large bowl of camel's milk. Welcome refreshment in this bone-dry region, where nomadic pastoralists of the Hamer ethnic group eke out a subsistence. Rivers have dried up, and there is not a blade of grass in sight. The young men have migrated in search of the last scraps of vegetation for their livestock. The elderly, women and children are left behind in the villages. Dust clouds billow in the air. The chief tells me about the steps the people here have taken to try to cope better with the drought. Introducing Arabian camels, for example. Traditionally, the Hamer only keep cows and goats. When development organization Farm Africa brought them camels from the south-eastern region of Borena a few years ago, they responded warily. 'We had to get used to the idea', says the chief. 'When the first well was sunk at that time, we thought there was something satanic about it. There were similar feelings about the introduction of camels. Now we see them as a real solution. One camel produces as much milk as three cows. You are better off with camels than with children. They eat thorny plants rather than grass, they can go two weeks without water and they don't need to be herded – they come back to the village to be milked in the evening of their own accord.'

EROSION AND OVERPOPULATION

The lives of these nomadic pastoralists depend on their livestock, making them extra vulnerable to the effects of climate change. Other factors making their lives increasingly difficult are erosion, overpopulation, and the takeover of fertile land by private investors and the government for the large-scale cultivation of jatropha, cotton and sugar cane. Land scarcity and drought are aggravating local conflicts. Any area where there is still a little grass growing is quickly invaded by hundreds of thousands of cattle from the neighbouring districts.

Traditionally, nomadic pastoralists have been able to cope with unpredictable factors such as drought. But now that it is increasingly frequent, it is beyond their resources. Many development organizations have therefore adopted approaches based on climate adaptation. One of the best-known of these is the Drought Cycle Management (DCM) programme of Dutch development organization Cordaid. Wageningen UR is very active in Ethiopia too. One of its institutes, Alterra, runs an annual course on climate adaptation in agriculture for researchers and civil servants, in collaboration with the Horn of Africa Regional Environment Centre and Network (HoAREC/N). And in 2009 a partnership for research and knowledge transfer was formed between Wageningen UR, Ethiopian universities and the Ethiopian Institute for Agricultural Research (ELAR). The role of Wageningen UR is mainly to train researchers and government staff on topics related to horticulture, oil crops, seeds, natural resources and soil fertility.

LAND OF TRADITIONS

By taking preventive action, Ethiopia hopes to be prepared for drought so that it claims fewer victims and less emergency aid is needed. Such measures are stimulated in numerous development projects and range from rainwater harvesting to the introduction of drought-resistant animals. The aim of the development organizations is to up-scale effective projects so they are no longer isolated successes. But in view of the great cultural differences between ethnic groups, introducing change and learning from each other's experience are not easy tasks: Ethiopia is a land of traditions. What is more, some changes, such as the introduction of animals from another region, carry an element of risk. Many of the first camels to be introduced, for instance, died of disease. Seated on a cowhide, the chief explains: 'We have now learned to keep a closer eye on the health of our animals, so



as to make them more resistant to drought.' The Hamer followed veterinary courses run by Farm Africa, to learn how to recognize and treat diseases. And now their camels are thriving. Nomads who did not dare take on these animals initially are now regretting it. A spokesperson for Farm Africa: 'Now that the experiment is a success, it is important to draw other communities into it as well.' The Borena people from south-eastern Ethiopia have a long history of herding camels. But even they are taking some precautions against drought. One of these is to improve their traditional wells. Traditionally, they have hauled water >



In an effort to cope with drought, Ethiopian nomads are growing vegetables (left), keeping camels for their milk (above right) and renovating their singing wells (below right).



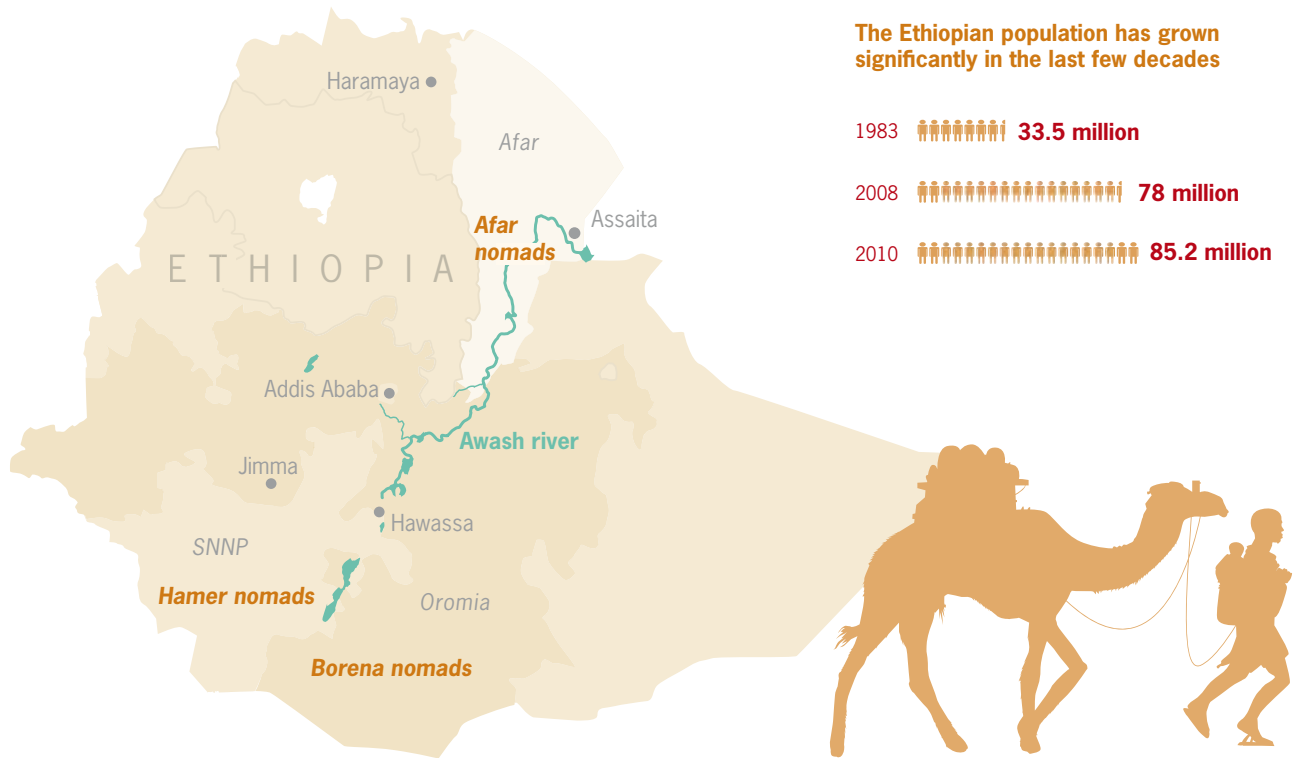
CLIMATE CHANGE AND ADAPTATION

In February 2011, the annual course on climate adaptation in agriculture will be given for the third time, run jointly by Alterra and the Centre for Development Innovation (CDI), both part of Wageningen UR, together with the Horn of Africa Regional Environmental Centre and Network (HoA-REC/N) in Addis Ababa. This training programme for researchers and staff of government and non-government organizations from East African countries is supported with funding from the Dutch NUFFIC

Fellowship Programme. The HoA-REN is a network of knowledge organizations from six countries in the Horn of Africa in the fields of environmental conservation, sustainable development and capacity development, with a strong focus on climate change. Professor Araya Asfaw of the University of Addis Ababa is director of HoA-REC/N and regional coordinator of the climate adaptation course. 'Local engineers are often astonished when the implementation of their projects is a total failure', he asserts. 'Adjusting food

supply to climate change demands a multi-sectoral programme for community development. We have to move towards 'climate-smart' agriculture. The next step is to develop projects, especially among the nomads who are focusing more and more on agriculture. Scientists and development organizations should collaborate and exchange experiences. We want to monitor practices and then upscale the good projects. That kind of upscaling is the only way to adapt to climate change.'

NOMADS IN ETHIOPIA



out of what are known as ‘singing wells’- very deep wells dug by their ancestors. In times of drought, people go down into the wells and pass buckets of water up ladders, singing as they work. Thousands of cows descend the slope to a midway platform, to drink water there. Their trampling hooves and heavy bodies have caused many wells to collapse and fall into disuse. Borena nomad Kerala takes me along to a restored well. With help from a development organization, the Borena have reduced the gradient of the slope and installed concrete drinking troughs on the platform. Cows can descend in two rows now. ‘We have built a tank for our drinking water’, says Kerala. He points out a deep trough in which rainwater is harvested. Once the dust has settled, the water drains into a tank which is surrounded by a thorny fence to keep cattle out and prevent the water getting dirty. Women used to walk 18 kilometres twice a day to the nearest

traditional well. Now they have drinking water just around the corner. Every household has its ration. ‘But someone who has just had a baby or who is sick gets more’, says a village elder.

FROM PASTORALIST TO FARMER

I travel on to the north-east of Ethiopia. Huge dust clouds loom on the horizon: everywhere, Afar pastoralists are on the move with their herds. In the shade of a banana tree in a small oasis, Omar is carving a plough out of wood. Until recently, he eked out an uncertain livelihood as a nomadic pastoralist. Through drought, conflicts and

cattle thefts, he lost many goats, cows and camels. Thanks to an irrigation project funded by a development organization, he learned to irrigate fields and grow crops that were new to him. ‘My life has improved a lot; my family has enough to eat and we can sell our surplus. And we have shade. I have got rid of most of my cattle; I have only kept a few goats and a couple of camels, which I can use to plough my fields. I have swapped my gun – which I always used to carry around because of the conflicts over grazing rights – for a spade.’ Omar’s wife is happy with the switch from the nomadic life to farming too. ‘We used to follow our

‘If a cow dies, at least we still have the crops’

husbands and the cattle. We used to have to walk hours to fetch water and were always having to take down the hut and build it up again. Now we have learned to prepare vegetables, which were always taboo because we saw them as cattle fodder. Formerly, if a cow died, it was a disaster: we lived on milk. If an animal dies now, we still have the crops. As long as the river brings enough water, we don't have any problems.' Proudly, Omar and his wife give me a few maize cobs and a bottle of camel's milk for the road.

TRADITIONAL LAWS

In 2003, development organization Support for Sustainable Development (SSD) set up camp among the Afar nomads. When the development workers proposed jointly installing irrigation canals for growing cattle fodder and vegetables, the nomads were suspicious. Pastoralism was part of their identity: they did not see much future in becoming part-time farmers. Field worker Tesfaye says: 'In view of the powerful position of the clan leaders, we started by talking to them. Because of the great losses they had suffered on account of the drought, they capitulated. Then the clan leaders convinced the villagers. The crucial thing was that we adopted their traditional rules and regulations as the starting point. So the irrigation schemes and their maintenance are based on their traditional legal system. Anyone who contravenes that is punished according to the Afar law', says Tesfaye. 'None of the nomads knew anything about agriculture. We dug the canals and built a dam together with them. We sowed fast-growing crops such as cabbage and maize and planted a garden for training and also as a seed nursery. That way farmers can always get hold of seeds.' Now the Afar nomads have built huts near their fields and have become semi-sedentary. The young men still go off with the cattle, but the adult men and women stay behind to till the fields, growing cattle fod-

der, vegetables and fruit. The farmers aim at both good harvests and healthy herds. The irrigation works look good: and the riverine plants they have planted filter the sludge from the water. Bridges have been built over the canals so that the animals do not trample their banks, and multifunctional trees have been planted, such as *Moringa oleifera*, which fixes nitrates as well as producing oil and cattle fodder. The irrigation schemes are maintained by water committees.

PEOPLE AND CATTLE DROWNED

But then, in September this year, large tracts of the area where the Afar live – between the villages of Assaita and Mile – were flooded. I find Omar a few dozen kilometres away on the higher ground of the hills. He is making an enclosure for his cattle and his wife is weaving new sleeping mats. 'There are tens of thousands of refugees; about thirty people and 6,000 livestock animals have been drowned. The water came six metres higher than usual, our huts and fields disappeared, and almost every bridge in Afar land has been swept away.' The flood took everyone by surprise. 'If a lot of rainwater comes down, it is usually from the Awash River',

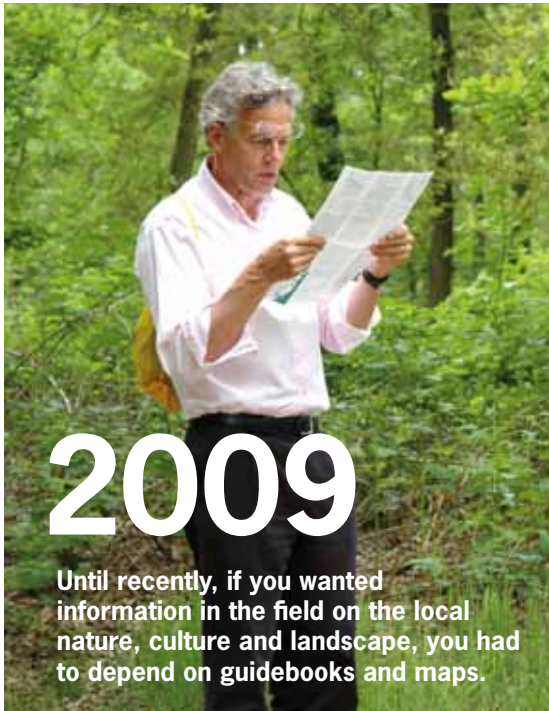
says a village elder. 'We were on the alert for that. But quite unexpectedly, it came from the other direction, from the Mile River. We have never had such a big flood before.'

An engineer from Addis Ababa explains: 'Something like this is caused by climate change. We are going to renovate the dam; we've got donors. The Afar are used to moving home temporarily: they will come back.' The cause of the flood is the extremely high rainfall, he thinks. But someone else mutters: 'It is not just climate change. The government's massive irrigation project for the sugar factory downstream is part of the problem too: the accumulated water overflowed at the dam.' A third says out loud: 'No one is allowed to talk about it. The government thought that it would be alright for eight or nine years, and did not imagine the dam would give way so fast. They are planning to move the local population.' The Afar do not give up easily: 'We would really prefer to carry on with farming; we can remember all too well that neither we nor our forebears got much out of our nomadic way of life. In a short time, horticulture has brought us many benefits. We hope that our irrigation system will soon be repaired.' ■

WAGENINGEN UR AND ETHIOPIA

In June 2009, the Ethiopia-Wageningen UR collaboration partnership Collaboration on Science for Impact got off the ground. In this programme, Wageningen UR is working with Ethiopian partners on knowledge exchange and research in the area of agriculture and food security. Ethiopian participants are the Ethiopian Institute for Agricultural Research (EIAR) and the Universities of Addis Ababa, Jimma, Hawassa, Mekelle and Haramaya. From the Wageningen UR side, several parties are involved: Plant Research

International, the Centre for Development Innovation, agricultural economics institute LEI, Alterra and the Climate Change Group. They focus mainly on training researchers and government staff in projects on horticulture, oil crops, seed production, natural resources and soil fertility. Wageningen alumnus Eyasu Elias (PhD in soil fertility, 1997) has been the Wageningen UR liaison officer in Addis Ababa since December 2009, and coordinates the various projects carried out by this partnership. *Info: eyasu.elias@wur.nl*



2009

Until recently, if you wanted information in the field on the local nature, culture and landscape, you had to depend on guidebooks and maps.



2010

With the arrival of smartphones with GPS, compasses and direction sensors, you only need the right software to access information from the internet on the spot.

Smartphone as guidebook

Where nature lovers used to have to lug around flora guides, maps and tourist guidebooks, soon all you will need is the latest mobile phone. Alterra has developed an application which provides all kinds of information on the spot, and lets visitors have their say on nature policy right there and then.

TEXT EVELINE THOENES PICTURES WAGENINGEN UR WITH GUY ACKERMANS

Imagine the scene: walking through the woods you stumble upon an old watermill. On the screen of your Smartphone you see a moving icon that tells you there is a film available. If you click on it, a man appears on the screen and tells you all about the history and technical features of the mill. Another couple of taps on your touch screen and a vegetation inventory for the area appears. You can click on each plant species for more information and photos. A map shows you the borders of the nature area you are in, the sign-posted walks and the locations of the different types of habitat. You look up the online survey and type in straightaway that you do think it would be a good idea

to place a bench at this spot.

Sound like a distant dream? 'It just has to be published online, but essentially the application is ready', says Anne Schmidt of the Centre for Geo-information (CGI) at Alterra, part of Wageningen UR. She is project leader of the team that has been contracted by the Dutch Ministry of Agriculture, Nature and Food Quality to develop this augmented reality application for the Natura 2000 protected nature areas. Schmidt: 'The ministry asks us to research the possibilities for citizen participation offered by the new technologies. With more and more people owning a Smartphone, we opted for these virtual layers of information which enable you to zoom



in on place-related background information.’ One of the aims of Natura 2000 – a European network of protected nature areas – is to give people the chance to experience nature for themselves, Schmidt explains. ‘Stakeholders such as farmers and local residents are also allowed to have their say on policy matters. Usually that is done by holding consultation evenings. The mobile phone offers scope for letting stakeholders say their bit in new ways. This sort of ‘e-participation’ has two sides to it: it is a question of obtaining information – where are the areas, what is the policy, what is allowed? And also of inventorying knowledge and ideas contributed by citizens, in order to improve policy.’

VIRTUAL CAMPUS

Schmidt’s colleague Jappe Franke, a biologist and software developer, was involved in the technical implementation. ‘In the past year telephones have come onto the market that have a GPS, a compass and a direction sensor which can get information about the area from the internet and alert users to it using icons that pop up when you point the phone camera at the object concerned’, he explains. ‘A telephone like that ‘knows’ to within about five metres exactly where it is and in which direction it is being pointed.’

Franke describes how last year, as soon as the necessary software was available, the CGI created a ‘virtual cam-

pus’ to test the potential of this kind of ‘augmented reality’. He holds up his telephone at the window. On its screen, the empty space on the Wageningen campus between the Forum and the Atlas building is suddenly filled with Orion, the planned building of which the first brick has yet to be laid. ‘If you walk around the site, you can literally see the building from all sides because the image you get on your phone moves with you. In this layer there is also background information about other buildings, flora and fauna, and soil types.’ The team also developed a walk this year, which they called ‘Peace, liberation and freedom’. The walk goes west from Wageningen to the Grebbeberg, passing thirty locations associated with events in the Second World War.

‘Our application is of interest, not just to policymakers and visitors to nature reserves, but also potentially for scientific research, for example for the Nature Calendar in which the effects of climate changes on recurrent annual phenomena are monitored’, says Schmidt. ‘You could add an option that would enable users to report their first crocus of the spring, or a plague of caterpillars.’

But Schmidt does see one disadvantage to this promising application of augmented reality. ‘If you have this application on your Smartphone it is tempting just to keep gazing at your screen, whereas to experience nature you should mainly be looking around you.’ ■

FOREST AND NATURE MANAGEMENT ONE YEAR ON

Working on nature in South Africa and Panama

One year after graduating, Dieter van den Broeck (31) is a knowledge broker in the Baviaanskloof in South Africa. Meanwhile, his classmate Marco Visser (27) is generating new knowledge on Barro Colorado Island in Panama.

TEXT RIK NIJLAND PHOTOGRAPHY HARMEN DE JONG AND TIM DE WIT

Both Forest and Nature Management graduates have traces of an accent that goes back to their life before

Wageningen. Dieter speaks with a Belgian lilt, having grown up in Merksem, a suburb of Antwerp. And Marco's clipped accent dates from his Afrikaans-speaking childhood in South Africa. 'I was 12 when we came to the Netherlands. After an attempted carjacking, my father decided it was too dangerous in the Transvaal.'

Dieter's career has been even more mobile. He left home at 15 to pursue ice hockey in the Czech republic, where he earned a professional contract as keeper with two Dutch teams in succession. But as well as playing ice hockey, he did an applied sciences degree in Environmental Studies in Delft, the Netherlands. 'Two friends of mine made plans to go on to further studies in Wageningen. I thought that sounded a pretty good idea, and nature management interested me the most.'

He squirms at the title ('it sounds so arrogant'), but Van den Broeck is director of Living Lands, which functions as the secre-

tariat for the PRESENCE Learning network. PRESENCE stands for Participatory Restoration of Ecosystem Services & Natural Capital, Eastern Cape. Quite a mouthful for support for nature restoration in the Baviaanskloof (Baboon Gorge). 'We work with farmers, government services and sciences to identify the bottlenecks in land use, and gain knowledge and explore ways of tackling them.'

When we started three years ago, not a single landowner was interested in nature conservation, but after three years of talking, providing information and doing research, farmers are approaching us themselves.'

YOU CAN DO SO MUCH MORE HERE

Van den Broeck ended up in South Africa for an internship, and then went on to develop a vegetation monitoring system. 'I was invited to come and look at a restoration project in Baviaanskloof called Working for Water: a government programme for poverty alleviation and nature restoration.'

Afterwards, over a beer on a café terrace we said to each other, 'so much more could be

done here'. The area, in the Eastern Cape, is almost as big as the province of Utrecht and it is on the World Heritage list, but the distinctive vegetation and agriculture are both suffering here. Goats are stripping the hillsides, so that rainwater no longer seeps into the soils but carves gulleys as it streams into the rivers, Van den Broeck explains. To prevent the fields from flooding, channels have been dug on the river plain. Over the last few decades they have deepened, causing the water table to fall. To solve these problems, locals and experts told Van den Broeck, more research, money and people would be needed. 'Then a group of five students put our heads together in Wageningen, where there is the knowledge people need here. With the support of environmental scientists Dolf de Groot and Michael Schaepman, we got funding from INREF, a Wageningen UR fund, to organize a workshop with all those involved. We wanted to know what the issues were and whether we could help in any way.' The workshop generated a number of ideas, and PRESENCE was launched by the >

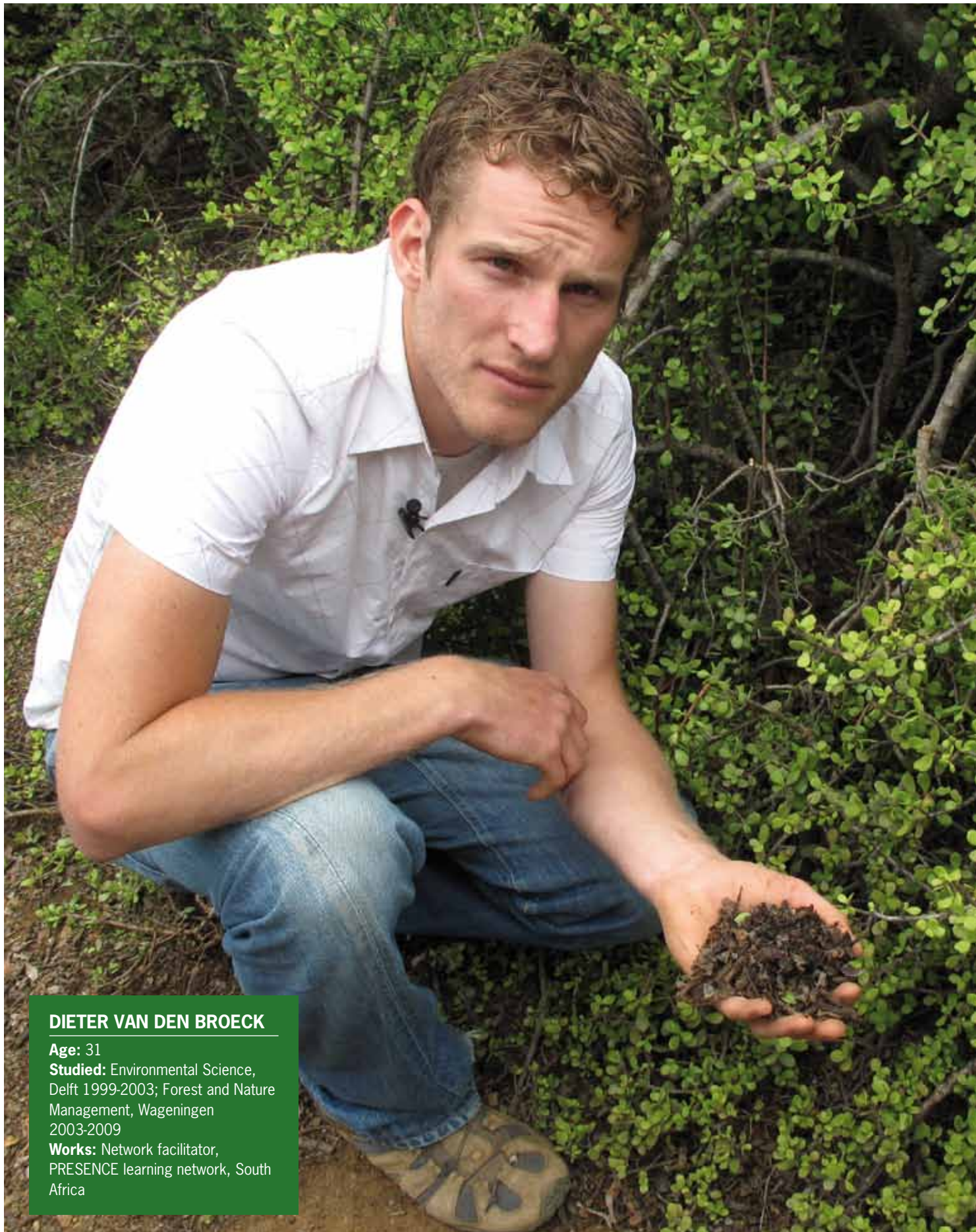


MARCO VISSER

Age: 27

Studied: Tropical Forestry, Velp
2002-2007; Forest and Nature
Management, Wageningen
2007-2009

Works: Junior researcher,
Smithsonian Tropical Research
Institute/ Radboud University



DIETER VAN DEN BROECK

Age: 31

Studied: Environmental Science,
Delft 1999-2003; Forest and Nature
Management, Wageningen
2003-2009

Works: Network facilitator,
PRESENCE learning network, South
Africa

five Wageningen students, of whom three are still involved. ‘We don’t initiate any restoration projects ourselves, but our learning network contributes supplementary research. We find out what issues are emerging from existing projects run by the South African government and NGOs, how they could be addressed and how we can bring science and stakeholders together.’

This brought in a lot of new knowledge. Over the past three years, 35 MSc students have conducted research in the Baviaanskloof, more than half of them from Wageningen. Next year nine PhD researchers are expected: five from Wageningen, two from South Africa and two from the US. ‘For this work it really helps that I have done research myself, so that I know the scientific methods and the jargon. But I don’t see myself going back into nature research. I am thinking about a PhD on social change processes, though.’

BIZARRE REPRODUCTION

Marco Visser is sticking to the subject he pursued at Wageningen, for the time being. He is passionate about science – ‘I want to carry on with it after my PhD too’ – and particularly about mathematical ecology and modelling ecosystems in tropical forests. The seeds of this interest were sown when he was a BSc student in the Malaysian rainforest. ‘The trees there have a bizarre reproduction pattern. Nothing happens for years and then suddenly they have a bumper seed year. If you look into it, you end up getting into population dynamics and evolutionary issues. I was so fascinated by it all that I wanted to do my Master’s in the tropics too.’

And so Visser ended up at Barro Colorado, an island in the Panama Canal that is managed by the Smithsonian Tropical Research Institute. ‘You live there in the rainforest together with dozens of other researchers, ranging from really hands-on types to theoreticians who solve mathematical problems at the breakfast table. It is a sort of pressure

cooker for science.’

In this researchers’ paradise, Visser met Hans de Kroon, from the Experimental Plant Ecology department at the Radboud University of Nijmegen, the Netherlands. ‘Together we came to the conclusion that there was tremendous scope for population ecology research here. The plot I was studying on Barro Colorado is 50 hectares in size. It is the best-researched bit of forest on the planet. Ever since 1980, before I was born, they have been gathering data there on the 300,000 trees of 324 different species that grow there.’

REMOTE CONTROL PLANES

Visser hopes to use this data to unscramble an old biologists’ conundrum: how can so many different tree species go on co-existing for so long? ‘At population level, this has never been studied properly. With the large amounts of data available to us, we see an opportunity to put all the speculations and theories there have been about this to the test.’ Until March, Visser will be doing this on a stipend from the Smithsonian. After that, he will be a PhD student at the Radboud University.

Before he can really start developing a model, Visser must first fill a gap in the data. About 16 percent of the tree species include both male and female exemplars, but researchers on the island have never found out which is which. They certainly won’t be equally divided between the sexes.

Gathering this data is not easy though, says Visser. The flowers and fruits of adult trees are high up in the forest canopy. ‘Climbing up there would take up far too much time. Our tactic is to wait until the flowers fall to the ground. We will also use binoculars and might use remote control planes. This research raises several questions that we might be able to answer in one go: about the optimal proportion of male to female trees, and whether the females are in the best spots and the males in more marginal

WHERE DO FOREST AND NATURE MANAGERS END UP?

Of Wageningen’s Forest and Nature Management graduates, 12 percent of the Dutch and 39 percent of the foreign alumni work outside the Netherlands. Most of the alumni work for government. Fifteen percent of Dutch and more than 40 percent of foreign alumni work in universities or research institutes. About ten percent of Forest and Nature Management graduates have obtained a doctorate.

positions. From an evolutionary point of view, that would certainly make sense.’

BUYING CO2 RIGHTS

Van den Broeck has other things on his mind. Thanks to the football world cup and the climate conference in Copenhagen, PRESENCE and Living Lands were able to draw attention to a South African government project for reforestation of eroded slopes with the rather unprepossessing elephant bush, a cactus that absorbs masses of carbon dioxide. ‘Partly thanks to research by a Wageningen student, we saw potential for ‘selling’ this project. We are working on setting up the Elemental Equity foundation through which Dutch and Belgian organizations can invest in nature or buy CO2 rights. Like this we kill two birds with one stone: on the European market we sell elephant bushes for CO2 storage, but locally their main value is for water infiltration, combatting erosion and creating employment.

‘Of course we couldn’t pass up an opportunity like this to get extra funding and put a project run by one of our partners in the limelight’, says Van den Broeck. ‘Are we the oil in the machine? Yes, that is what people sometimes say. I also think we are like the barman: we keep the party going.’ ■

'We don't subsidize holidays'

Wageningen students who apply for a subsidy for a special activity have to come before an enthusiastic but strict assessment committee made up of five fellow-students. 'We sometimes have heated discussions before coming to an agreement.'

TEXT YVONNE DE HILSTER PHOTOGRAPHY HARMEN DE JONG

I never knew Wageningen students organized so many activities', says Leonie Kohl, full of enthusiasm. 'It is nice to be able to help people realize their goals.' Kohl, who is doing an MSc in Health and Nutrition, is on the committee of five students who assess applications for the funds reserved for stimulating student activities. On the basis of this committee's advice, the Wageningen University Fund decides which applications to accept.

'Those are students who want to do something extra for their studies. You often really learn a lot from a trip of that kind because you can see how things work in the real world', says Kohl. So she especially likes to accept applications for study tours. Like for example the trip made by the Plant Sciences students who went to Northern France in 2009, or the group of students who went to rural Romania with the critical student organization Rural Wageningen, to get an impression of what life is like for traditional small-scale farmers. Committee members Daan Swarts and Joeri Versteegen like to see their fellow-students presenting their ideas at a well-attended conference overseas, or participating in an international competition, as a landscape architecture student did last year. 'That contributes to the university's reputation, and it is also good for your CV', says

Versteegen, an MSc student of Management Economics and Consumer Studies. 'It is nice to be at a university which has a good international reputation', adds Swarts.

To be eligible for a subsidy, students wanting to organize a conference in the Netherlands have to make sure that it is accessible to all Wageningen students. That means it has to be in English, says Kohl. 'And it has to be useful for students from several different disciplines.'

HELPING GET SOMETHING GOING

Committee member Chris Mangnus, another MSc student of Management Economics and Consumer Studies, thinks it's great when a contribution can help someone get something going. Like last year, when the purchase of twenty bicycles by ESN Wageningen, the Erasmus student network, made it possible for exchange students to rent a bike for the couple of months that they are in Wageningen. Mangnus: 'Each new batch of exchange students can use the bikes.'

The contributions from the Wageningen University Fund are intended to support activities that fall outside the standard rules for grants from the university, and which are in principle one-off events. 'We get applications for support for organizing a symposium, a study tour for a group of students, or for

someone to give a presentation at an overseas conference', says Kohl. However educational a study tour or conference may be, and however much you may learn from organizing such an event, Mangnus and Swarts still feel students should think outside the box more often and go for original activities. But when you look at the countries and activities in the applications, there are few trends, says Swarts (MSc Molecular Life Sciences), who has been on the committee for two years now. 'They want to go all over the place and they are working on themes including nutrition, environment, development and nanotechnology.'

The students meet to assess new applications four times a year. In one round there might be five applications and the next time 25. If the proposal is a study tour, they pay attention to the daily programme, and if it's a conference, it's important that the applicant is going to give a presentation and that the number of days planned for the trip matches the length of the conference. 'We don't subsidize holidays', says Swarts.

'We are sometimes told that we could be less critical. And sometimes we have heated discussions before arriving at an agreement, but I think that's all to the good.' ■ www.wuf.wur.nl



Chris Mangnus, Joeri Versteegen, Ewoud Nijhof, Daan Swarts and Leonie Kohl.

NEWS

Predictable harvests

Thanks to the doctoral research of Maaïke Wubs, there is now a more realistic model for the rate at which flowers turn into fruits in sweet pepper plants. This knowledge makes it easier to predict the harvest. The research was supported by the Wellensiek Fund, established with money that Wageningen professor Susan J. Wellensiek left in his will for doctoral research in horticulture. 'Mrs. Wellensiek has even come round a couple of times, because she was curious about my work', says Wubs. 'On average seventy percent of the flow-

ers and buds fall off', explains Wubs. 'Periods in which a plant can grow new fruit alternate with periods when it cannot. So yields vary from week to week, and are very hard to predict over the whole year.'

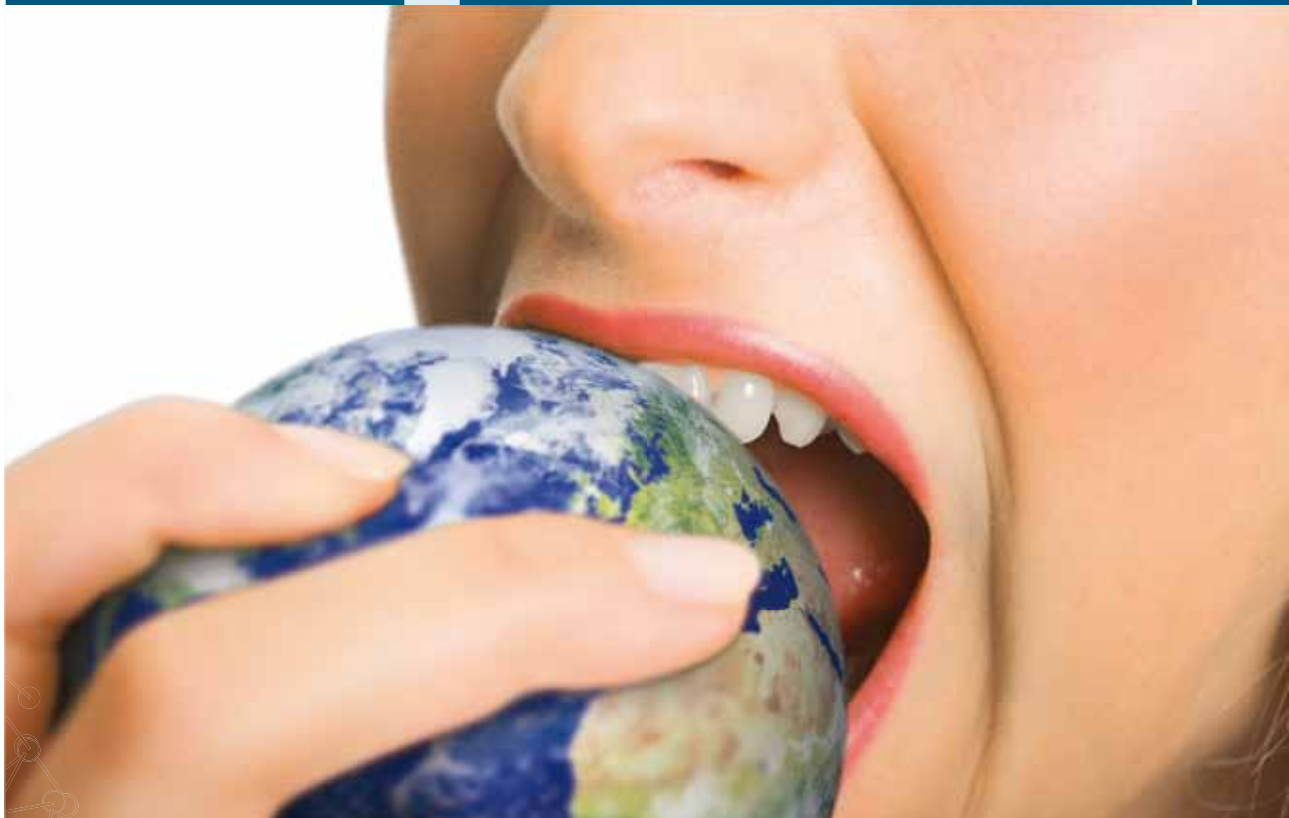
The new model calculates the chance of abortion of the flower and young fruit, which depends on conditions. The calculation gives a better idea of the natural variation between the plants.

Wubs received her PhD on 6 October 2010 from Leo Marcelis, professor of Crop Production in Low-energy Greenhouses.

Photosynthesis

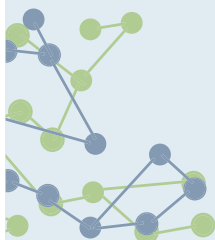
Thanks to the Wellensiek Fund, Sander Hogewoning of the Horticultural Chains chair group at Wageningen University, part of Wageningen UR, is writing a proposal for a VENI grant from the Dutch research organization NWO. 'Perhaps photosynthesis in a plant can be influenced so that it makes more efficient use of daylight': this is how Hogewoning describes his plans. The writing of proposals is supported by donations from alumni to the Wageningen University Fund, more than 4,000 euros of which go into the Wellensiek Fund. www.fondsen.wur.nl

HOW TO FEED OUR WORLD?



IN 2011 KLV WILL CELEBRATE ITS 125TH ANNIVERSARY

CHECK OUR ANNIVERSARY WEBSITE WWW.KLV125.NL



KLV | WAGENINGEN
ALUMNI NETWORK

SHARE YOUR OPINION



www.linkedin.com



www.twitter.com/klvnetwork



www.facebook.com/klvnetwork

125 YEARS OF KLV

‘Foreign alumni feel a bond with Wageningen too’

The Wageningen alumni network KLV has been defending the interests of Wageningen alumni for 125 years. From now on it will increasingly be operating internationally, predicts director Paul den Besten. TEXT RIK NIJLAND

In 2011 KLV will have existed for 125 year. Has much changed in that time?

‘Not in terms of purpose. When KLV was started in 1886, the association’s aim was to strengthen links, to network, to help people find suitable jobs and to contribute to the success of what was then the National Agricultural College in Wageningen. Those elements are still very present in our activities today. We offer career support, we facilitate study groups and alumni networks abroad, we organize reunions as well as lectures and debates on Wageningen themes, and we provide services in the area of entrepreneurship. We now do all this for 8,500 members, of whom at a guess a few thousand take part in activities.’

It sounds flourishing, but ten years ago it was touch and go.

‘During the years of mass unemployment, KLV had built up lots of services related to the job market, but when I came, the association was really almost bankrupt. We then made stringent staffing cuts and the former career centre was merged with Start People to form KLV Professional Match. That is now a flourishing business. We were also stuck with a rather stuffy image and an aging membership. So about seven years ago we set out to recruit among students, and now we have well over 3,000 young members.’

Not surprising, since membership is free for students.

More than 80 percent keep up their membership after graduating. We also have 700 members who graduated in the last six years. That is very encouraging.’



PHOTO SAM RENTMEESTER

Paul den Besten, Wageningen Campus.

The university is attracting more and more foreign students. Is that a worrying prospect for KLV?

‘More like an opportunity. We know from research that foreign alumni go on feeling a strong bond with Wageningen too. To serve them better, we are going over increasingly to English as the language of communication, and we are putting more emphasis on internet and social media. On top of that, we want to organize more activities abroad.’

In this jubilee year you are clearly already looking beyond the border.

‘For our jubilee programme we took a theme – how to feed our world. What we do with this theme is something we want to leave partly up to our members. Everyone is entitled to their say: we are holding three meet-

ings spread over the Netherlands, but we are also facilitating three pre-conferences abroad, in Brazil, China and Ethiopia. Alumni in those countries are making the programme themselves and they will bring their results to a final conference, in the autumn of 2011 in the Netherlands.’

And in five years’ time, at the next big anniversary? What extras will you have on offer then?

‘An even bigger effort on the social media. We are now on LinkedIn, Twitter and Facebook, and we have set up the alumni portal together with the university. Next year we’ll offer group facilities on that, so that our study groups can hold virtual meetings. We shall also carry on expanding other activities, and we are thinking of setting up a science café.’ ■



Wageningen in the big, wide world!

Wageningen World reaches the four corners of the globe, as we can see from this photo of Jaimita de Jongh (Tropical Plant Breeding, 1992). It was taken in Christchurch, New Zealand, after the earthquake on 4 September 2010.

Are you reading this magazine a long way from Wageningen too? Send your photographic evidence to wageningen.world@wur.nl.

PERSONALIA

A documentary in Congo

Nynke Douma, a former Rural Development Studies student at Wageningen, was field producer for the documentary *Weapon of War*, a powerful film about the perpetrators of the mass rapes in the Congolese conflict. The documentary directors were awarded the 2009 Dick Scherpenzeel press prize at the end of May 2010. Besides doing the production preparation, Douma conducted interviews for the documentary. 'Weapon of War lets the offenders speak,' she explains. 'Their story sheds light on the causes of the appalling sexual violence. By doing so it can help towards a lasting solution.' www.weaponofwar.nl

Info: www.klv.nl/en

- ▶ **10 January 2011**
An Introduction to Entrepreneurship (in English)
Young KLV Programme
- ▶ **28 January 2011**
'How to feed our world'
jubilee conference, Ethiopia
- ▶ **24 March 2011**
'How to feed our world'
jubilee conference, Brazil

COURSES

Wageningen UR Centre for Development Innovation

www.cdi.wur.nl

- ▶ **10 – 21 Jan 2011**
Rights-based approach to food and nutrition security
Location: Wageningen
- ▶ **7 – 18 Feb 2011**
Local governance and rural decentralization
Location: Wageningen
- ▶ **21 Feb – 4 Mar 2011**
Optimizing the performance of producers' organizations
Location: Wageningen
- ▶ **28 Feb – 11 Mar 2011**
Climate change adaptation in agriculture and natural resources management
Location: East Africa
- ▶ **14 Mar – 1 Apr 2011**
Participatory planning, monitoring & evaluation
Location: Wageningen
- ▶ **11 – 29 Apr 2011**
HIV/AIDS and food and nutrition security
Location: Wageningen

Prof. Johan van Arendonk, MSc WU in Zootechnics 1982; PhD WU 1985, has been appointed Dean of Wageningen Graduate Schools. 1 November 2010.

Dr. Willem van Berkel, PhD WU 1989, has been appointed Personal Professor at the Laboratory of Biochemistry, Wageningen University, part of Wageningen UR. August 2010.

Prof. John van Duynhoven, PhD Radboud University Nijmegen 1991, has been appointed Extraordinary Professor at Wageningen University, part of Wageningen UR. His chair, entitled Magnetic Resonance in relation to Food, is funded by Unilever R&D. 1 November 2010.

Dr. Lars Hein, PhD WU 2005, has been awarded a European Research Grant of 800,000 euros for his research proposal on ecosystem services. September 2010.

Dr. Martin van Ittersum, MSc WU in Agricultural Plant Breeding 1987; PhD WU 1992, has been appointed Personal Professor in Plant Production Systems at Wageningen University, part of Wageningen UR. August 2010.

Dr. Hans de Jong, PhD University of Amsterdam 1981, has been appointed Personal Professor at the Laboratory of Genetics, Wageningen University, part of Wageningen UR. August 2010.

Prof. Herman van Keulen, MSc WU in Soil Science 1970; PhD WU 1975, has been appointed Officer of the Order of Oranje-Nassau. 26 August 2010.

Gerrit Kok, MSc WU in Rural Sociology of the Western Regions 1970, has been appointed Knight of the Order of Oranje-Nassau. 27 August 2010.

Prof. Carolien Kroeze, PhD University of Amsterdam 1993, has been appointed Personal Professor at Wageningen University, part of Wageningen UR. August 2010.

Prof. Peter Mollinga, MSc WU in Tropical Irrigation and Soil and Water Management 1984; PhD WU 1998, has been appointed Professor of Development Studies at the School of Oriental and African Studies (SOAS) in London. 1 September 2010.

Dr. Auke Osinga, MSc WU in Dairy Production 1962; PhD WU 1970, has been appointed Member of the Order of Oranje-Nassau. 29 April 2010.

Prof. Hauke Smidt, PhD WU 2001, has been appointed Personal Professor at Wageningen University, part of Wageningen UR. Smidt is also the project manager of various European research projects and a visiting professor at Nanjing, China. August 2010.

Prof. Theo Spek, MSc WU in Agricultural Plant Breeding 1988; PhD WU 2004, has been appointed Professor of Rural History at the Faculty of Arts, University of Groningen. 1 September 2010.

Prof. Jan van Tatenhove, MSc WU in Rural Sociology of the Western Regions 1987; PhD WU 1993, has been appointed Extraordinary Professor in the Marine Governance Chair Group at Wageningen University, part of Wageningen UR. September 2010.

Dr. Wim de Vries, MSc WU in Soil and Fertilization Sciences 1983; PhD 1994, has been appointed Extraordinary Professor at Wageningen University, part of Wageningen UR, taking the Chair entitled Integral Modelling of the Effects of Nitrogen on Nature and the Environment at the Regional Level. 1 October 2010.

Prof. Akke van der Zijpp, MSc WU in Dairy Production 1971; PhD WU 1982, has received the EAAP Distinguished

Service Award 2010 from the European Federation of Animal Science. Van der Zijpp is professor in the Animal Production Systems Group at Wageningen University, part of Wageningen UR. September 2010.

Prof. Bas Zwaan,

PhD University of Groningen 1993, has been appointed Professor of Genetics at Wageningen University, part of Wageningen UR. 15 September 2010.



Bas Zwaan

CORRECTION

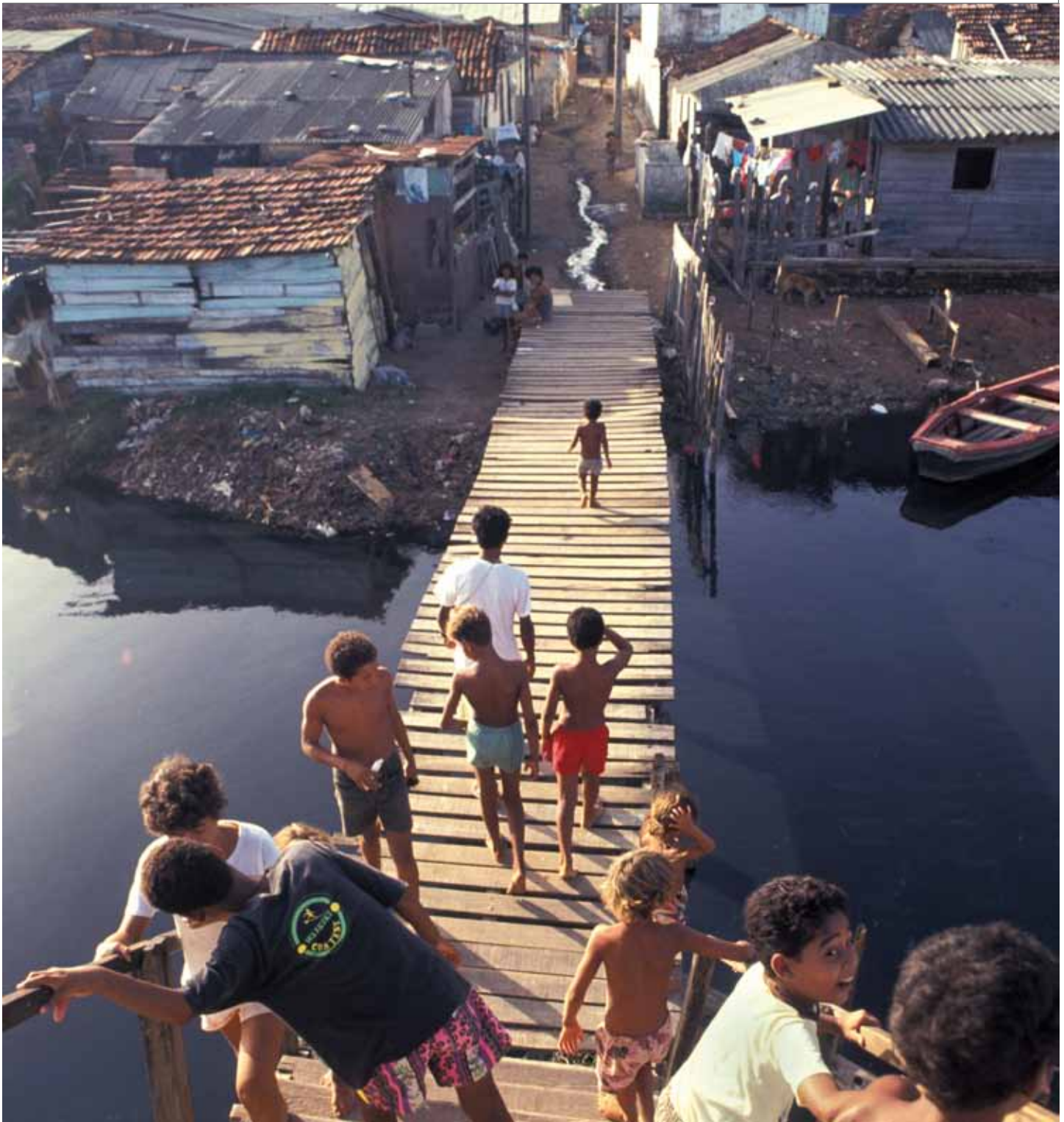
Wageningen World 3 – 2010 mistakenly reported that ‘John Janssen, MSc WU in Horticulture 1974,’ had been appointed Green Plus lecturer on Integrated Countryside Stewardship in the Forestry and Nature Management programme at the Van Hall Larenstein University of Applied Sciences’.

This should have read ‘Dr. John Janssen, MSc Utrecht University in Biology 1991, PhD University of Amsterdam 2001.’ Dr. Janssen is also a researcher in Vegetation and Landscape Ecology at Alterra, part of Wageningen UR.

TRACING ALUMNI

Wageningen University and KLV Wageningen Alumni Network, strive to remain in contact with all Wageningen UR graduates. Unfortunately, we lack some addresses. Do you know the address of any of the alumni mentioned below with year of graduation? If so, please send this information to alumni@wur.nl

A. Hassani-Mehraban PhD, 2008
 Dr G. M. Hatta, 1999
 Dr K. Hayashi, 2003
 Dr K. M. Haymes, 1997
 He Wei PhD, 1997
 Dr J. S. Hendriks-Gusc, 2007
 Dr Ir M. R. Hoffmann, 2003
 A A M. Hosseini PhD, 2005
 Hsin-I Hsiao PhD, 2009
 Ximing Hu PhD MSc, 2001
 Dr Chen Huajie, 1996
 J. Huang PhD, 2006
 S. S. H. Husaineid MSc PhD, 2007
 E. Hussien El-Sayed Ayad PhD MSc, 2001
 Dr O. Hussion, 1998
 Huynh Ngoc Phuong Mai MSc PhD, 2006
 T. Huynh Quang PhD, 2009
 Dr S. Ifar, 1996
 H. Jafary PhD, 2006
 A. K. Jakubowska PhD, 2010
 W. Jawjit PhD, 2006
 Dr M. S. Jusu, 1999
 R. C. Kaggwa MSc PhD, 2006
 S. Kalimuthu PhD, 2008
 M. Kamau PhD, 2007
 J. Kanmegne PhD, 2004
 Dr T. K. Kanshie MSc, 2002
 Dr F. Kansime, 1999
 A. M. Karanja PhD MSc, 2002
 Dr K. A. Karatzas, 2002
 Dr J. N. Kariaki, 1998
 Dr J. N. Kariuki MSc, 1998
 R. Karlova PhD, 2008
 D. Y. Karmanov PhD, 2008
 G. Kaschuk PhD, 2009
 A. Kavalenka PhD, 2009
 M. Kazem Khalesi PhD, 2008
 G. L. Kennedy PhD, 2009
 Dr J. F. Kessy, 1998
 Dr W. M. Khaemba, 2000
 M. N. Khan PhD, 2009
 Dr A. el Kharbotly, 1995
 Dr A. Khlystov, 1998
 Dr Ki-Byung Lim, 2000
 J. B. Kim PhD, 2005
 J Kipkemboi PhD, 2006
 K. H. Kissawike PhD, 2008
 S. J. Krishnan PhD, 2007
 C. C. Kruk Gencarelli PhD, 2010
 Laksana Kantama PhD, 2005



An anthropologist in Brazil

The slums of the Brazilian coastal city of Recife are being upgraded, with support from the World Bank, and the residents are allowed to stay. That sounds great, but what does the process mean for social systems and life in the favelas? That is what Monique Nuijten has been trying to find out. A development sociologist at Wageningen University, part of Wageningen UR, Nuijten has been

working since 2006 on a five-year anthropological research, thanks to a VIDJ grant from Dutch research organization NWO. 'Recife is a waterside city', she says. 'The slum dwellers live along the water in very unhygienic conditions. Although I am sometimes critical of the approach, I do admire the staff of this project for the way they pay attention to the residents. People have been very open

towards us too.' At present, Nuijten has a Master's student and a PhD researcher 'in the field'. 'I went out for six weeks to show them the ropes. In spite of the drugs-related violence, it is safe to work there as long as you stick to the local codes. Anyway, I don't send tough-talking types out there; the important thing is to be able to listen carefully.'

Info: monique.nuijten@wur.nl ■