

WUR researchers explore the world of Chinese aquaculture

# Learning from China



Researchers from the Aquaculture and Fisheries group paid a visit to their colleagues in China this summer. To see how they conduct research, as well as to do some networking. ‘After these two weeks, I could see myself working in China in the future.’

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‘China is the biggest producer of fish in the world, and has the longest track record in aquaculture and fisheries,’ says PhD student Gauthier Konnert of Wageningen’s Aquaculture and Fisheries chair group. ‘The country has several universities and research institutes that specialize in this field.’ This was what prompted him and his fellow PhD students Twan Stoffers and Vivi Koletsi to make plans for a trip to China. Their professor, Geert Wiegertjes, was enthusiastic from the start. ‘There is a tremendous amount going on in the research world in China, but it is not easy to get a grasp of it because the country is fairly complex,’ says Wiegertjes. Taking a look for yourself struck him as a good solution, and so

the professor and 12 PhD candidates from his group set off for China for two weeks this summer.

## TILAPIA

One of the institutes the group visited was Ocean University of China in Qingdao. This university has about 25,000 students and over 3000 academic staff spread over four campuses, and does a lot of research on aquaculture. ‘Thanks to increasing prosperity, consumption of meat and fish is going up in China,’ says Konnert. ‘That’s why the Chinese government is investing heavily in research on aquaculture and fisheries. The abundance of public funding allows them to dedicate more

to fundamental research on fish biology, whereas here the main emphasis is on applied research.’

Konnert himself is researching the best way of feeding the tropical freshwater fish tilapia so that it grows well but has as small an environmental impact as possible. ‘China is the world’s biggest producer of tilapia. So I hoped to find out more about that. But the funny thing was that the Chinese researchers we spoke to are not actually very interested in tilapia because it is a cheap fish. They would rather focus on species that are hard to farm such as the largemouth bass.’ Not that Konnert is disappointed. ‘For me, the value of this trip lies in the fact that I have gained an understanding of the Chinese research world, and had the chance to expand my network. After these two weeks, I could see myself working in China in the future.’

## BEACHES FULL OF SEAWEED

The PhD students also visited several large-scale commercial farms. For Koletsi, the high point was a visit to a sturgeon farm, Kaluga Queen in Quzhou. ‘Thirty per cent of all the caviar in the world comes from this company.

## ‘There is more room for fundamental research in China’

When you see how it is produced, you understand the high price of caviar. For example, it takes seven years for the females to produce eggs – caviar.’ Koletsi is researching the effect of mycotoxins, contaminants produced by fungi in plant ingredients, on fish health and welfare in order to help feed formulators to produce sustainable fish feed.’ She was keen to go to China to see what the local researchers were working on. ‘We know little about Chinese research. Publications in our subject area are sometimes written in Chinese, so we can’t read them.’

Stoffers was especially impressed by the huge seaweed farms the group visited. The seaweed is grown on ropes hanging in the sea. These are then harvested from little boats and laid out to dry on the beach. The result: kilometres of beach strewn with seaweed. ‘Somehow I expected it to be more industrial. But it is logical, really, because there is no shortage of labour in China.’

Stoffers own research is about the potential of river-floodplain systems as nursery areas for the endangered river fish in the Netherlands, such as the common barbel and nase. Less attention is paid to the functioning and restoration of river ecosystems in China, says Stof-

fers. ‘But they were very interested in how we in the Netherlands manage our rivers, while paying heed to ecological objectives.’

### BETTER AT COMMUNICATING

The Dutch could do well to take a leaf out of China’s book when it comes to communication, say Gauthier Konnert, Twan Stoffers and Vivi Koletsi. ‘What struck me most was that fish farming companies and research institutes seem to invest a lot in communication with the public,’ says Konnert. ‘The East China Sea Fishery Research Institute (ECSFRI), for instance, has its own visitors’ centre with information about fisheries and aquaculture.’ Stoffers: ‘I think we should do that more often in the Netherlands, especially when you see how much ignorance there is. Many consumers have no idea how fish is farmed or where it is caught. By being transparent you could hopefully create more understanding.’

Western researchers are also often critical of scientific practice in China. ‘And sometimes that is justified,’ says Wiegertjes. ‘There are certainly some poor quality studies. But that critical attitude makes us miss the good things. I think we can learn a lot about aquaculture from China.’



▲ PhD student Twan Stoffers visits a large sturgeon farm.

He is not afraid of scientific espionage – another phenomenon often associated with China. ‘Anyway, the exchange of knowledge during a trip like this is pretty superficial. Its main value lies in coming to understand people and seeing how they work. The real exchange of knowledge is starting now for me, now that I know where the good research groups are that I would like to build a long-term relationship with. That’s what our group has got out of this.’ **B**

▼ Unusual fish species are often sold at the market in China.



▼ Professor Geert Wiegertjes (centre) with colleagues including Gauthier Konnert (second from left), Vivi Koletsi (to the right of Wiegertjes) and Twan Stoffers (back right).

