

attempting to dissuade them from illegal acts, such as buying tiger bone or elephant skin online for jewellery and traditional medicine, or keeping endangered freshwater turtles as pets. Lee says the materials have been developed with behavioural-science techniques: they aim to appeal to consumers' desire to be seen to act in a conscientious manner.

Lee has also been part of a research project that looked at how trade agreements that stem from the country's international Belt and Road economic initiative, an infrastructure project that aims to link trade across Europe, Asia and Africa to China, could lead to a greater demand for traditional Chinese medicine across the world. The plant, animal and fungal products used in these practises are often sourced from the wild, which might exacerbate the illegal and unsustainable trade of those species, he says.

His research, a collaboration with Amy Hinsley, a conservation biologist at the University of Oxford, UK, concluded that there was a clear, urgent need for China to introduce carefully managed supply chains and ensure that rural farmers have resources for sustainable farming.

During her four-decade career, Lu Zhi, a conservation biologist at Peking University in Beijing, has seen a shift in her field's focus. It moved from observing animals in their natural habitats and coming up with ways to protect them from human activity to observing human behaviour: studying what can be done to make people's lives more ecologically sustainable.

In 2017, Zhi's Shanshui Conservation Center, a non-governmental organization she founded in 2007 to develop community-based conservation projects, began working with herders in Qinghai province on the Tibetan Plateau. The team wanted to help them to develop livelihoods from conservation activities in an underdeveloped, highly biodiverse area of China. The villagers learnt how to patrol and monitor wildlife, and how to act as guides for tourists interested in animal watching – including for the elusive and endangered snow leopard (*Panthera uncia*). Similar projects have been rolled out in 42 villages in western China.

Zhi admits that such small projects are certainly not enough to bring the paradigm shift needed to safeguard the country's vulnerable ecosystems. Government intervention has proved to be effective in tackling the larger issues, such as air and water pollution, she says. But "it's not fair to ask people in rural areas not to develop their lives for the sake of wildlife, while others live in prosperous cities. We need alternative solutions."

Sarah O'Meara is a writer and editor in London.

Q&A



Alice Hughes Seeing biodiversity from a Chinese perspective

British zoologist Alice Hughes has been working at the Xishuangbanna Tropical Botanical Garden in Menglun, Yunnan province, in southern China, for nearly eight years. She reveals what she has learnt about the country's approach to ecological conservation.

What is your current role?

I lead the landscape-ecology research group at one of China's most diverse botanical gardens. My team aims to better understand the lives of animals and how they interact with their environments. This helps us to create more effective methods of conserving a biodiverse environment.

The 18-person team, which is part of the Chinese Academy of Sciences, does everything from mapping biodiversity to researching the illegal and legal trade in different species, to find out where and why our natural world is changing. We then develop actionable measures to help stem the worst effects of those changes.

How did you come to work in China, and what's it like?

In 2011, I moved to Thailand from the United Kingdom as part of my postdoctoral research, before heading to Australia and finally taking a position in China in 2013.

At first, I was naive about how different the culture might be in Asian countries and it's definitely been a steep learning curve. Adaptability is important. I think that many people in the West are much too ready to disbelieve or find fault with actions from China, and Chinese scientists. As a result, there is sensitivity in China's research community, especially around things that have frequently been an issue, such as the regulation of the trade of exotic wildlife. As a foreigner, it is challenging to provide advice without it being seen as overly critical. I can participate in these discussions because I have worked here long enough: people know I will listen and provide my perspectives based on fact, rather than prejudice.

It's important for all conservation scientists to be open minded and willing to find out what's going to work in any country and

culture to help tackle the global problem of biodiversity loss, and develop solutions that work in that societal context.

Do foreign scientists need to speak Chinese to work in China?

We have around 12 different nationalities in my team, so discussions take place predominantly in English, as a default.

I work closely with my Chinese colleagues to make sure that our research work is properly communicated when it's published in Chinese. In meetings with Chinese colleagues, someone will translate pertinent points to me, or I'll translate my slides into Chinese and present in English. I have my reports and briefs translated, and with translation software, we can get by.

It's easy to have misunderstandings when you're translating ideas, so we're careful to look for any linguistic nuances that might change the perceived meaning.

What strikes you as unique about the Chinese ecological-research environment?

A Chinese ecologist needs to be fast to act. The time frame to submit an application for a grant can be very quick. Often you have less than 24 hours to respond. Also, most initiatives are tied to the government's five-year plans, so our priorities need to adapt to reflect those five-year cycles.

In the past two years, there has been a complete inventory of all China's marine and terrestrial protected areas so they can be mapped and future targets can be based on them. That really is an unparalleled effort.

This involved mapping 400 marine protected areas, and 13,600 terrestrial ones. I haven't heard of anything equivalent to this scale and speed in any other country.

The most positive thing for me is that science matters here. The annual budget for scientific research is increasing and the findings from our applied research inform national policy. That is something the West would do well to remember.

Interview by Sarah O'Meara.

This interview has been edited for length and clarity.