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Press Release 12-076 Can Nature's Beauty Lift Citizens From Poverty?

Researchers release findings on who benefits from nature tourism



Souvenir shops line the entrance of China's Conservation and Research Center for the Giant Panda.

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Research shows that nature tourism isn't necessarily an economic boon for all citizens.

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April 26, 2012

Using nature's beauty as a tourist draw can boost conservation in China's valued panda preserves, but it isn't an automatic ticket out of poverty for the humans who live there, a unique long-term study shows.

Often those who benefit most from nature-based tourism are people who already have resources. The truly impoverished have a harder time breaking into the tourism business, according to the paper, "Drivers and Socioeconomic Impacts of Tourism Participation in Protected Areas," published in the April 25 edition of *PLoS One*.

The study looks at nearly a decade of burgeoning tourism in the Wolong Nature Reserve in Southwestern China. China, like many areas in the world, banks on tourism over farming for economic viability, while attempting to preserve fragile animal habitat.

But until now, no one has taken a close look at the long-term implications for people economically.

"Long-term studies like this one give us a birds-eye view into the

multifaceted connections between people and the environments they occupy," said Thomas Baerwald, a program director for the Geography and Spatial Sciences Program at the National Science Foundation (NSF), which partially funded the study.

"Finding the right balance between economics that lift people from poverty and habitat management is an important role for social and environmental scientists and will be important into the future."

Lead researcher Wei Liu is a Ph.D. candidate in the Center for Systems Integration and Sustainability (CSIS) at Michigan State University (MSU). He and his colleagues took advantage of the center's 15-year history of work in Wolong, which they call an excellent laboratory to study the complex interactions of humans and nature.

"This study shows the power of having comprehensive long-term data to understand how everything works together," Liu said. "This is the first time we've been able to put it together to understand how changes are being made."

The *PLoS One* paper is co-authored by Christine Vogt, MSU professor of community, agriculture, recreation and resource studies; Junyan Luo, research associate; Guangming He, research assistant; Kenneth Frank, professor of environmental and natural resources economics and fisheries and wildlife; and Jianguo "Jack" Liu, Rachel Carson Chair in Sustainability. All but Vogt are members of CSIS; Jack Liu is director.

Wei Liu and his colleagues followed 220 families in Wolong from 1999 to 2007 as they rode the wave of change in an area shifting from farming to bringing in tourists, who wanted to see the land of the giant pandas as well as experience its beauty.

That wave abruptly stopped in 2008 with the massive Sichuan earthquake that measured 8.0 on the moment magnitude scale used by seismologists to calculate the size of earthquakes. Damage to roads and buildings from Sichuan still impedes business development today.

Wei Liu and team studied the impact of having resources in Wolong. Residents who already had money, were educated, and had relationships with governmental officials had a much greater chance of being successful with the arrival of nature-based tourism.

Lacking these resources made it harder, which is significant since many of China's programs and initiatives aim to lift people out of poverty.

"The policies haven't yet reached their full potential," Wei Liu said. "But now we have the data to show what's happening."

An interesting piece of the research was learning that people who are engaged in the tourism trade were more likely to acknowledge the tradeoffs between tourism development and conservation. Wei said they acknowledged that tourism increased noise, traffic congestion and disturbance to wildlife.

Wei Liu said this research can help China--and other countries around the world--with the next steps of developing policies to balance tourism with habitat management. The area is working hard to rebuild from the earthquake, just as other developing tourism areas are challenged by natural disasters. The study, he and his colleagues say, can point to opportunities to improve policies.

The research was funded by NSF and the National Institutes of Health. Research on the interactions between human behavior and the environment can help guide policy, and are an important focus of NSF's Directorate for Social, Behavioral and Economic Sciences.

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Media Contacts

Bobbie Mixon, NSF (703) 292-8070 bmixon@nsf.gov
Sue Nichols, Michigan State University (517) 432-0206
suenic@gmail.com

Program Contacts

Thomas J. Baerwald, NSF (703) 292-7301 tbaerwal@nsf.gov

Principal Investigators

Wei Liu, Michigan State University (517) 432-5068
liuwei3@msu.edu

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The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA
Tel: (703) 292-5111, FIRS: (800) 877-8339 | TDD: (800) 281-8749

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