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A new privately protected area in Hangzhou aims to restore the “green desert” left in the wake of now abandoned bamboo farms

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August 29, 2023*

In the dense Moso Bamboo Forest on Mount Yunfeng—which means cloud peak in English—about 15 miles south of the city of Hangzhou, China, Shenmin Liu and her team are on a mission to restore biodiversity. Ms. Liu is the founding executive director of Mt. Yunfeng Nature Park, a non-profit conservation organization established and funded by the Hangzhou-based conglomerate Wanxiang Group.

To the untrained eye, the lush bamboo forest may seem innocuous—or even beneficial—to the environment. It is ubiquitous in the mountainous southeastern region of China. For generations, local villagers planted and harvested the quick-growing plant to make paper, furniture, and other household items. But as



Liu introduces students from nearby villages to the Mt. Yunfeng Nature Center. Credit: Yandong Chen

traditional bamboo products were replaced by mass-produced industrial products, bamboo forests were abandoned.

As the fastest growing plant on earth, Moso Bamboo can grow more than an inch per hour. The unmanaged Moso Bamboo quickly invaded surrounding woodlands, depriving native species of natural light and water. Today, Mount Yunfeng has effectively become a bamboo monoculture. Experts call it a “green desert”.

In 2021, with technical support from The Nature Conservancy China (TNC China), Wanxiang Group launched a program to restore and protect biodiversity in important ecosystems such as forests, freshwater territory, and oceans in its home province of Zhejiang. As part of this program, Wanxiang Group leased about 46 acres of forest land in the Mount-Yunfeng area from local villagers for 20 years at a total cost of \$2.3 million (USD).

Over the past two years, scientists from the Chinese Academy of Sciences have joined forces with local villagers and citizen volunteers, experimenting to replace bamboo forests with native species using nature-based solutions. Early results are encouraging. Native plants, insects, birds, amphibians, and animals have returned in increasing numbers.

“We are creating a habitat for animals [that] used to live in this area,” said Liu. “Local plants will replace bamboo forest and the biodiversity will increase dramatically.”

Nature education is another focus of the Mt Yunfeng Nature Park. The park’s proximity to major cities allows it to hold more than 100 nature education events each year, attracting families and students from across the region. On the mountaintop sits the Park’s Nature Education Center. Converted from a Hui-style hotel, the education center houses several collections of native specimens, restoration archives, and nature-

What are “green deserts” and where did they come from?

The phenomenon of green deserts [proliferated](#) in the 1900s and continues to devastate biodiversity today. Over a century ago, spurred by a growing global hunger crisis, chemists began to develop synthetic fertilizers. The innovation allowed farmers to produce crops at an unprecedented rate and, by the early 2000s, cut world hunger in half. But all was not good news. To meet the clamor for crops and turn the greatest profit doing so, the agricultural industry adopted mono-cropping practices. Farmers would clear entire landscapes and fill them with a single crop, often soy, sugarcane, corn, or wheat. The practice not only depletes soil nutrients and destabilizes the land, it also allows pests, weeds, and disease to spread, strengthen, and even become immune to pesticides. These seemingly plant-rich areas offer little value to ecosystem health, thus earning them the green desert moniker.

Luckily, the world is not without a cure to the spread of green deserts. The Chicago Council on Global Affairs writes that biodiversity and soil health must be prioritized on a global agenda. Stemming the damage of green deserts will take robust public policies and widespread adoption of emerging green technologies, such as biological additives to enrich soil and innovative financing mechanisms to support sustainable agriculture. It also highlights a new tool called the Agrobiodiversity Index that enables farmers and decision makers to measure agrobiodiversity.

This history summarizes an article from The Nature Conservancy. Read the entire piece at www.nature.org.

related art works. It boasts large multifunctional event spaces with panoramic views of Hangzhou, an artists' workshop, a yoga studio, a café, and a gift shop.

The nature park runs a volunteer program that partners with local schools, universities, companies, and research institutes. Volunteers serve as guides, help monitor plants and animals, and maintain research records. The vision is to turn the entire mountain – both indoors and outdoors – into a living nature education space.

Promoting biodiversity must go hand-in-hand with rural development and the nature park makes this a priority. The project focuses on eco-tourism as a new source of jobs and income for local

people. Some villagers are now employed as rangers, gardeners, and hiking guides who help safeguard biodiversity. Others sell their bamboo handicrafts in the gift shop. Still others earn wages from the park's three-acre tea plantation, where scientists have replaced fertilizers and pesticides with organic compost, pest-repellant plants, and sticky boards. The organic tea now sells for twice the price.

A great deal of thought went into ensuring the future scalability and financial sustainability of the privately protected area. The conservation program will continue to be funded by a dedicated charitable trust fund set up by Wanxiang Trust, the wealth management arm of Wanxiang Group. Wanxiang Trust's clients can now earmark a portion of their philanthropic giving to conservation projects such as Mt. Yunfeng. This innovative funding structure paves the way for greater philanthropic capital flow toward nature conservation.



Bamboo forest ecological restoration field. Credit: Yandong Chen



Mt. Yunfeng Nature Education Center. Credit: Yandong Chen

In recent years, ecological and environmental protection has become China's top policy agenda item. Kunming hosted part two of the 15th meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity in 2022 and produced the Kunming-Montreal Global Biodiversity Framework. As a private-led pilot program, the Mt. Yunfeng Nature Park aims to complement the government-led environmental push. It [aspires to](#)

[find](#) low-cost, replicable, and scalable nature-based solutions to serve as a restoration model for the millions of acres of bamboo forests in the entire province, and eventually, the entire southeastern China.

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