

Saving China from 'cancer of the Earth'

A bird's-eye view of Babusha, a large sand dune on the southern edge of the Tengger desert in Northwest China. [Photo/China Daily]

The government is promoting measures to eradicate desertification, one of the most-pressing problems facing China's western regions, and looking to reclaim vast areas of land. Su Zhou reports from Beijing with Xue Chaohua in Lanzhou. In January, 65-year-old Guo Wangang took over his father's job. His work is of national importance, but he isn't running a giant corporation; instead he is guarding the Babusha Forest Farm in Gulang, a county in the northwestern province of Gansu.

In the 1970s, Babusha, an enormous sand dune on the southern edge of the Tengger desert, gradually encroached south, threatening the county's social and economic development and the livelihoods of the people who lived there.

"Rather than bow down to the desert's advance and become ecological refugees, six local farmers, including my father, Guo Chaoming, decided to plant trees to improve soil absorption and prevent the spread of the desert by fixing the sand in place," said Guo Wangang, who is head of the farm. "They did it all voluntarily, despite the fact that they could not even feed themselves at the time."

After three decades, the combined efforts of two generations have paid off. The desertification of the 75,000-square-meter area has been reversed and Gulang has once again become a vibrant forest farm, where produce is grown and sheltered under a canopy of greenery. The dramatic change has prompted more than 30,000 people from the surrounding areas to settle in the once-threatened county.

Shrinking deserts

The Guo family's story is a microcosm of China's lengthy battle against desertification, often described as "cancer of the Earth". It is the most serious ecological issue facing China, especially in western areas such as Gansu and the Ningxia Hui, Inner Mongolia and Xinjiang Uygur autonomous regions.

According to the latest survey by the State Forestry Administration, the areas affected by desertification and sandification – where the top soil has been stripped away and replaced by sand – are shrinking.

By the end of 2014, the area of desertified land nationwide had fallen by 12,120 square kilometers to 2.6 million sq km, and the area of sandified land had retreated by 9,902 sq km to 1.7 million sq km.

China has vowed to step up efforts to tackle desertification and land degradation and the government plans to reclaim 100,000 square kilometers of

sandified land by 2020.

In recent decades, the country has gained rich experience of combating desertification and is now an international leader in the field.

Shapotou, a district of Zhongwei, a prefecture-level city in Ningxia, first hit the headlines not because of tourism, but as a result of successful innovations in desertification control, said Wang Fuzhong, chairman of the Ningxia Shapotou Tourism Industry Group.

He recalled that many tourists from overseas were eager to visit Shapotou in the 1970s and 80s because it was the birthplace of the now globally renowned "straw checkerboard" technique, in which straw, usually made from wheat or rice stalks, is laid out like a grid across the sand and then partially buried.

"The checkerboards have remarkable properties – acting as windbreaks and helping to keep dunes in place, thus allowing topsoil to form. When a sufficient amount of soil has been established, drought-resistant plants can be grown," he said. Liu Shizeng, director of the Gansu Desert Control Research Institute in Lanzhou, the provincial capital, said China originally adopted anti-desertification measures used in the former Soviet Union, but quickly started exploring its own techniques.

"In addition to improving anti-desertification techniques that were adopted in different geographical circumstances, we also encouraged the control of desertification through the development of local businesses, such as those that plant shrubs and dune plants to fix the sand in place and prevent major shifts. This has encouraged more locals to participate," he said.

According to Tian Zhiguo, deputy head of Pingchun, a county in Gansu, before the development of the dune plant industry, local residents rarely played an active role in tree planting.

"The cost of planting trees in deserts is very high, and once planted, the trees were not allowed to be cut down for sale. So, it made sense for them not to participate," he said. "Now, with plant farms generating profits, the locals are more willing to join the campaign."

National desert parks

Liu said years of research have resulted in the maturation of technologies that enable the large-scale domestic cultivation of wild plants, such as Asian onions. Moreover, homegrown techniques have already provided support to the development of the "sand industry" along the Hexi corridor, a fertile region which provides most of the crops grown in Gansu.

"Another good example is the founding and construction of national desert parks, which provide effective management of deserts and maximize their value," he added.

Since August 2013, the State Forestry Administration has approved 70 pilot projects for national desert parks and has pledged to build 170 by 2020,

accounting for 2.4 percent of the estimated area of sandified land that can be reclaimed across the country.

Liu has been dealing with deserts for more than 30 years. At first, he regarded them as essentially dangerous places because they can destroy people's lives and livelihoods.

Now, he has changed his mind: "Just like the ocean, a desert is a natural landscape. Not all of it is dangerous to humans."

Wang Zengji, deputy head of the forestry bureau of Yanchi county in Ningxia, said combating desertification does not equate to "eradicating" deserts.

"Instead, it is the management of desertified land caused by human activities," he said.