

China's Rapid Development Inspires Creative Passion

Dialogue

By BI Weizi & LONG Yun

WEIFANG Tuopu Machinery Manufacturing Co. leads the way in agricultural machinery patents in China, including multifunctional aerial work vehicle, tree digger and orchard picking transport trailer.

As the inventor behind most of these patents, the Chairman of the company Bernard Philippe, who was once a senior racing engineer in France and then, after coming to China, became fascinated with creating machinery products suitable for the country's agricultural production needs.

He said that China's rapid development has allowed him to fully unleash his love for agricultural engineering and provided him with more opportunities for technological innovation and new product development.

"Agricultural machinery suitable for China's geography, climate and crop varieties were not easily available here. So my team, together with Chinese engineers, conducted a lot of field studies to find ways to save labor," Philippe said to *S&T Daily* recently.

Technological innovation prioritized

In recent years, Philippe has had many achievements in developing new and advanced agricultural machinery, such as the multi-functional aerial work vehicle for gardening, the leaf suction



Bernard Philippe (right) teaches a worker how to operate the machine. (COURTESY PHOTO)

shredder for efficiently cleaning fallen leaves and broken branches, and a tree digger that can pull up the entire tree by its roots after being shoveled into the ground.

"Given urban greening, landscape construction, engineering construction and efficient land use, many tree saplings have to be transplanted, which is quite a tedious task," he said, adding that it takes three people two days to dig up a large sapling with a diameter of 30cm.

More importantly, the transplanted trees are prone to disease and even death due to the uneven cutting of the roots during the uprooting process. So

his team designed a tree digging machine that can dig up a 30cm diameter tree in 30 seconds. The trees can then be lifted onto trucks and transported, which not only saves a lot of labor, but also increases the survival rate of saplings, thus realizing the full mechanization of transplantation and cutting.

Abundant opportunities
"China's development is too fast, and more and more product demands are emerging, which also [speeds up] our research and development and [makes] our products more practical," said Philippe, adding that there are promising prospects for agricultural machinery products in China.

As a machinery manufacturing company driven by technological innovation, Tuopu Machinery has committed to R&D and manufacturing machinery products that meet the needs of China's agricultural development, said Philippe.

In recent years, Tuopu Machinery has expanded its market to Xinjiang Uygur autonomous region, hoping to contribute to the local economic and social development by inventing some agricultural machines suitable for local geographical conditions.

"I like Xinjiang a lot. What impressed me the most was the Duku Highway, a mysterious road that connects the north and south of Xinjiang," he said, adding that visitors can experience four seasons in one day on the road and the local people are very hospitable.

Home away from home
Philippe was awarded the Qilu Friendship Award by Shandong provincial government in 2015. He believes that this is confirmation of the deep relationship between him and China, which he now considers his second home. He has conveyed this feeling when he returns to France, telling his friends there about the realities of China and how friendly the Chinese people are.
"Next, we will introduce more outstanding foreign experts and cultivate domestic R&D teams," said Philippe, noting that China's industrial and agricultural development has entered a new era, and the construction of industrial chains, digital transformation, and green and low-carbon development are the trend of future development.

Learning Chinese to Appreciate Chinese Culture

Expats Activity

By YANG Yixuan & LONG Yun

THE 2023 Chinese Training Class organized by the Guangdong Science and Technology Cooperation Center was inaugurated on August 21, aiming to provide a platform for foreign experts in Guangdong to enhance their Chinese

proficiency and appreciate the charm of Chinese culture.

During the inauguration, participants shared their admiration for China and their interest in learning Chinese.

An Iranian expert from Guangdong Midea Company expressed his love for Chinese opera and exploring the beauty of the country. He highlighted the significance of learning Chinese, saying, "I believe improving our technical skills alone is insufficient. Only by

enhancing my ability to express myself in Chinese can I better integrate into this land."

"After [completing] this training class, I hope to communicate fluently with my Chinese colleagues and friends. Additionally, I intend to learn Cantonese in the future," said a Japanese foreign expert from the Guangzhou Institute of Geochemistry, under the Chinese Academy of Sciences. He came to Guangzhou in 2017 and plans to work and live in the

city until retirement.
"Language functions as a tool for communication, a vessel of culture, and a bridge for friendship," said the event organizer, hoping foreign experts can share their stories and experiences of Guangdong and China with their friends around the world.

The Guangdong Science and Technology Cooperation Center contributed to this article.

My China Story

Friendship Messenger Between China and U.S.

By LONG Yun & BI Weizi

Fifty years ago, a young American named Thomas Lumpkin embarked on a journey to the East, which would forever connect his life to China. Lumpkin said to *S&T Daily* that "China has made remarkable progress over the years, since my first steps here in 1975."

He was impressed by the country's creative spirit as well as the diversity and individuality that now characterize Chinese society. Lumpkin applauded China's dedication to international cooperation and its role in facilitating global agricultural advancements.

At the same time, Lumpkin has witnessed China's tremendous efforts in developing science and technology to shape China's agricultural landscape and improve people's daily lives.

"Science is not merely a tool for increasing productivity, [but it is also] the key to extending human lifespans," said Lumpkin, adding that the integration of science and practice in the agricultural field could yield efficiency, sustainability, and a world free from harmful chemicals.

As the Honorary Director of the International Maize and Wheat Improvement Center (CIMMYT), he continues to

foster mutual understanding and collaboration between the U.S. and China.

His Chinese co-workers described him as a man of kindness and open-mindedness. Professor He Zhonghu, Lumpkin's Chinese counterpart at CIMMYT, highlighted Lumpkin's exceptional commitment to facilitating exchanges and cooperation, portraying him as "an unwavering friend of the Chinese people."

Lumpkin showed *S&T Daily* a cherished old photo in which he sat with a Chinese family whose smiles radiated warmth. In those early days, Lumpkin was among the pioneering American students who came to Zhejiang province in east China in pursuit of knowledge and mutual understanding.

Nevertheless, with a genuine interest in Chinese culture, this open-minded American quickly cultivated friendships with his Chinese counterparts. He said, even today, he still retains a vivid memory of *Manjianghong*, a famous ci poetry written by Yuefei, a renowned national hero in the Southern Song dynasty (1127-1279).

The story of Lumpkin and his China journey is more than a reflection of his personal experiences, and it is a story of sci-tech cooperation, cultural connection and people-to-people exchanges.



Thomas Lumpkin (first from the right) talks with a Chinese family in the 1980s. (COURTESY PHOTO)

Plowing a Place in History

Traditional Eastern Wisdom

By BI Weizi

Chinese people have long known how to use oxen and horses to pull carts, with cattle being the main draft animal.

However, it was after Spring and Autumn Period (770 BC-476 BC), that animal husbandry was rapidly popularized throughout the country, and the frame structure of the plow was basically established in the Han Dynasty (202 BC-220) and continuously improved with the needs of production.

In the Tang Dynasty (618-907), the curved-shaft plow, later called the Quyu'an plow, was invented on the basis of two oxen pulling the plow. It needed only one ox to pull it and had a perfect structure that was light and flexible, and could adjust the digging depth.

Compared with previous plows, the Quyu'an plow had two main features:

first, the straight and long shaft was changed into a curved and short one, and a shaft head was invented and installed so that it could rotate freely. The plow disc not only makes the plow frame smaller and lighter, but also facilitates flexible operation, thus saving manpower and animal power.

Second, the plow blade and plow arrows are added. When the plow blade is pushed forward, the plow arrows can be moved downward. When the blade is pushed forward, the plowshare penetrates deep into the soil. Moreover, the earth could be turned away from the blade because the arms were also curved, which both reduced friction and plowed the soil more effectively.

The organic combination of arrows and plowshares adapted to the different requirements of deep and shallow plowing and facilitated intensive farming.

The invention of the Quyu'an plow, which had been used for more than a thousand years, is a milestone in the country's history of agricultural development.

Preferential Tax Policy for Foreign Nationals Extended

Service Info

By LONG Yun

CHINA has further extended preferential tax policies for foreign nationals working within its borders, demonstrating

its resolve to foster a favorable environment for foreign experts and professionals.

According to a notice jointly issued by the Ministry of Finance and the State Taxation Administration on August 29, the policy will remain in effect until the end of 2027.

In 2018, the two government bodies

introduced a policy that allowed eligible foreign individuals meeting certain residency conditions to enjoy tax benefits related to housing subsidies, language training and children's education from January 1, 2019, to December 31, 2021.

To alleviate the tax burden on individuals, on December 31, 2021, China issued another announcement, extending

the implementation period of the preferential tax policy until December 31, 2023.

China's commitment to providing attractive tax incentives for foreign nationals highlights its determination to enhance its global competitiveness, foster innovation, and continue its journey toward economic progress and prosperity.

Preserving the Beauty of Danxia Landforms

Science Outreach

By Staff Reporters

THE DANXIA landforms refer to various landscapes found in southeast, southwest and northwest China, which are formed by terrestrial red sediment featuring cliffs. They are all named after the mountain Danxia (Danxiashan) in Guangdong province, where Chinese scholars first identified it as a distinct landform category in the first half of the 20th century.

These landforms, shaped over a geological history spanning millions of years, represent irreplaceable and non-

renewable geological remnants.

"Danxia landforms hold significant importance in studying ancient geography and environmental conditions. Once damaged, they cannot be restored, which means losing tangible data for studying the processes and causes of geological formations," said Bian Yueyue, senior engineer at the China Geological Museum, with the *Science Popularization Times*.

"Similar to ancient biological fossils that currently exist, if someone steps on them, the surface layer of debris rock can be easily destroyed, and a footprint left on the surface may take decades, or even longer to return to its original state," Bian added, let alone weather and water erosion on these landforms, with lengthy natural recovery periods and considerable restoration

challenges.

Many geological landscapes were formed during various epochs of Earth's history, and shaped by internal and external geological processes, which are essential foundations for human understanding of geological phenomena, geological environments and

evolution conditions.

Bian highlights that minimizing the impact of human activities on these formations is the most effective way to protect such precious geological landscapes.

Source: Science Popularization Times



The golden sunset lights spray over the Danxia mountains in Zhangye city, Gansu province. (PHOTO: VCG)