Shanxi resolute in bid to rescue Yellow River

Drainage region remains key focus of province to foster sustainable growth practices and conserve environment for future generations

The Yellow River in Shanxi is becoming cleaner thanks to local efforts in environmental protection in recent years. PHOTOS BY LI ZHAOMIN / FOR CHINA DAILY

By YUAN SHENGGAO

Shanxi will continue to play an exemplary role to ensure ecological protection and high-quality development in the drainage region of the Yellow River, according to Lan Fo'an, secretary of the provincial committee of the Communist Party of China.

The senior official spoke at the inauguration of an ecological repair project for the Huihe River on June 8. The Huihe is a major branch of the Fenhe River, which is the largest tributary of the Yellow River in North China's Shanxi province.

The ecological protection and high-quality development of the Yellow River is a national strategy proposed by the central authorities in 2019, which highlights a balance between environmental protection and economic growth.

The 5,464-kilometer Yellow River, originating from Qinghai-Tibet Plateau and emptying into Bohai Bay, is the second-longest river in China. It is regarded as the mother river of the nation because it has nurtured Chinese civilization for millennia.

Despite nurturing the people, economy and civilization of its drainage region, the Yellow River is facing severe challenges. There have been millennia of ecological deterioration and growing industrial pollution over the past century.

The central authorities' call for the ecological protection and high-quality development of the Yellow River aims to ease environmental pressure and make growth sustainable, according to Lan.

He said Shanxi province holds a strategic position in the development of this national strategy.

The Shanxi section of the Yellow River is 965 km in length. More than 73.1 percent of the land in Shanxi, covering 114,600 square kilometers across 11 cities, belongs to the river's drainage basin. The river's drainage area in Shanxi is also home to 73.4 percent of the province's population and makes up the majority of provincial GDP.

Shanxi is located in Loess Plateau in the middle reaches of the Yellow River. As the plateau features a fragile ecological environment, soil erosion has been a challenge to the Yellow River for thousands of years.

In the early 1950s, the area of soil erosion in Shanxi was 108,000 sq km, of which 67,600 sq km was in the Yellow River drainage basin. Annual sediment induced by soil erosion in the Yellow River was 366 million metric tons during that period.

Under the guidance of the central authorities' Yellow River improvement strategy, Shanxi began a campaign in 2017 to become an experimental zone for the ecological protection and high-quality development of the Yellow River basin.

Since then, Shanxi's provincial authorities have put the strategy high on their agenda. Remarkable progress has been made in improving the region's environment over the past few years.

Based on these achievements, Lan said he is optimistic about the environmental improvement of the Yellow River and its branches in Shanxi.

He said the province's near-term goal is to ensure that rivers in Shanxi can "supply clean water to the Yellow River".

When referring to supplying clean water, the provincial Party chief said that all the sections of the Yellow River and its branches in Shanxi should have their surface water quality better than the Class III category by 2025.

Surface water quality in China is divided into five classes, with Class V being the worst and Class I being the best. Water with the Class III quality can be used for aquaculture and irrigation.

In 2022, 82.8 percent of water bodies in the Shanxi section of the Yellow River and its tributaries in the province were tested as having water quality of Class III or better, according to data collected across 58 monitoring stations. The rate represented an increase of 16.7 percentage points compared with 2021.

To ensure the 2025 water quality target, Lan called on local officials, businesses and residents to continue their efforts to curb pollution.

He said the officials in Shanxi should enhance their efforts in environmental monitoring and strengthen law enforcement.

The official said Shanxi should continue to strengthen the "river chief" system for the improvement of rivers.

A river chief is usually the head of the local government, responsible for a section of the river. They can be the head of a township, county, city or provincial government. Shanxi's waterways are now taken care of by about 16,000 river chiefs at village level; more than 4,000 river chiefs at township level; about 900 river chiefs at county level; and about 80 river chiefs at city level or provincial level.

In the business community, enterprises are required to upgrade their operations and equipment so as to reduce pollution. The reuse of treated wastewater and rainwater recycling are encouraged in various industrial sites across the province.

Lan said sewage treatment facilities should be promoted across urban and rural communities, ensuring a better living environment and better water quality.

He said Shanxi should also sustain water supplies to ensure a better ecological system for rivers and lakes.

He added that this target can be met with efforts in land greening, building water diversion projects and economizing water use.

He said that land greening is crucial for both curbing soil erosion and increasing the runoff volume of rivers.

Shanxi plans to add 500 sq km of natural forests by 2025 so as to create a stronger ecological security barrier in the Yellow River basin.

The province also plans to treat 311 sq km of sandy land by the end of 2025 to prevent desertification and soil erosion.

Yang Wenjun contributed to this story.

Egrets swoop through the air at one of the Yellow River wetlands in Shanxi province.

Fleet of 15,000 harvest machines reap success

By YUAN SHENGGAO

Reaping wheat is a race against time. During this critical period for harvesting, spanning from May to June, weather and efficiency are crucial.

This is especially true in Shanxi province, a major wheat producing region in North China.

Xu Bingkuan, a resident in the village of Lyuliang in Hejin city, was happy to see a harvesting machine begin to work on his 0.33-hectare wheat farm, with the grains cut and channeled into a threshing drum.

"We estimated that the total output is about 1,800 kilograms," the farmer said. "But it is when the grains are in the threshing drum that we can say there is a good yield for this year."

By June 11, more than 133,000 hectares of wheat had been harvested in Shanxi, which accounted for 24.21 percent of the province's total growing area of the crop, according to the Shanxi Department of Agriculture and Rural Affairs.

Shanxi's wheat planting area surpassed 550,000 hectares this year, 16,000 hectares more than the figure in 2022.

The province became rainy in late May, a time when wheat turns mature and is ready for harvest. Due to the weather, great efficiency is needed during harvesting to prevent the grains from going moldy or germinating, according to local officials.

For this purpose, Shanxi has mobilized a total of 15,000 harvesting machines to reap wheat throughout the province.

Wang Xue is a manager at the modern farming development center of Yuncheng, a city in the south of Shanxi. He is responsible for the leasing of farming machines.

"Reminded by the weather forecast, we have had our harvesting machines ready since mid-May," Wang said.

"We have tailored solutions for various farm terrains," he said. "There are 159 combine harvesters for large, flat farms and hundreds of smaller machines for terraced fields."

The manager added that with these machines in place, 99 percent of harvesting work in the city of Yuncheng will be completed by machines, offering great efficiency that is badly needed in the rainy weather.

Gao Tianshe, an operator of a big wheat farm in the city's Jinjing township, said he was grateful for the help of local farming machine leasing companies.

"Despite days of rain, the yield and quality of grains can be ensured for this year thanks to the efficient actions of harvesting machines."

The good news for farmers in the central and northern regions of Shanxi, where the wheat harvest lasts about 20 days from early June, was that the weather forecasts showed reduced precipitation during the period.

In Shanxi, the growth of wheat is a half-year-long process from the winter sowing to summer harvest. And the care of the crop requires persistent and painstaking efforts.

And the efforts are by no means reduced in an era of farming modernization, which helps to improve efficiency on the one hand and calls for more complicated skills on the other, according to Zhao Zhongwei, an official at the Shanxi Farming Machines Development Center.

To help farmers master new skills and techniques, Zhao said his center and other agriculture-related institutions in Shanxi have put training farmers and offering technical assistance high on their agenda.

These institutions have arranged more than 14,000 trips for farming experts to assist farmers in various locales in Shanxi since the beginning of this year.

Zhao said the current harvesting season is the busiest for the staff members of his center and similar institutions.

"We have to allocate personnel to various sites in rural Shanxi, adjusting harvesting machines' parameters to meet different terrain and weather conditions," Zhao said. "Our goal is to maximize the efficiency and minimize the losses caused by adverse weather."

Wang Xiujuan and Zhang Zhigang contributed to this story.

A farmer reaps wheat from his fields with a harvester in Shanxi's Yongji city. LI XIANGDONG / FOR CHINA DAILY

Baijiu brand's unique flavors showcased at event

By YUAN SHENGGAO

Famed white liquor producer Xinghuacun Fenjiu from China's Shanxi province, hosted a tasting event in Toronto, Canada earlier this month, giving guests an opportunity to taste authentic white liquor, or *baijiu*, varieties from China.

Dozens of local guests, including politicians, business leaders and residents, attended the event.

While tasting genuine *baijiu* varieties, the guests were offered Fenjiu-based cocktails tailored to the taste of the locals.

They said they were glad to learn about the brand's long history and associated culture on this occasion.

At the event, a representative from Xinghuacun Fenjiu introduced the centuries-old brand to guests in both English and Chinese.

He said that local archaeological discoveries show that the production of the alcoholic beverage in the township of Xinghuacun in the Shanxi city of Fenyang, where Xinghuacun Fenjiu is based, dates back more than 6,000 years.

Because of the discoveries, researchers said Xinghuacun might be the origin of China's alcoholic beverage industry.

He added that Xinghuacun Fenjiu is one of the pioneering Chinese *baijiu* companies to go global.

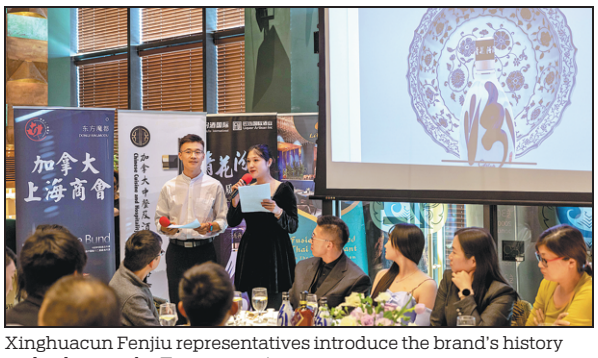
After it won a gold prize at the Panama Pacific International Exposition in San Francisco, the United States, in 1915, Fenjiu-branded white liquor began to attract the attention of international buyers. Since then, several brands, including Fenjiu and Zhuyeqing, have become popular in overseas markets. The brands were first sold to Southeast Asia and East Asia and then to Europe and North America that includes Canada.

Volume export of Fenjiu-branded liquor to the Canadian market began in 1997. It first won popularity in the Canadian-Chinese community and was gradually accepted by the wider population in the following years.

Xinghuacun Fenjiu began to operate a liquor chateau in Canada in 2018, using local ingredients like sorghum and barley to make *baijiu*, which was sold locally.

The company has hosted a number of promotional events in Canada in recent years. The latest was an art and charity evening held in Toronto in January, involving an exhibition of paintings and donations to the local community.

Wu Jia contributed to this story.



Xinghuacun Fenjiu representatives introduce the brand's history and culture at the Toronto tasting event. WEN ZHAOYAN / FOR CHINA DAILY

Hydrogen gives second life to old railway stock

By YUAN SHENGGAO

On June 15, a train locomotive, which looked like a diesel-fueled version, rolled off the production line of CRRC Datong Electric Locomotive Corp, a branch company of China Railway Rolling Stock Corp in the Shanxi city of Datong.

But this was no ordinary locomotive. It was the first hydrogen fuel-cell locomotive in China converted from an internal combustion one, according to Liang Zhenzhong, engineer-in-chief and deputy general manager of CRRC Datong.

"With an output capacity of up to 2,000 kilowatts, this is also the largest-capacity hydrogen fuel-cell locomotive in the world," Liang said.

China's promotion of low-carbon rail transportation has led to the phaseout of many internal combustion locomotives, Liang said, adding that "converting them into new energy locomotives is a new contribution made by CRRC Datong in 'revitalizing idle assets'".

Development of the hydrogen locomotive, which was conducted in cooperation with Ningdong Railway based in the Ningxia Hui autonomous region, started in 2021.

Fu Yongjun, general manager of CRRC Datong, said the new locomotive offers substantially lower operational costs, and great adaptability, flexibility and safety, and boosts environmental protection.

"The use of hydrogen as the fuel means zero emissions of carbon dioxide and other pollutants," Fu said. "Compared with diesel, the hydrogen fuel marks another 50 percent reduction in cost."

Through modular design, the locomotive can adjust its output capacity from 800 kW to 2,000 kW, depending on its loading amount. The cutting-edge battery pack allows a travel time of up to 190 hours on one charge. A full charge can be completed in two hours, according to Fu.

"Safety is always a major concern in the development of a hydrogen fuel-cell locomotive," Fu said. "This is ensured with such innovative designs as intelligent monitoring, hydrogen-cell isolation, and mechanical interlocks, as well as the use of smart fireproofing, insulation, ventilation and anti-explosion devices."

Unlike electric locomotives, Fu said a hydrogen fuel-cell locomotive doesn't need to be connected to the grid with a pantograph: "So it can adapt to all kinds of railways in the world."

The executive said that more than 90 percent of internal combustion locomotives in China can be converted to the hydrogen fuel-cell versions. "Our country has a reserve of more than 7,800 internal combustion locomotives, meaning a huge potential for the emerging industry," Fu said.

Zhao Zhicheng and Yao Xiaomin contributed to this story.

The hydrogen fuel-cell train at CRRC Datong. Despite its looks, the locomotive is full of new tech. ZHAO ZHICHENG / FOR CHINA DAILY