

Death toll from strong China quake rises to 24



Photo taken on Aug. 11, 2017 shows tents at a temporary shelter in Zhangzha Village of Zhangzha Town in Jiuzhaigou County, southwest China's Sichuan Province, Aug. 11, 2017. (Xinhua/Xue Yubin)

The death toll from a 7.0-magnitude earthquake in southwest China's Sichuan Province Tuesday night has risen to 24, with five still missing, by 9 p.m. Friday.

A total of 493 were injured, including 45 in serious condition, the quake rescue headquarters said in the latest casualties update.

More than 61,500 tourists and migrant workers, including 126 foreigners, were evacuated following the quake, which struck Jiuzhaigou County at 9:19 p.m. Tuesday at a depth of 20 kilometers.

In addition, 23,477 local residents have been evacuated to safety.

Jiuzhaigou is a popular tourist destination in the mountains on the eastern edge of Qinghai-Tibet Plateau. It is part of the Aba prefecture and is known for its ethnic minority communities, mountainous landscape, and stunning scenery.

China-born clones bring pig organs closer for human transplants

Scientists have cloned genetically modified piglets that may prove a safe source of organs for transplants into humans.

The 15 black-headed piglets, born in a lab in southwest China's Yunnan Province, do not carry the active infectious viral gene which has impeded the process of pig-to-human transplantation for more than a decade, said Chinese members of an international research team who released their findings Friday.

Pigs have porcine endogenous retroviruses (PERVs) embedded in their genome. These viruses are able to jump from a pig cell to a human when mixed in the lab. The viruses can then be passed to fresh human cells from the infected one.

This standing block was cleared when the scientists using a gene-editing technique, known as CRISPR, inactivate the PERVs.

Geneticist Luhan Yang and her colleagues at the American biotech startup eGenesis are behind the breakthrough.

Yang, co-founder and chief scientific officer of eGenesis, joined professors from several Chinese universities and one from Denmark to pen the study published on the Science journal on Friday.

With modified genes, the scientists created PERV-inactivated pig embryos and transferred them into surrogate sows to produce clones, in the same fashion as Dolly the sheep was created.

Earlier this year, 37 such clones were produced by 17 sows in Yunnan Agricultural University.

Today, 15 are still alive with ages ranging from one to four months. They appeared quite healthy, said Wei Hongjiang, a professor with Yunnan Agricultural University who is one of the lead authors of the publication.

"We now have the world's first ever PERV-inactivated pigs," Wei told Xinhua. "For the first time, we have dealt with the concern of cross-species viral transmission risks."

He said the international team will move to the next step, using gene editing to make pig organs less prone to attack by their human recipients' immune systems, which has been another standing obstacle in the research.

George Church, Harvard geneticist and another eGenesis co-founder, called the clones a milestone in xenotransplantation as the most important safety issue had been solved.

Xenotransplantation means to use animal living cells, tissues or organs in

people to bridge the shortfall in available human organs.

Yang said the world has more than 2 million patients who need organ transplants. The supply is way below the demand and the gap is only expected to grow wider.

Pig organs are of similar sizes and function to humans' and are considered the most feasible for xenogeneic transplantation, she said.

In China alone, more than 300,000 patients are waiting for organ transplants but fewer than 10,000 surgeries are performed each year.

The country witnessed a surge of willing organ donors in recent years but far from enough to meet the need.

"We are working hard on the earliest possible clinical use of xenogeneic transplants to help hundreds of thousands of patients waiting for organ transplants," Wei said.

Xenotransplantation remains controversial.

The WHO says while animals are a potential source of high quality, readily available live organs, xenotransplantation carries risks, especially the spread of known or unknown diseases.

It says some very serious diseases such as AIDS and SARS have originated from animals and urges governments to take regulatory control and ensure surveillance mechanisms before allowing xenogeneic transplants to take place.

[Quantum communication experiments lead China's sci-tech innovation](#)

As the first to achieve quantum key distribution from a satellite to the ground, China is confident in making more scientific and technological breakthroughs.

The achievement, based on experiments conducted with the world's first quantum satellite – Quantum Experiments at Space Scale (QUESS), lays a foundation for building a hack-proof global quantum communication network.

QUESS, nicknamed "Micius" after a fifth century B.C. Chinese philosopher and scientist, was launched on Aug. 16, 2016.

Published in Nature magazine, the achievement was described by reviewers as "impressive" and "constitutes a milestone in the field."

Traditional public key cryptography has the risk of being hacked, while

quantum key technology, used in quantum communication, rules out the possibility of wiretapping and secures the communication.

Over the past two years, in addition to QUESS, China has also launched a series of space science satellites, including the Dark Matter Particle Explorer, the recoverable satellite SJ-10, and the Hard X-ray Modulation Telescope.

Since the start of this year, Chinese have been inspired by landmark achievements in science and technology which contribute to an easier life.

A new railway line, linking Baoji in northwest China's Shaanxi Province with Lanzhou, capital of neighboring Gansu Province, began operation in early July.

The route was a result of China's continuous efforts to improve the construction of high-speed railways, enabling the western provinces to be connected to the national high-speed rail network.

It is also part of China's efforts to boost connectivity along the Belt and Road, where transportation demand is high.

Also in early July, China made breakthroughs in the search for alternative clean energy sources by completing a 60-day trial of mining gas hydrates, commonly known as combustible ice, in the South China Sea.

Starting on May 10, a mining operation in waters near the Pearl River estuary has beaten previous expectations and set world records in both the length and total amount of extraction, according to China Geological Survey Bureau.

China has set innovation as the core of its 13th five-year plan (2016-2020), with the aim to become an "innovation nation" by 2020, an international leader in innovation by 2030, and a world powerhouse in scientific and technological innovation by 2050.

Such efforts will help the country improve the convenience of transport, raise living standards, resolve energy resource shortages, and boost economic development.

Inspired by their country, the Chinese public have also stepped up efforts in scientific and technological innovation.

In 2016, China had over 1.1 million patents for inventions, ranking third after the United States and Japan.

[China's new amphibious plane passes](#)

key test

The TA600, a China-developed amphibious aircraft, passed a hydrodynamic test on Friday, marking a step forward toward its maiden flight.

The test, which aimed to ensure the safety of the aircraft during take-off and flight, was conducted by a laboratory under the Aviation Industry Corporation of China (AVIC) in central China's Hubei Province.

It used a 1:10 model to test the aircraft's performance on still water and rough water surfaces.

When an aircraft takes off from the water's surface, disturbances from waves may cause it to pitch, threatening the safety of the aircraft.

The major difficulty was the kinetic stability of the plane when there were two-meter-high waves, said Jie Yu, the chief of the TA600 testing group.

The TA600, with a maximum takeoff weight of 53.5 tonnes, is expected to serve in firefighting and maritime rescue operations.

China allocates 70 mln yuan for flood relief in northwest

The Chinese central government has allocated 70 million yuan (about 10.5 million U.S. dollars) to facilitate flood relief work in the northwestern province of Gansu, the Ministry of Finance said Friday.

The financial aid will cover evacuation of affected locals, provide living assistance to them, rebuild damaged houses and compensate families of those killed by the floods, according to the ministry.

At least seven people have died and two others were missing after rainstorms hit Wenxian County in Longnan City of Gansu from Sunday evening to Monday morning, resulting in disasters including floods and landslides, according to local authorities.

Nearly 1,000 residents have been moved to safety. The storm also left roads blocked, houses collapsed or damaged, and power supply and communication interrupted.