

# NEWS IN FOCUS

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CHEN BIN/XINHUA VIA ZUMA



An agricultural official from Namibia learns about technology to combat desertification at a Chinese lab.

## DEVELOPMENT

# Science benefits in China's \$60-billion Africa splurge

*Critics worry the investment will make African countries too reliant on an outside power.*

BY DAVID CYRANOSKI

China wants to train Africa's next generation of scientists. Its lofty goal is to improve African science in fields from agriculture and climate change to quantum physics and artificial intelligence.

The training is one element of a much larger plan adopted by Chinese and African leaders at the third Summit of the Forum on China-Africa Cooperation in Beijing on 3-4 September. Chinese President Xi Jinping has

pledged US\$50 billion in grants and loans for infrastructure projects, medical programmes, clean-energy initiatives and other projects in Africa, and Chinese companies will invest another \$10 billion. The amount dedicated to training scientists is not known.

But some policy experts and scientists worry that African nations might become too reliant on other countries to provide training. Others doubt that the initiatives will truly boost African science, because similar projects planned at past forums have yet to produce noticeable benefits.

Few details have been released about how the money will be distributed among countries. The division is likely to be controversial, says Lina Benabdallah, who studies Chinese foreign policy in Africa at Wake Forest University in Winston-Salem, North Carolina. "It will be up to African leaders, political elites and their constituents to press for specific programmes to happen," she says.

Training is a pillar of the new plan. China will offer 50,000 scholarships for African people, including scientists, to study in ▶

China, and will provide short-term training opportunities for another 50,000 people to travel to seminars and workshops.

The action plan also offers scholarships for postgraduate training in China and at African institutions, such as the Sino-Africa Joint Research Centre at the Jomo Kenyatta University of Agriculture and Technology in Juja, Kenya. The centre, which opened in 2013, collaborates with Wuhan Botanical Garden in China, and has produced dozens of academic papers in fields including biodiversity and climate-change monitoring.

China will also support a major expansion of the University of Health and Allied Sciences, a modern biomedical training institution in Ho, Ghana, which received \$20 million from the country in 2015.

“Developing indigenous talents locally is extremely important to the future of science in Africa,” says Tommy Karikari, a neurology researcher from Ghana who works at the University of Gothenburg in Sweden. The latest plan will dramatically expand training opportunities for African scientists, he says.

Karikari says that local scholarships and training facilities are important to ensure that some researchers stay in Africa. Many people currently train abroad because of a lack of opportunities on the continent, says Karikari. “It is expensive, and many beneficiaries do not return home, which affects the pool of trained scientists in Africa,” he says.

Benabdallah says the summit focused

particularly on ways to include African scientists in China’s global-diplomacy programme, the Belt and Road initiative. For example, the plan encourages researchers in Africa to join the Young Scientists Exchange Program, which pays for scientists to study in China for up to a year.

China has also promised to help countries develop real-world applications in quantum

**“Developing indigenous talents locally is extremely important to the future of science in Africa.”**

physics and artificial intelligence. But Benabdallah says there is a risk that African nations might become too dependent on other countries to provide training and skills. It is important

for African nations to be producers of science and technology, not just consumers, she says.

The plan also reaffirms China’s decades-long commitment to help improve agricultural science and practices and environmental protection in Africa. Analysts characterize this investment as a mix of profit-seeking, philanthropy and food security, as China seeks grains and oilseeds that it can bring back home.

The plan calls for new centres for joint research in environmental issues and geoscience, although their locations are yet to be announced. Other programmes will focus on safeguarding biodiversity and combating climate change and desertification. Five hundred senior agriculture experts from China

will also be sent to Africa to help modernize agricultural practices.

But Ademola Adenle, who studies sustainable development at Colorado State University in Fort Collins, is sceptical about China’s intentions. He says little knowledge has been gained from the more than 20 Chinese-government-funded agricultural-technology development centres created in Africa since 2006. The centres lack transparency and mainly represent Chinese commercial interests, he says. One of them reportedly sells farm equipment, mushroom powder and dried mushrooms to local people.

“Since this initiative kicked off, I am not aware of any significant breakthrough in agriculture research and development, or any type of innovation that could transform agricultural development,” he says.

China’s agriculture ministry did not respond to questions about the agricultural-technology centres by *Nature’s* deadline.

Adenle hopes that the forum will result in training for agricultural scientists to improve local farming techniques. But if these initiatives just give China more access to Africa’s natural resources, it could spell doom for the continent, he says.

For China’s investments to help Africans harness science and technology, there will need to be more public discussion of the trade agreements and political deals as they’re worked out. “There is no doubt that China has invested a lot of money in Africa,” says Adenle. “But we need more transparency.” ■

## POLICY

# Fetal-tissue work under scrutiny

*US government will examine federally funded studies.*

BY SARA REARDON

**T**he US government has begun a review of federally funded studies that use fetal tissue, a move that critics fear could be a first step toward curbing such research.

Following complaints from anti-abortion groups and Republican lawmakers, the Department of Health and Human Services (HHS) plans to evaluate “all research involving fetal tissue” and “all acquisitions involving human fetal tissue”. In a statement on 24 September, the department also said that it had cancelled a US\$15,900 contract between the Food and Drug Administration, which it oversees, and Advanced Bioscience Resources (ABR), a non-profit tissue supplier in Alameda, California.

According to the contract, which the FDA awarded in July, agency researchers would implant the human fetal tissue provided by the company into mice that lacked immune systems. The goal was to give the animals human-like immune systems and use them to evaluate the safety and efficacy of various drugs.

The HHS said that it cancelled the contract because it “was not sufficiently assured that the contract included the appropriate protections applicable to fetal tissue research or met all other procurement requirements”.

The action comes after 85 members of the US House of Representatives sent a letter to FDA commissioner Scott Gottlieb on 17 September, claiming that ABR might have violated federal law by selling “the body parts of

children” for a profit. In 2016, a special House committee — the Republican-led Select Investigative Panel on Infant Lives — had referred the company to the US Department of Justice for investigation. ABR did not immediately respond to *Nature’s* requests for comment.

“We are alarmed that the FDA has continued to award contracts to ABR for the procurement of human fetal tissue,” the lawmakers wrote to Gottlieb.

The HHS has offered little detail about its review of fetal-tissue contracts and research. In its statement, the department said that it is auditing “all acquisitions involving human fetal tissue” to ensure that firms that supply the tissue adhere to federal regulations.

The department is also reviewing research involving fetal tissue “to ensure the adequacy of procedures and oversight of this research in light of the serious regulatory, moral, and ethical considerations involved”, as well as whether alternatives to such research exist. An HHS spokesperson declined to comment on how long the process would take, but said that it would encompass research funded by the department.

That decision has “troubled” the International Society for Stem Cell Research in Skokie, Illinois, the group said in a statement on 27 September. “The directive appears to come after