

Ian's grab of random clips (not swept and put into encyclopedia yet)

China's food security: Xinjiang develops seawater aquafarming in desert region amid agriculture focus

Aquaculture firm **Xinjiang Shi Shi Xian** says it has succeeded in a pilot project to develop technology to simulate seawater in its fishery. Concerns over seafood security in China have risen recently following the release of water from the Fukushima nuclear power plant last week. Xinjiang Shi Shi Xian says it has succeeded in a pilot project to develop technology to simulate seawater in its fishery. Photo: China Association for Science and Technology. China's inland Xinjiang Uygur autonomous region has started to develop seawater aquafarming, including freshwater fish, king prawn, abalone and lobsters, as part of efforts to seek technological breakthroughs in

agriculture. Aquaculture firm Xinjiang Shi Shi Xian, which was founded in the rural region in 2022, said it has succeeded in a pilot project to develop technology to simulate seawater in its fishery located on the edge of a desert. The saline level – a mixture of salt and water – in southern Xinjiang is naturally “close to the level in seawater”, said project lead Chen Jiazhen. This will facilitate artificial seafood farming, with the company aiming to increase access to seafood in inland areas of China, according to an article by the China Business Herald that was published by the China Association for Science and Technology earlier this month. We make use of the saline-alkaline land and adjust the level of probiotics and other micronutrients. Chen Jiazhen “We make use of the saline-alkaline land and adjust the level of probiotics and other micronutrients added to the water that will simulate the different seawater environments needed for different breeds,” Chen said. The article was released in mid-August, but has been circulated recently amid concerns over seafood security following the release of water from the Fukushima nuclear power plant. Last week, China banned all Japanese aquatic products in response to the release of waste water from a nuclear <https://archive.ph/GgYPE> 2/5 10/23/24, 4:29 PM. China's food security: Xinjiang develops seawater aquafarming in desert region amid agriculture focus | South China Morning Post. A plant wrecked by an earthquake and tsunami 12 years ago. The company has around 60 indoor ponds, with greenhouses used to compensate for the temperature differences in Xinjiang. The company has developed eight different types of seafood, which are first bred indoors before being moved to outdoor ponds, although it is unclear if the products have been made available to consumers.

Xinjiang Shi Shi Xian has developed eight types of seafood, including lobsters. Photo: China Association for Science and Technology. Chinese state media hailed the expansion of seafood production in Xinjiang as a “role model example” amid China's push for academics and local officials to look for ways to “modernise agriculture” and “provide security for the supply of agricultural products”. China has long been the world's largest seafood producer and it accounts for at least 18 per cent of seafood caught globally, according to the United Nations. Xinjiang is traditionally famous for its fruit production, ranging from Hami melons to Korla pears, while it is a large producer of tomatoes. Salty soil, no problem. China hails record rapeseed output in food security push. Xinjiang is one of the seven locations dedicated as pilot areas for producing saline-alkali tolerant rice – better known as seawater rice – to increase crop output. However, its arid environment also challenges the sustainability of its

agricultural development due to a lack of water. Fish farms in Xinjiang have previously produced freshwater seafood, as companies benefit from the water supply from its high altitude lakes, which are fed by melting snow from its mountainous areas. The Xinjiang government is aiming to increase its annual output of aquatic products to around 30,000 tonnes by 2025. Overall, China is aiming to lift its aquatic production to 69 million tonnes by the same year.

[China's five-year plan for fishing focuses on aquaculture](#) Zhang Chun March 24, 2022

China is set to continue to increase aquaculture output while reining in wild catch. For the seafood sector as a whole, sustainability remains the goal. China is set to encourage more environmentally friendly aquaculture methods, such as water recycling and combined rice-growing (Image: Huang Zongzhi/Alamy)

In January, the Ministry of Agriculture published its [14th Five Year Plan \(FYP\) for Fishery Development](#), a blueprint for the sector until the end of 2025. Annual seafood output is expected to increase from 2020's 65.47 million tonnes to 69 million tonnes, while the limit for wild catch in Chinese coastal waters will remain at 10 million tonnes, and the number of large and medium-sized fishing vessels will be reduced.

[Limiting wild catch and reducing vessel numbers](#) has been at the heart of China's fisheries policy since 2017, when provinces were told how many vessels to take off the water. By 2020, 40,000 working vessels had been taken off Chinese coastal waters, from about 270,000 in 2015, and the total catch reduced to just under 10 million tonnes, down from 13 million, according to the China Fishing Industry Yearbook. This was the first time wild catch had been below 10 million tonnes [since 1995](#). During that same 2016–2020 period, China started piloting systems determining total allowable catches, and allocating these across vessels.

Given the continued limits on wild catches laid out in the 14th FYP for fisheries, the planned increase in seafood production will need to come primarily from aquaculture.

China produces its seafood from four sources: aquaculture, freshwater fishing, coastal fishing and distant-water fishing. During 2016–2020, distant-water fishing output fluctuated between 2 million and 2.3 million tonnes a year, and the goal for the 14th FYP is to keep that at around [2.3 million tonnes](#). Nor is there scope for much growth from freshwater fishing, due to a 10-year moratorium on fishing in the Yangtze. Structural changes during the pandemic, which subdued imports, also forced aquaculture to provide growth. An [analysis](#) from the China Fisheries Association published in May 2021 points out “[such changes] will mean further reliance on aquaculture.” How can aquaculture help China reach its seafood target? Rapid growth in aquaculture over the past two decades has shifted the make-up of China's seafood production: by the end of 2020, aquaculture output was four times that of wild catch fisheries. The 14th FYP for fisheries stresses the importance of seafood for food security, and the trends in growth and in catch limits mean that aquaculture will continue to be more important, both in terms of its quantity and contribution to the total. While growth in aquaculture might be good for food security, it isn't necessarily good news for the environment. According to [research](#) from Beijing Normal

University, aquaculture took over 30% of China's coastline between the 1980s and 2014. That has fragmented wetland ecologies: the salt marshes of the Yellow River delta have shrunk by almost 80%, for example. Meanwhile, effluent outflows and other pollutants from aquaculture are one of the main sources of pollution in coastal waters. Government inspections carried out since 2017 have often resulted in orders to remove or improve aquaculture operations. In 2021, after years of work, local governments completed planning for coastal aquaculture to 2030, identifying zones where it will be permitted, restricted or banned. This should mark an end to disorderly expansion. Ensuring there is space for aquaculture growth, and for that growth to be environmentally friendly, are essential parts of the 14th FYP for fishing. A few approaches were highlighted as examples where growth will be possible, including aquaculture in waters further offshore, and combining aquaculture with rice-growing. Meanwhile, China is also set to standardize the design of aquaculture ponds and encourage more environmentally friendly methods, such as water recycling and combining with rice-growing. Another notable inclusion is the setting of limits on residues of veterinary drugs in seafood, the first time China has included such measures in a Five-Year Plan for fisheries. This will help bolster safety and quality monitoring. A 2021 action plan had already set out five ways aquaculture will be cleaned up: promoting more environmentally friendly methods; treating effluent; reducing use of drugs, replacing "trash fish" – that is, fish too small for human consumption, often used as animal feed – with compound feed; and improving genetic stock. Trials of compound feed as an alternative to trash fish have achieved a substitution rate of 77%, which should encourage nearby aquaculture operations to try this approach. China even has hopes of using the Belt and Road Initiative, overseas operations of fishing firms and the UN's South-South cooperation project to export leading and environmentally friendly aquaculture approaches to other nations. The 14th FYP for fishing includes 12 targets, two of which are binding and 10 aspirational. The two bindings ones are restricting ocean fishing output and reducing vessel numbers. Given that the total wild ocean catch in 2020 was 9.47 million tonnes, the 10 million tonnes target shouldn't be too difficult to achieve. That figure is the highest sustainable catch based on China's total ocean biomass being 16 million tonnes, an estimate that vice minister for agriculture Yu Kangzhen shared with the media in early 2017. But the 14th FYP will also see China continue to help fishers tie up their vessels and change careers, and pay subsidies to reduce the catching of trash fish. That indicates the wild catch may further reduce. Provinces including Fujian and Shandong have already, in line with Ministry of Agriculture and Rural Affairs policy, started paying out fishery stewardship subsidies to vessels which stick to closed seasons and responsible fishing practices. The aim is to reduce intensity of fishing and better look after and use fishery resources. The subsidies are calculated based on positioning information, fishing logbooks, the use of designated landing ports, protection of ocean mammals, and percentage of trash fish in the catch. A study which examined the catches of over 800 fishing vessels nationwide estimated that 35% of the catch in China's exclusive economic zone is trash fish. Reducing that amount will help reduce the overall catch. "Trash fish" is also a misleading phrase, as many smaller fish are juveniles essential for sustaining populations. Reducing vessel numbers won't necessarily reduce output, but it will cut fishing effort in terms of vessel capacity. Some provincial plans indicate that considerable work will be done to cut boat numbers. Zhejiang is aiming to cut the number of vessels working in Chinese waters by 3,000, or 300,000 kilowatts of power. That is equivalent to 20% of all reductions made by coastal provinces during 2016–2020. Fisheries management has got significantly tighter since 2016. Closed seasons in all of China's fisheries along its coasts have been extended by a month, to three to four months, and over 100,000 vessels without the necessary registrations have been confiscated. Meanwhile,

alongside controls on total overall catch, provinces are starting to put total allowable catch (TAC) systems in place for certain species of fish. The 14th FYP period will see more TAC systems rolled out. Between 2017 and 2020, all coastal provinces [started TAC pilots](#). But most pilots focused on one species, and not usually a commercially fished one. The length of the pilots did not allow effective monitoring systems to be set up. And for various reasons, many pilots were not extended – much less widened to cover more species. But the 14th FYP for fishing said more TACs should be done, opening up the opportunity for more pilots. Wang Songlin, president and founder of the Qingdao Marine Conservation Society, and Sun Fang, manager of the Environmental Defense Fund’s Oceans Program, were involved in those pilots, and are happy to see them continue. TAC systems manage fishing at the output end. The two major difficulties with this approach are estimating available resources, and ensuring TAC quantities are stuck to. A [progress report](#) on the pilots, produced by the Natural Resources Defense Council and the Environmental Defense Fund, together with the Qingdao Marine Conservation Society, explained that setting TAC limits requires adequate survey and historical catch data, but currently, that is limited, and figures in the pilots were based on only recent historical catch. A lack of monitoring when catches are trans-shipped or unloaded are also problems for TAC management. Port and fishing vessel management reforms, underway since 2015, are starting to shift the focus of that work towards the ports. Port-based management uses measures such as port entry and exit reports ([hail in/hail out](#)) and designated sites for landing catches, along with vessel access rules and oversight of fishing gear, and checks on catches. The next five years will see enforcement and monitoring personnel based at first-tier and designated catch landing ports. Also, fishing vessels will be required to hail in and out of port, with real-time position monitoring. The use of designated landing ports will also be explored. While the coastal fishing sector is set to shrink, distant-water fishing is to see “high-quality development”. That includes sticking to the 2.3 million tonnes catch level of the 13th FYP period, with more monitoring and better compliance with international fishing treaties. Distant-water fishing will not be the main driver of growth in China’s seafood output, but it is an important part of upgrading the industry. And, in a way, it is part of China’s diplomacy. China has inked fishing deals with 20 nations across Asia, Africa and Latin America, and has signed up to eight regional fishery management organizations. Alongside keeping fleet and catch size stable, the Ministry of Agriculture [said](#) in February that it will “promote a comprehensive system of distant-water fishing oversight including vessel positioning, electronic fishing logs, remote video monitoring, supervision of trans-shipments and product tracing.” If China is to improve compliance with international treaties, it will have to implement fishery conservation measures that are in common international use. China’s first distant-water fishing vessel only set sail in [1985](#) – but it now has over 2,700. As the fleet has expanded, disputes have become more common. As part of efforts in 2016–2020 to formalize fishing activity, China required vessels to comply with international fishing treaties and established a [system](#) for assessing compliance. It also put China’s first voluntary closed season on the high seas into effect, for squid fishing, and for the first time sent [observers](#) to monitor trans-shipments on the high seas. And in the coming five years, China is set to continue to bolster its capabilities to regulate and study fishing on the high seas and at the poles. This will include a traceability and certification system for squid, and exploring the possibility of a TAC system once catch monitoring is in place. Also, it will follow up on the [China distant-water squid index](#) by developing a China distant-water tuna index. The squid index is made up of separate measures for squid pricing across the major oceans, resource abundance and industry outlook, and is used to monitor development of squid fishing and distant-water fishing. The index requires more scientific and accurate assessments and

predictions for fishing grounds and resources. Its guidance on price setting will also help fishing sustainability. The 14th FYP will see China's fishing industry continue on the same path as during the 13th FYP, with continued improvements. As Liu Xin, head of the fisheries department at the Ministry of Agriculture, has [told the media](#), the transitions and upgrades underway will not happen overnight, but will take multiple five-year plans to complete.

[CBS – The Rebranding of Xinjiang](#) By [Elizabeth Palmer](#)

January 7, 2024 / 9:39 AM EST / CBS News

Xinjiang Province, on China's Western frontier – origin of the Silk Road, the ancient gateway for trade to the Middle East – was off-limits during the pandemic. But it is open again, and these days it's being marketed by the state both for its beauty and its business opportunities. CBS News recently joined a tour arranged by the Chinese Information Office, which hired the buses, set the itinerary, and provided the translators and the staff who have accompanied us every step of the way. They showed us everything from agricultural machinery to ancient ruins, to e-sales of local plums on TikTok. What we didn't see was evidence of the detention centers and prisons that turned Xinjiang into an international scandal. Human rights groups say that, starting in 2014, up to million Muslim Uyghur people were rounded up in Xinjiang and imprisoned. Those who could escaped, and thousands settled in the United States. Babur Ilchi, of the [Uyghur Human Rights Project](#) in Washington, said the Chinese Communist Party is threatened by the Uyghur people because "we're not Han Chinese, we're separate from the majority of China. The Chinese government perceived us as a potential threat to their complete supremacy over China." Meanwhile, the government has been investing heavily in Xinjiang, including a multi-billion dollar high-speed train. Everywhere we saw evidence of the eye-watering money China is spending on infrastructure, like wind farms, and tourist development. The message: forget human rights abuses, take in the sights. Zou Bin, one of our translators, is Han Chinese. He grew up in Xinjiang and wanted to tell us how proud he is of the area he's always called home. "I hope you could change some of the ideas or impressions which has been spread by some Western media about Xinjiang," he said. "So, you want us to go home with a different story?" we asked. "Yes, with what you see." At first, the Chinese government denied the Uyghur detention centers existed. But after they showed up in satellite pictures, it said they were all closed in 2019. One official, who would not go on camera, confirmed we'd driven by one such center, but that it wasn't worth pointing out, he said, because it was shut down. Instead, we saw ethnic dancing, local wine production, and a village remodeled and beautified especially for tourists. But of private Uyghur life, we caught only passing glimpses. There was one official nod to China's crackdown on the Uyghurs: the Extremist Museum, in Xinjiang's capital, Urumqi. Its gruesome exhibits recall attacks by Uyghur extremists going back to the 1990s. In one, 1,700 were injured, said the guide, and 200 stores were burned. The message: China's government had no choice but to come down hard. When suggested that the Chinese government's crackdown on the Uyghurs was in response to terrorist attacks, Uyghur Human Rights Project's Babur Ilchi replied, "Well, I think that if your response to acts of violence, or perceived acts of terrorism, [is] to round up an entire ethnic group into mass concentration camps, then you have gone beyond your ability to defend yourself." At night in Urumqi, we did see some heavy security presence. But overall, with facial recognition cameras everywhere, the policing and the atmosphere were relaxed.

The very fact of this journalists' tour shows that China's government believes it's brought the Uyghurs to heel. Everything we have seen on this tour – and everything we haven't – underscores China's determination to rebrand Xinjiang so it's no longer infamous for gross human rights violations against the Uyghurs, but rather famous as a tourist attraction. The traditions of Islam were once everywhere in Xinjiang. Religion was a pillar of Uyghur community life, and so were conservative customs – veils for women, beards for men. Not anymore. The old Uyghur ways have been curbed. The law now discourages overt religious expression, even dress, in public. Meanwhile, majority Han Chinese influence is officially encouraged. The ancient capital Kashgar is now "Kashi" – its Chinese Mandarin name. In the Xinjiang bazaars, Uyghurs have been Disneyfied. Even [the sacred Id Kah Mosque](#) sells tickets to tourists. In Urumqi's bazaar we found Uyghur Imamu Meimeti Sidike, who told us he'd been in a re-education camp for seven months. His crime: being overly religious. "I wouldn't even let my wife work," he said. And now? He responds with the party line: "I learned I'd been breaking Chinese laws, and reformed." But with surveillance cameras watching, and our official guides nearby, how free was he to speak? We'll never know. It's showtime in Nazerbag village kindergarten for local Uyghur kids. Officially, the Chinese government promotes bilingual education for them, but this is Mandarin, and so are the books on the shelves. The Chinese government wants the world to believe its draconian crackdown was a good thing, for stability, security, and for the Uyghurs themselves. If the Uyghurs disagree, they're not saying, least of all to us. And as far as China's concerned, that's the mission accomplished.

[Fishery thrives in landlocked Xinjiang](#)

By AYBEK ASKHAR | CHINA DAILY | Updated: 2021-01-19 09:06

According to Guinness World Records, Urumqi, capital of the Xinjiang Uygur autonomous region, is further from the sea than any other city in the world. But that hasn't stopped China's westernmost region from shattering its cliched dry, barren and deserted image by developing a successful fishery in its Bortala Mongolian autonomous prefecture. Liang Jing, an official from Wenquan county in Bortala, said the reason lies in its Sayram Lake, a place where the locals believe warm and humid ocean air ends up. "Sayram Lake is the highest altitude and the largest alpine lake in Xinjiang," Liang said. "Its water quality is remarkable, and with a low but stable underwater temperature, researchers found the 453-square-kilometer lake is quite suitable for certain fish farming." The lake held no fish until a local aquaculture body decided to introduce the northern whitefish (*Coregonus peled*), a well-adapted cold-water fish, from Russia in 1998. After a successful breeding experiment two years later, Sayram started a new chapter in fishery development. In late November each year, Ma Zhuang, a senior manager at the [Saihu fishery company](#), organizes his breeding team to start the artificial insemination and hatching process. Their goal is to make sure more healthy fingerlings survive until the next June, when they can be put into the lake. "When the fish were first introduced, the survival rate during hatching was around 3 percent and the size of our business was entirely dependent on how many fish eggs foreign companies could provide," Ma said. [In 2000, the local fishery authorities invested 3.4 million yuan \(\\$520,000\) on a fish-breeding base.](#) Government investment in breeding infrastructure and technology boosted the fishery's development, and the company has hired more professionals to conduct research. "I still remember we often stared at the microscope for

five or six hours in order to make a little breakthrough on artificial breeding back then," said Hou Yujun, a biotechnology engineer at the company. The artificial breeding technology gradually matured in the next decade as the company researched and optimized new hatching techniques, and the survival rate increased to 36 percent. "We were able to buy a few million eggs before, but now we can hatch hundreds of millions of eggs a year," Hou said. "Now the sole purpose of importing eggs from abroad is to improve the breed." After hatching in spring, the whitefish fingerlings are placed in a new pond where they can grow 4 centimeters in the first month. "It's a remarkable achievement since the fish could only grow 2 centimeters in three months at our previous breeding workshop when they were first introduced here," Hou said. In June, most of the surviving fish are put into the lake, with the rest bought and raised by local farmers. "We offer those mature fingerlings to the farmers every year at a very low price, and they can sell the fish in the market once they reach 700 grams, which usually takes two years, or they can sell them to us for a little higher than the buy-in price," Ma said. Fish growing in the lake take three to four years to reach the optimum marketable weight of more than a kilogram. After years of learning and improving fishery techniques, the lake has become an important cold-water fish production base, with the company now one of China's largest exporters of northern whitefish with annual output of more than 400 metric tons. As output increased, the company decided to improve the industrial chain by building an 8,000-square-meter processing factory in 2015. Ma said it meets high design standards set by the European Union. "We are able to make those fish into packaged goods once they are caught and can deliver to any restaurant in need across the country within 24 hours," he said. The company has also invited professional caviar makers from Finland to visit every year since 2016 to teach its workers how to make caviar. "Since the COVID-19 outbreak, we have stopped exporting the caviar to European countries, but in 2019 the export volume reached 15 tons," Ma said. "I believe there will be more after everything is back to normal." Today, Sayram has also become a popular stop for visitors. When traveling by the lake, they can always find food trucks selling fresh fish products. "The fish products sold by the trucks are northern whitefish just caught from the lake," Ma said. "And the trucks making real money are run by the locals."

FISH AND FISHERIES IN WESTERN CHINA By K.F. Walker Department of Zoology, University of Adelaide, South Australia 5005, Australia And H.Z. Yang Bureau of Aquatic Products, Xining, Qinghai 810001, People's Republic of China

ABSTRACT The remote provinces of Qinghai, Xinjiang and Xizang (Tibet) in western China have fishery potential that is small by world standards, but significant nonetheless. Although the region is arid and cold (altitude >3000 m) there are many lakes and rivers fed by runoff from nearby mountains, and the region supports 190 fish species, notably the native naked carp (or "snow trout"; Cyprinidae: Schizothoracinae). Fisheries have been established for more than 30 years, but contribute less than 0.2% of agricultural production. A growing population (21 million) has encouraged the expansion of capture fisheries and aquaculture. Large-scale fishing in several lakes began in 1958. Production followed a typical pattern, with high initial yields later declining as the larger fish were removed. After 1978 operations were rationalized by the introduction of Fishery Management Stations. There is potential for development of regional capture fisheries, although the viability of existing fisheries depends on management. There is

limited aquaculture in Qinghai (100 t in 1990) and none in Xizang, but in Xinjiang production (6000 t in 1990) has exceeded that of capture fisheries since 1986. Stocking of reservoirs with fingerlings of cyprinids and other species has been highly successful, and aquaculture is likely to expand in the future, particularly for cold-tolerant species like rainbow trout (*Oncorhynchus mykiss*). Brief case histories are provided for the two major lake fisheries. The Qinghai Lake fishery for the endemic naked carp (*Gymnocypris przewalskii*) was opened to commercial exploitation in 1958. Trawler catches peaked at 28,000 t in 1961 and declined until about 1970, when they became more stable. In 1990 the legal annual catch is about 2000 t (including a 1200 t factory quota), with perhaps another 1700 t lost to unauthorised fishing and piscivorous birds. Naked carp are slow-growing (0.5 kg in 10 years) and the population would take a long time to recover from over-exploitation. Changes in management are required because the trawler catch includes many immature fish, and because the fish spawning areas are being degraded. There is also scope for increasing the value of naked carp through improved handling, processing and marketing. The Bosten Lake fishery in Xinjiang produces an annual catch of about 2000 t, dominated by perch (*Perca fluviatilis*). Management changes have been imposed to protect spawning populations and to protect cyprinids against predation by perch.

INTRODUCTION Qinghai, Xinjiang and Xizang (Tibet) are the three westernmost provinces of China, covering 3.62 million km² or about 40% of the country (Fig. 1). They are neighbours to Afghanistan, Tajikistan, Kyrgyzstan, Kazakhstan, the Russian Federation and Mongolia in the west and north, and India, Bhutan, Nepal and Pakistan in the south. The region is mountainous, bounded by the Himalayas to the south and the Karakoram to the west, and divided by the Kunlun Mountains, separating Xinjiang from the Qinghai-Xizang Plateau ("The Roof of Asia", average altitude >4000 m above sea level). The Tien Shan Mountains further divide Xinjiang into northern and southern halves. Southern Xinjiang includes the Turpan Depression and Lake Aiding (154 m below sea level), the lowest point in China. The rugged landscape and harsh climate of this remote area support a human population of about 21 million. Although travellers have visited the region since the 19th century, it was not until after the People's Republic was founded in 1949 that comprehensive investigations began of its natural resources (e.g. Li, 1959; Academia Sinica, 1975, 1979; Anon., 1981). Most of the published records are in Chinese, however, and not easily accessible to scientists in other countries. Although the region is mainly arid, many large rivers including the Brahmaputra (Yarlung Zangbo), Mekong (Lancang), Yangtse (Changjiang) and Yellow (Huanghe) originate on the nearby slopes of the Himalayas. Runoff from the mountains amounts to 608 km³, or more than 70% of China's total water resources. The total lake area exceeds 40,000 km², including 10 of the 22 Chinese lakes with areas greater than 500 km² (Wang, 1987). There are many diverse freshwater and saline environments, including underground waters and springs, and water pollution is insignificant. The region therefore has ample resources to sustain fisheries development, particularly for cold-tolerant species. This chapter is drawn partly from a program of research and development, Fisheries Development in Qinghai Province, undertaken in 1989-92 by the Chinese Government with assistance from the United Nations Development Program and the Food and Agriculture Organization of the United Nations (Edwards, 1992; Walker *et al.*, 1996). The chapter outlines the status of fisheries in Qinghai, Xinjiang and Xizang, and provides case histories for two important fisheries, Qinghai Lake (Qinghai) and Bosten Lake (Xinjiang).

[Xinjiang aquatic products ascend to world's dinner table](#)

Information Sources : [Xinhua](#)

2023-12

URUMQI, Dec. 6 (Xinhua) -- Aquatic products raised in snow and glacier meltwater in northwest China's Xinjiang Uygur Autonomous Region now have greater access to global dinner tables, as local exporters have begun to receive approval from foreign markets. Xinjiang is now home to two aquatic suppliers that have obtained export certificates for the European Union (EU) market, according to the customs of Urumqi on Tuesday. The Xinjiang Zungui Fresh Food Technology Co., Ltd., the latest one to receive market approval, boasts a production capacity of 3,000 tonnes of fish a year. Dong Shanlan, general manager of the company, said that after obtaining the certificate for direct export to the EU, the company whose main export markets used to be in the southeast Asian countries such as Singapore and Malaysia would further tap the markets in Central Asia and the Middle East. Despite being landlocked in China's far west, Xinjiang boasts rich resources of glacial meltwater. With over 40 million mu (2.67 million hectares) of ponds and wetlands, it is well-suited for the development of aquaculture and the breeding of cold-water fish species that offer nutritious benefits, such as rainbow trout. This has helped create a new source of income for locals. Wang Haiyuan, a customs official, said that the customs would support exporters to abide with foreign market requirements and facilitate the exports. Currently, there are eight food exporters in Xinjiang, which have gained overseas market access in eight countries and regions such as Japan, Canada and Saudi Arabia.

[Xinjiang trout farming goes swimmingly amid soaring overseas demand](#)

Xinhua | March 30, 2023

When speaking about famous products from China's Xinjiang Uygur Autonomous Region, one would often end up talking about mutton, fruits or nuts, while it is less commonly known that fish raised in snow and glacier meltwater in this vast region have become a world-renowned delicacy. In contrast to the tranquility of the Tianshan Mountains, in which the only sound heard is often the dancing brooks, fish ponds in Nilka County, Kazak Autonomous Prefecture of Ili, where the brooks meander, are filled with the hustle and bustle of a rainbow trout breeding industry worth over 100 million yuan (about 14.5 million U.S. dollars) a year. Rainbow trout, a fish native to the rivers and lakes of North America, is famous for having few bones and a lot of meat, which makes it ideal for raising as food. Relying on its abundant water resources, Ili, in recent years, has invested heavily in the fishery industry. The prefecture aims to increase the annual output of aquatic products to about 30,000 tonnes by 2025. "Xinjiang-bred trout has enjoyed a growing recognition in Russia, owing to its geographical proximity and high quality," said Wang Yuan, deputy manager of Xinjiang Zungui Fresh Food Technology Co., Ltd. "Deep-processed trout products are also exported to Malaysia and many other destinations. This year, we will work to open up more markets, including Israel and Kazakhstan," Wang added. Its parent company, Xinjiang Tianyun Organic Agriculture Co., Ltd. is a local fish farming, processing and retail leader. The company now produces a series of trout products, ranging from trout fillet, segment, and steak to minced and smoked trout. "In contrast to last year when we ran about looking for customers, this year we've already received lots of orders and production is at full capacity every day. We estimate the annual processing capacity can reach 2,000 tonnes this year," Wang added. Farmers have also seen a steady rise in incomes through the innovative use

of the region's rich natural resources. Mijit Mehmud, 24, did multiple jobs before securing work at the company. "I can earn a monthly salary of over 5,000 yuan, which is much higher than before," he said. Currently a total of 156 local residents have taken on various positions at the company, taking up more than 60 percent of the company's staff.

Sales of Xinjiang's aquatic products surge

2023-09-19 Global Times Editor : Li Yan

Sales of aquatic products from Northwest China's Xinjiang Uygur Autonomous Region have jumped in recent days after going viral on Chinese social media platforms, sparking discussion and buying interest among Chinese netizens, as Xinjiang is typically famous for its deserts and Gobi Desert products, along with fruit and skewers. Sales of salmon from Xinjiang Tianyun Organic Agriculture Co based in Karasu township, Nilka County in Ili Kazak Autonomous Prefecture have witnessed a continuous surge as consumers come directly for Xinjiang-produced aquatic products, Yao Dingxiang, deputy general manager of Tianyun, told the Global Times on Monday. The company will expand production from the present 3,000 tons to an expected 6,000 tons this year and to 12,000 tons in 2025, Yao said. Yao noted that the local environment and clean natural resources are the major advantages for cultivating high-quality aquatic products in Xinjiang, which meet international standards. The company is cooperating with businesses in economies that are part of the China-proposed Belt and Road Initiative, while also working on connections with the five Central Asian countries. Tianyun also exports salmon products to some Southeast Asian countries such as Malaysia and Singapore. Besides salmon, Chinese consumers are eyeing crabs from Xinjiang, with the hashtag "Xinjiang's big crabs have been shipped" previously trending on Sina Weibo. A Xinjiang-based crab seller told the Global Times on Monday that she recently started selling crabs online in response to growing consumer interest. Another Xinjiang crab retailer who began online sales on Douyin last year said that she has been receiving more inquiries from consumers and friends. Xinjiang is actually a major fishery province in northwestern China with abundant resources, including 11.45 million mu (763, 333 hectares) of water area and more than 24,000 square meters of iceberg areas, domestic news site nbd.com reported. Xinjiang has further expanded its aquaculture area by adapting technologies to turn large areas of local saline land into usable space for cultivation. In 2022, Xinjiang's total fishery output reached 173,000 tons, ranking second among China's five northwestern provinces and regions, nbd.com reported. Some 4,554 tons of salmon were produced last year, accounting for 15 percent of the country's total salmon output from the nation's inland regions. The total income for Xinjiang's fishery sector reached 4.2 billion yuan (\$575.82 million), an increase of 921 million yuan compared with 2019, per media reports. Industry insiders said that the surge in sales of Xinjiang's aquatic products partly came from the market's rising concerns after Japan's dumping of nuclear-contaminated wastewater. The region also saw an increase in sales of "seawater rice" for the same reason. Li Dumin, Party secretary of Pahataikeli Village in Kashi Prefecture in Xinjiang, told the Global Times on Monday that sales of "seawater rice" grown in the village had risen in recent months as concerns over the security of Japan grain imports mounted. "Seawater rice" refers to rice grown in salty soil. Home to a vast area of saline-alkali soil, Xinjiang has been developing multiple ways to transform this land into either arable farmlands or to be used for other breeding purposes. "The main competitiveness of our rice is

that the crop is cultivated in a good environment without any pollution. The rice farmland was irrigated with either glacial meltwater from the Tianshan Mountains or spring water, which are high-quality water resources,” Li explained.

[What does the Xinjiang Production and Construction Corps do, aside from forced labor?](#)

Business & Technology The Xinjiang Production and Construction Corps (XPCC) stands accused of widespread human rights abuses in Xinjiang, but its operations are fundamental to Beijing’s economic plans for the region. Barry van Wyk Published August 8, 2022

Over the last few months, the Helena Kennedy Center for International Justice at Sheffield Hallam University in the U.K. has produced a [series of reports](#) on alleged human rights abuses of the Uyghur population in Xinjiang, including forced relocation, forced labor, land expropriation, extrajudicial detention and imprisonment, and religious persecution. **The reports say that the Xinjiang Production and Construction Corps (XPCC 新疆生产建设兵团) plays a “core and crucial role” in all of these abuses. The researchers describe the XPCC as a “colonial agency” perpetrating a “reign of terror,” with its own prison system that has been vastly expanded over the last few years. Since 2017, dozens of reports by journalists and researchers have documented the extralegal detention of hundreds of thousands of Muslims in Xinjiang, including Uyghurs, Kazakhs, and other ethnic groups, with some estimates putting the number at more than 1.5 million people in camps.** The U.S. State Department has accused China of “genocide” against Uyghurs, and imposed sanctions on the XPCC in 2020. In June this year, the U.S. passed the Uyghur Forced Labor Prevention Act (UFLPA), which provides U.S. authorities with increased powers to block the import of goods linked to forced labor in China. But what was the XPCC actually set up do? The XPCC through official Chinese eyes The XPCC operates as a large state-owned enterprise [integrating agriculture](#), industry, transportation, construction, commerce, and various construction activities. **About 60% of staff of the XPCC is reportedly associated with large-scale farming, while the rest are occupied in non-agricultural sectors such as industry, construction, and public services. According to Chinese media reports, the XPCC accounts for 19.9% of Xinjiang’s grain output, 30% of oilseed production, and 44.5% of beet production. Of Xinjiang’s total 2021 GDP of 1.59 trillion yuan (\$236.33 billion), the XPCC, “a special organization with a special management system,” accounted for 339.56 billion yuan (\$50.20 billion), for a share of about 21%.** The XPCC regularly features in Chinese media for its agricultural projects. It has been reported to be engaging in [ostrich farming](#); [tomato farming](#) and tomato paste production; various [greenhouse projects](#); a wide range of fruit farming, including [apricots](#), pears that are pollinated by agricultural drones, and “dinosaur egg” plums; and demonstration bases for [cotton](#) and [wheat](#). In addition to such agricultural projects, the XPCC is now also engaging in [ecommerce](#), [logistics](#), and the [services trade](#). Last week, two Chinese journalists visited Tiemenguan, a city in Xinjiang, located about 500 kilometers (310 miles) southwest of the regional capital Urumqi. One of the journalists [reported](#) on how 15 varieties of wine are being produced in Xinjiang’s Taklamakan Desert, with the “mountain lake effect” of the Yanqi Basin, and are then sold all over China. In two years, the wine-producing area of Xinjiang has been enlarged from 6,600 hectares to 20,000 hectares. The other journalist [reported](#) seeing sand dunes outside Tiemenguan, and then large

quinoa plantations, a “biological desalinator” crop, rising out of the desert, along with other crops. In February this year, the XPCC formed a [Red Tourism Leading Group](#) (tourism to historical sites connected to the Communist Party), and has established at least 56 Red Tourism scenic spots in Xinjiang. In 2021, Xinjiang received over 31 million tourists from the rest of the country, a year-on-year increase of 36.82%, with tourism revenue of 14.48 billion yuan (\$2.14 billion), a year-on-year increase of 63.22%. According to a [2021 report](#) by the Center for Advanced Defense Studies (C4ADS) in Washington, there are at least 2,873 companies operating within the XPCC, and assets held directly and indirectly by the organization have been linked to 862,000 entities around the world. With such a complicated web of companies, it may not be easy to keep the XPCC out of global supply chains. For details on how companies are ensuring that their products are not tainted by forced labor in Xinjiang, have a look at The China Project’s [recent webinar on American corporations and their measures to comply with the Uyghur Forced Labor Prevention Act](#), or check up on your suppliers on our [ChinaEDGE database](#) of Chinese companies, which includes details on ownership and affiliations.

[Report: Xinjiang Production and Construction Corps plays a central role in repressing Uyghurs in Xinjiang](#)

July 28, 2022 04:27 By Mo Yu

A new research report says that the Xinjiang Production and Construction Corps, the Chinese authorities' paramilitary organization in Xinjiang, plays a "critical and core role" in the authorities' serious violations against Muslim minorities such as the Uyghurs. The report titled "Until Nothing is Left": China's Settler Corporation and its Human Rights Violations in the Uyghur Region" released by the Helena Kennedy Center for International Justice at Sheffield Hallam University in the UK on Tuesday (July 26) describes how the Xinjiang Production and Construction Corps suppresses the lives, culture and identity of members of minority groups such as Uyghurs through forced relocation, forced labor, land expropriation, extralegal detention and imprisonment, and religious persecution. "The Corps has implemented these plans over the past five years to create a reign of terror," the report wrote. The Xinjiang Production and Construction Corps was established in 1954 and is now an "integrated party, government, military and enterprise" organization. It is distributed throughout Xinjiang and has the authority to handle economic, government and judicial affairs on its own. Administratively, it is under the dual leadership of the Chinese central government and the Xinjiang Autonomous Region government. It is a provincial (ministerial) level unit with leadership positions such as "commander" and "political commissar" that imitate military organizations. In terms of economy, the Corps is also known as China New Construction Group Corporation. It is a large state-owned enterprise that mainly operates in agriculture and industry, and is also involved in transportation, construction, commerce and other economic construction businesses. The Corps owns more than a dozen listed companies and holds shares in thousands of companies. In 2020, the US government has included the Xinjiang Production and Construction Corps on the sanctions list for its involvement in serious violations of the human rights of ethnic minorities in Xinjiang. The report by the Helena Kennedy Center for International Justice said the Corps is a "colonial institution" that was "dispatched by the top brass of the party-state to serve as a military and industrial force to suppress Uyghur dissent." The report cited the example of the Xinjiang

Production and Construction Corps, which has its own prison system, but satellite images show that since 2016, the Corps has begun to detain Uyghurs in these prisons and has built new prisons to accommodate more detainees, so that "in the past few years, it has become increasingly difficult to distinguish between the Corps' prisons and their detention camps." The report said that these detained Uyghur laborers constitute the main labor force for the Corps' production, and some detention camps are even located in industrial parks subsidized by the Corps. For example, satellite images show that in the Yong'anba Industrial Park in Tumushuke City, where the Corps' Third Division is located, there is a facility surrounded by reinforced walls and guard towers on the four corners. The report said that officials from the Xinjiang Production and Construction Corps also "encouraged" Uyghurs living in villages to transfer land ownership, work in factories, and move to neat and uniform monitored communities provided by the government. The report said these coercive government-backed land acquisition projects destroyed the lifestyle and culture of local people such as the Uyghurs, forcing them to become so-called "surplus labor," and the direct beneficiaries of this arrangement are enterprises owned, subsidized or approved by the government. The report believes that all enterprises and investment projects in the Xinjiang region are expected to participate in the government's repressive projects. "The XPCC provides subsidies and incentives to enterprises participating in these projects," the report said. "Enterprises within the XPCC area - whether owned by the XPCC or operating in the XPCC area - work for the state and play a central role in the XPCC's oppression of Uyghurs and other minority citizens." The report pointed out that because the XPCC's enterprises have been integrated into the business, trade and financing environment in Xinjiang, China and the entire region, few industries can be completely unrelated to the XPCC, which has also led to the tainting of international supply chains, making foreign governments, multinational corporations and consumers complicit in the persecution of Uyghurs. A report last year by the Center for Advanced Defense Studies (C4ADS) in Washington said that the XPCC controlled at least 2,873 companies. Data from business intelligence firm Sayari Labs shows that assets directly and indirectly held by the Xinjiang Production and Construction Corps may be linked to 862,000 entities around the world. The Chinese embassy in the UK and the Chinese embassy in the US did not immediately respond to VOA's request for comment. The Chinese government has repeatedly said in the past that Western allegations of genocide and forced labor in Xinjiang are fabricated lies. VOA sent an email to the report's author for comment, but had not received a response by press time. The U.S. government has determined that the Chinese government's crackdown in Xinjiang constitutes "genocide" and "crimes against humanity." The parliaments of the Netherlands, Canada, and the United Kingdom, as well as many human rights activists, have condemned the Chinese government for committing "genocide" in Xinjiang. International human rights organizations Human Rights Watch and Amnesty International have determined that the Chinese government has committed "crimes against humanity" in Xinjiang. On June 21 this year, the United States officially implemented the Uyghur Forced Labor Prevention Act, which completely banned Xinjiang products from entering the United States unless importers can prove that the products do not contain forced labor. The Sheffield Hallam University report on Tuesday called on other governments to also implement an import ban on products made with forced labor, and hoped that governments would make public customs data and disclose the list of companies affiliated with the Xinjiang Production and Construction Corps. The report lists warehousing and logistics companies that purchase cotton from the Corps companies, aiming to provide a reference for downstream companies in the supply chain. In addition to recommending that all companies cut ties with the Xinjiang Production and Construction Corps, the report also

called on development banks to terminate all dealings with the Corps entities.

[China's genocide against the Uyghurs, in 4 disturbing charts](#)

From internment camps to mass sterilization, here's why the ethnic minority's birthrate is plunging.

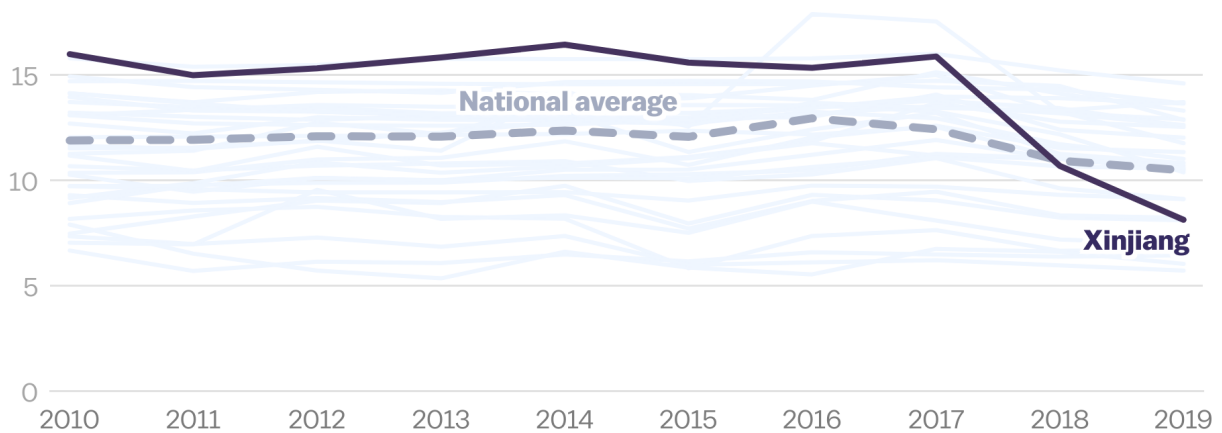
by Sigal Samuel VOX

Mar 10, 2021, 8:30 AM EST

China is responsible for an “ongoing genocide” against its Uyghur ethnic minority, according to the [first independent legal analysis](#) of the situation undertaken by a nongovernmental organization. The [report](#), published this week by the Newlines Institute for Strategy and Policy think tank in Washington, DC, brought together the findings of 50 experts in human rights and international law. Governments around the world are also increasingly declaring that China's persecution of Uyghurs constitutes genocide. [The United States applied that label in January, and the Canadian and Dutch parliaments followed suit in February.](#) It's taken three years to get to this point. In 2018, when journalists like myself [started reporting](#) that China was putting Uyghurs and other ethnic minorities in internment camps, experts said we shouldn't call it genocide — Though they said the camp system's [forced indoctrination](#) and [family separation](#) may amount to cultural genocide, there wasn't enough evidence to show that China's actions met the [United Nations' definition](#) of demographic genocide. Besides, advocates were having a hard enough time convincing the world that China was [detaining a million people in camps without trial](#). That's changed. China's persecution of the Uyghurs — a mostly Muslim ethnic minority that Beijing [paints as a separatist and terrorist threat](#) — is now well established. Several survivors have [reported](#) enduring [torture](#) in the camps. We've also learned that China transfers many of the detainees to factories across the country to perform [forced labor](#). There's [evidence](#) that this forced labor has leached into the global supply chain for products we all use, from companies like Apple, Microsoft, and Amazon. [The new report says that the Chinese government's actions have violated “each and every act” prohibited by the UN Genocide Convention, namely: killing members of the group, causing serious bodily or mental harm, deliberately inflicting conditions of life calculated to bring about the group's physical destruction, forcibly transferring children to another group, and imposing measures intended to prevent births within the group.](#) Evidence that China is breaching that last prohibition has come in recent months from Uyghur testimonies as well as the Chinese government's own statistics about Xinjiang, the northwestern region where Uyghurs are concentrated. Take a look at this chart compiled using data from the [China Statistical Yearbook](#) (and originally [tweeted](#) by an Australian data analyst in slightly different form). [The x-axis shows the year and the y-axis shows the number of births per 1,000 people. We can see that in Xinjiang, the birthrate has halved in two years.](#)

Births in China's Xinjiang region have dropped sharply in recent years

Births per 1,000 people in each of China's regions

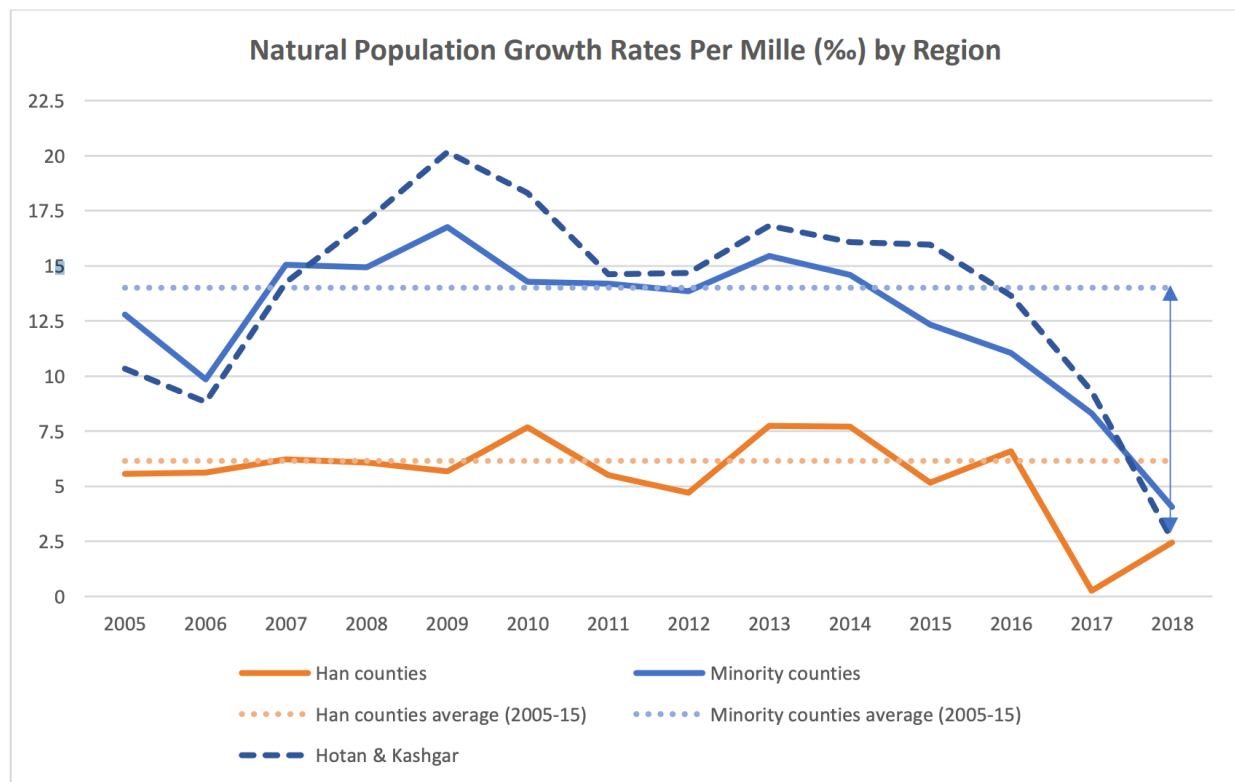


Source: China Statistical Yearbook

Vox

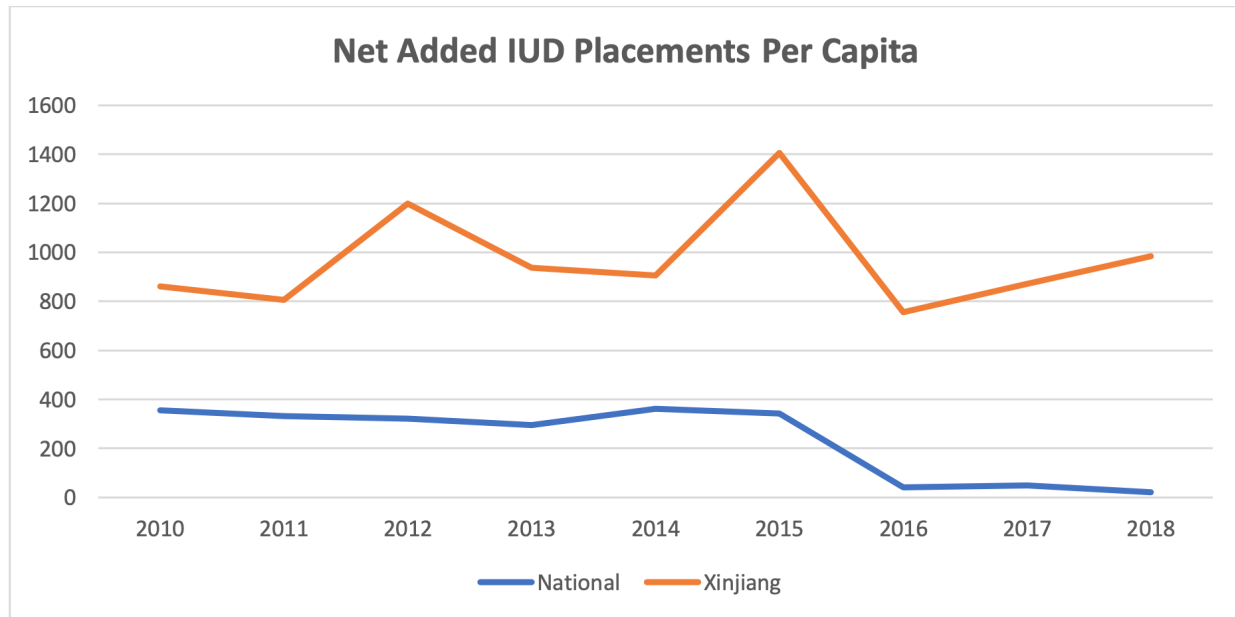
Tim Ryan Williams/Vox

Adrian Zenz, a leading China scholar and senior fellow at the Victims of Communism Memorial Foundation in Washington, DC, added that the “natural population growth decline, which started in 2016/17, is even more shocking when you differentiate minority counties in Xinjiang from counties with a predominantly Han population.” In a report released last summer, Zenz showed — using data from the Xinjiang Statistical Yearbooks — that between 2015 and 2018, population growth in the largely Uyghur areas of Kashgar and Hotan fell by a staggering 84 percent.



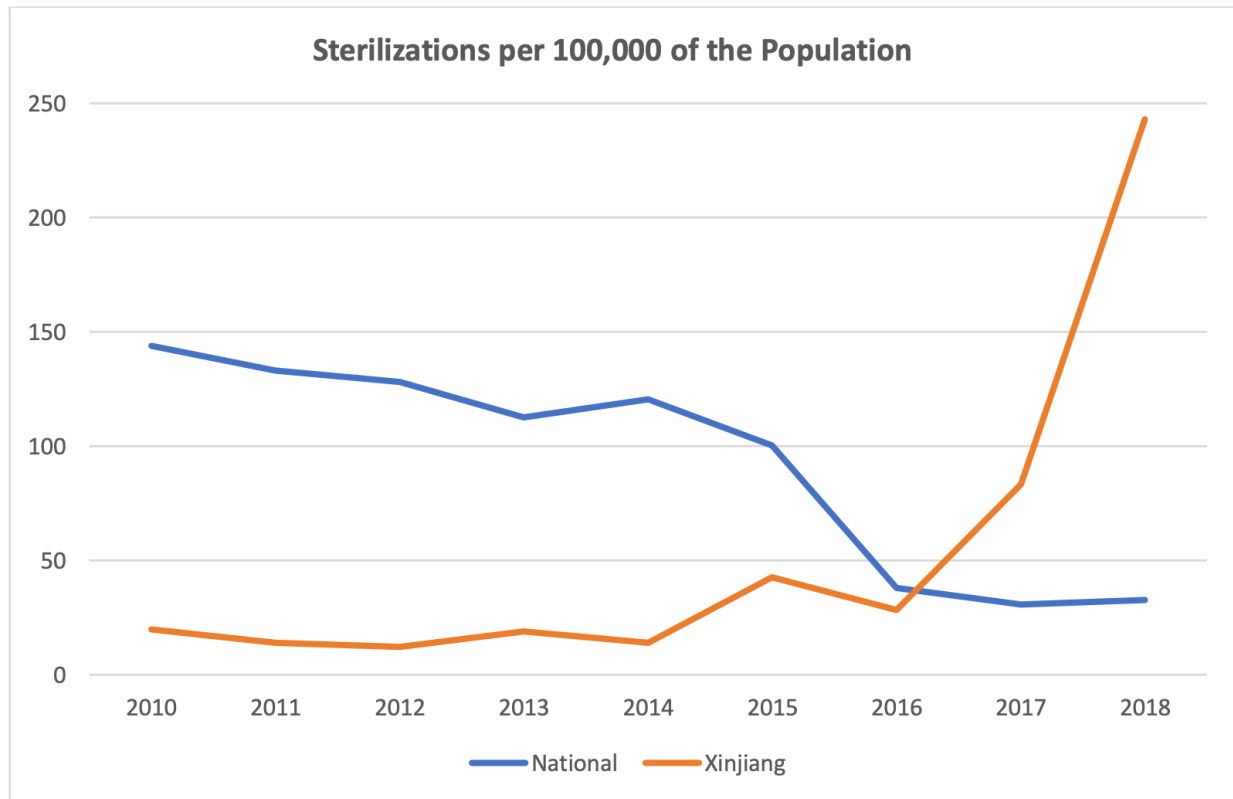
Adrian Zenz

This wasn't only because China was splitting up Uyghur couples by sending some individuals to the camps. It was also slashing the Uyghur birthrate with the use of policies like mass sterilization and forced IUD implantation. In 2014, a little over 200,000 IUDs were inserted in Xinjiang. That number rose to almost 330,000 IUDs by 2018 — a rise of more than 60 percent. Meanwhile, the rates of IUD use elsewhere in China dropped, as you can see in this chart compiled using data from China's official Annual Health and Hygiene Statistical Yearbooks. The y-axis shows the number of IUD placements per 100,000 people.



Adrian Zenz

Zenz’s report explained how the government arranged to subject women to this abusive treatment in their home communities: “Documents from 2019 reveal plans for a campaign of mass female sterilization ... Xinjiang planned to subject at least 80 percent of women of childbearing age in the rural southern four minority prefectures to intrusive birth prevention surgeries (IUDs or sterilizations), with actual shares likely being much higher.” He also pointed out that “budget figures indicate that this project had sufficient funding for performing hundreds of thousands of tubal ligation sterilization procedures in 2019 and 2020, with at least one region receiving additional central government funding.” After Zenz published the report, the Xinjiang government denied that forced sterilization or genocide was taking place. Instead, it told CNN that the plunging birthrate was due to “comprehensive implementation of the family planning policy.” As CNN explained: Up until 2015, the Chinese government enforced a “one-child” family planning policy countrywide, which allowed most urban couples no more than one baby. Ethnic minorities, such as the Uyghur people, were typically allowed to have up to three but Xinjiang expert Zenz said that families from these groups often had many more children. When China officially began the two-child policy in January 2016, Uyghur citizens living in cities were limited to two children for the first time as well — their rural counterparts could still have up to three. The Xinjiang government attributed the sudden drop in population to Beijing’s family planning policies finally being properly implemented in the region after 2017. Although the government denied the role of forced sterilization and claimed that compliance with family planning policies is voluntary, Zenz responded that it was not very likely that “17 times more women spontaneously wanted to be sterilized.” Take a look at this chart, compiled using data from China’s Health and Hygiene Statistical Yearbooks. The y-axis shows the number of sterilizations per 100,000 people.



Adrian Zenz

China's own documents seem to rebut its official denials. They show that as the network of camps grew, women were threatened with internment if they violated the birth control policies for rural Uyghurs (maximum three kids per family). One government document from May 2018, cited in Zenz's report, said that women with too many kids must "both adopt birth control measures with long-term effectiveness and be subjected to vocational skills education and training." In other words, they'd get sterilizations or IUDs, plus time in an internment camp. And in fact, in Xinjiang's "Karakax List" — a leaked government document that details the reasons why hundreds of people were interned — childbearing violations were the most commonly cited reason for internment. Uyghur survivors speak out on reproductive and sexual violence. In recent months, several Uyghur survivors have testified that the camps themselves have become sites of sterilization by injection, forced IUD implantation, and forced abortion. Tursunay Ziyawudun, who spent nine months inside the camp system, told the Associated Press that she was given injections and kicked repeatedly in the stomach. Now, she no longer gets her period and can't have children. (The AP obtained Xinjiang hospital slides revealing that pregnancy prevention injections, including with Depo-Provera, are a commonly used measure for family planning.) Ziyawudun also said a "teacher" at the camp told the women that if they were found to be pregnant, they would have to get abortions.

Survivors are also coming forward with accounts of sexual abuse and torture in the camps. In

[new interviews obtained by the BBC](#), they talk about public gang rapes, about electrified sticks that are inserted into women, about male officials picking the prettiest young women and taking them to a “black room” where there are no surveillance cameras. Ziyawudun told the BBC that in May 2018, she and a cellmate in her 20s were taken at night to separate rooms. “The woman took me to the room next to where the other girl had been taken in. They had an electric stick, I didn’t know what it was, and it was pushed inside my genital tract, torturing me with an electric shock.” She was brought back to her cell, and later, her cellmate returned too. “The girl became completely different after that, she wouldn’t speak to anyone, she sat quietly staring as if in a trance,” Ziyawudun said. “There were many people in those cells who lost their minds.” The interviews are hard to read. And the charts above — which show a people whose numbers are in stark decline — are hard to look at. But it’s important to witness what China is doing to its Uyghur population. It has been largely neglected by the public, yet it looms as one of the most horrifying humanitarian crises in the world today. Perhaps one of the reasons people have turned away from this crisis is because it’s hard to know what to do about it, given China’s economic might and political power. However, there are promising US bills to keep an eye on, including a new one seeking to [expedite refugee applications from Uyghurs](#), as well as worthy [advocacy groups](#) and [schools](#) helping Uyghurs keep their culture alive.

China Economic Net

Oct 24, 2024

[Salmon boost in Xinjiang to encourage Pakistan's inland fishery](#)

By Saira Iqbal

The salmon farming industry in Nilek County of Xinjiang, China will welcome a good harvest this year, with an expected output of 6,000 tons. The salmon can not only satisfy local demand, but also be exported to Russia, Malaysia, Japan and other countries. Nilek County in Xinjiang is an ideal place for cold-water fish farming, where the Kashi River is filled with snow water from the Tianshan mountain. The water temperature there was below 10°C all year round, which creates an excellent environment for cold water fish. In 2014, seeing the advantages of cold-water fish breeding in Nilek County, Xinjiang Tianyun company decided to construct a salmon farming base there. "All the salmon eggs imported from Denmark are incubated at the company's breeding center in Kashi River. Our company has also invested in the construction of a salmon breeding base in Xinyuan County of Xinjiang," said Wang Yuan, Chairman Assistant of Xinjiang Tianyun. The salmon farming base has now developed into a complete digital industry chain with functions of research and development, breeding, intelligent farming, processing, brand building and marketing. "The company produced 3,475 tons of salmon in the year 2022, with a total revenue of 210 million yuan (about US\$30 million). By 2023, the company is expected to produce 6,000 tons of salmon and generate revenue of more than 500 million yuan (about US\$70 million)." Wang Yuan added. Pakistan is neighboring Xinjiang with a similar climate and rich water system resources. It has excellent natural conditions to develop the inland fishing industry, which is in the early stage of development with great potential. Xinjiang’s success in salmon farming can be a good business model for Pakistan to follow. In the next stage, Pakistan and Xinjiang can have more exchange and cooperation in this sector. “China is very advanced in the inland fishery. This is a new avenue in the business sector and now, you can find many in-land fisheries in Pakistan. We need to learn from Chinese experience and expertise,”

said Dr. Saeed Murtaza Hasan Andravi, director of Animal Sciences Institute at National Agricultural Research Centre (NARC). “Our scientists have been working with Chinese experts closely for the past few years and working to introduce Chinese breeding techniques and Chinese breeds to Pakistan, such as Trout. In the next stage, the machinery used in fish breeding, processing and conserving can also be introduced.” This article originally appeared on Gwadar Pro.

[How Beijing Forces Uyghurs to Pick Cotton](#)

Coercive labor is getting less visible, but more intense.

By Adrian Zenz, a senior fellow in China studies at the Victims of Communism Memorial Foundation in Washington.

Foreign Policy

May 16, 2023, 9:58 AM

Beijing has repeatedly claimed that there is “no forced labor” in Xinjiang. But now, as the European Union debates a ban on products made with forced labor, the evidence has just gotten stronger. My new research on Xinjiang’s cotton production—the first such research published in a peer-reviewed academic journal—shows that coercive labor transfers for seasonal agricultural work such as cotton picking have continued through at least 2022 and remain part of Xinjiang’s official Five-Year Plan for 2021-25. Economic incentives for this practice persist despite partial mechanization: State media reports from 2022 confirm that the premium-grade long staple cotton grown in southern Xinjiang still cannot be harvested by machines. Labor transfers subject Uyghurs to state-assigned work placements. They often separate them from their families and communities, subjecting them to intensive surveillance, long work hours, and mandatory political indoctrination and Chinese language classes in the evenings. When mass forced labor in Xinjiang’s cotton industry was first uncovered more than two years ago, the U.S. government banned cotton imports from the region within a month. Then Congress passed the Uyghur Forced Labor Prevention Act in late 2021, banning all imports from Xinjiang on the presumption of forced labor unless businesses can prove otherwise. After slow initial enforcement, imports from Xinjiang are reportedly down 90 percent since the law took effect in June 2022. Xinjiang supplies more than one-fifth of the world’s cotton. This makes the textile and garment industries highly exposed to forced Uyghur labor. This year, the EU seeks to follow suit—but my research finds that if the proposed legislation is not updated to target Xinjiang specifically, cotton contaminated with forced labor will still find its way into global supply chains. While the campaign of mass internment in Xinjiang has somewhat abated, forced labor programs have intensified. In their own words, top Chinese officials have confirmed that “full employment” in Xinjiang is not just about economic development but constitutes a political mandate that the state sees as key to China’s national security. In secret speeches, Chinese Communist Party General Secretary Xi Jinping has stated that large numbers of unemployed persons are liable to “provoke trouble.” In confidential remarks, Xinjiang officials bluntly argue that rural idlers “make trouble out of nothing,” adding that alleviating deep poverty is “an economic issue as well as a political issue.” However, many Uyghurs were successful entrepreneurs until the state curtailed their movements and even detained them for having contacts abroad. Previously unpublished internal state documents, provided at the Xinjiang Police Files website, shed light on Xinjiang’s most

coercive phase of employment provision. They indicate that state efforts to compel Uyghurs into poverty alleviation measures further intensified after the mass internments peaked in 2018. Documents issued in 2019 found these efforts falling short of required goals, sternly warning officials of “severe” repercussions for not achieving mandated poverty alleviation and employment outcomes. Regions compiled lists of “lazy persons” deemed to have insufficient “inner motivation,” some as old as 77 years. One internal directive stipulated that “lazy persons, drunkards, and other persons with insufficient inner motivation” would need to be subjected to “repeated . . . thought education” until this produced “obvious results.” Students and persons older than 60 years old were made to pick crops including cotton, vegetables, tomatoes, and peppers. Local governments were instructed to organize centralized child care for toddlers so that their mothers could be subjected to seasonal agricultural labor. In China, such urgent top-down directives are not ignored. Much like overzealous implementation of China’s zero-COVID policies, the resulting pressures on local officials are severe, often leading to over-fulfillment of goals through heavy-handed enforcement. The evidence further shows that increased mechanization fuels forced labor, rather than reducing it. Mechanized harvesting requires converting smallholder plots into large, contiguous plantations. The ensuing large-scale collective land transfers force Uyghur farmers to surrender their land usage rights to large private or state-owned entities. These farmers are then subjected to state-arranged labor transfers—typically low-skilled manual work in nearby factories or sweatshops. Hence, even where cotton is harvested mechanically, its production often results in more forced labor, not less. Beijing’s multiple systems of forced labor are still poorly understood, which can seriously impair the crafting of effective policy. Even seasoned experts and policymakers at times conflate labor transfers with camp-linked forced labor, or believe them to be concentrated in a few sectors, such as cotton or polysilicon. In reality, most forced labor in the region is unrelated to the camps. The bigger factor is coercive labor transfers, which are implemented as part of Xi’s campaign to eradicate absolute poverty. These affect almost all forms of low-skill work, regardless of sector. The forced transfer of Uyghurs into seasonal labor, such as cotton picking, operates separately from the reeducation camps—although the new research shows several prisons continue to operate cotton-ginning factories, and camp labor is used in textile and garment production. Instead, the state uses transfers of so-called surplus laborers to coerce Uyghurs into state-mandated work placements, including seasonal agricultural work. Those who fail to comply are liable to be labeled “extremists,” a charge that usually lands Uyghurs in reeducation camps. UNESCO Made Ukraine a Priority, but Xinjiang Fell by the Wayside Since 2021, under Xinjiang’s new party secretary Ma Xingrui, coercive labor risks are , even as some lower-security camps have closed. Xinjiang has recently increased both vocational training and employment requirements, and is pushing transferred Uyghurs into higher-skilled sectors under the mantra of “high-quality development.” Over time, this means that sectors previously unlikely to involve forced labor are now increasingly at risk. Under Xinjiang’s last Five-Year Plan, covering 2016-20, state documents mandated that at least one person per household must work, often against their will. The new Five-Year Plan for 2021-25 adds a “full employment” requirement, whereby all persons able to work must work. Other state documents reveal plans to ensure that forced labor placements are permanent. In 2021, Xinjiang sent 400,000 cadres to investigate the incomes of 12 million rural households through an “early prevention, early intervention, early assistance” campaign, which identified 774,000 households for “real-time monitoring.” That year, the number of transferred laborers in Xinjiang reached a record high. The mobilization of new rural populations into such programs raises coercive risks dramatically.

Even Chinese academic research has shown that a large portion of Uyghurs who resist labor transfers are women with caretaking responsibilities for young children or for the elderly. The new evidence shows that the state forces even elderly Uyghurs to pick cotton or perform seasonal agricultural work. Unfortunately, the international community is ill-prepared to counter Xinjiang's growing forced labor problem. State-sponsored forced labor not linked to prisons or internment camps is poorly understood. There are almost no academic publications analyzing this, and—perhaps worse—no dedicated indicators to measure it. As a result, policy initiatives designed to counter forced labor may not succeed. The European Union's proposed forced labor legislation—being negotiated this year in the European Parliament—is mainly designed to address company-based, rather than state-sponsored, forced labor. This is because the law relies on 11 indicators of forced labor published by the International Labor Organization (ILO). Developed in 2012, these ILO indicators statically measure coercion linked to specific workplaces, as well as recruitment practices based on deception or debt bondage. In Xinjiang, however, the taint of forced labor affects the entire region. Worse, factories across Asia use inputs from Xinjiang, especially cotton products, as Xinjiang now produces more than 90 percent of China's cotton. To fill this gap, my research compares coercive recruitment in Uzbekistan and Xinjiang, two post-communist regions with labor-intensive cotton industries. For decades, until 2021, Uzbeks were drafted into coercive labor to pick cotton. The way forced recruitment worked on the ground is surprisingly similar. Uzbekistan and Xinjiang both maintained a coercive surveillance state with strong, centralized decision-making structures and unprecedented abilities to mobilize populations through armies of local officials. Both regions systematically incentivize and commandeer relevant economic actors (private and state enterprises), then leverage their grassroots resources to mobilize workers at the community level. In both cases, forced labor transfers into cotton picking are achieved through a whole-of-government, whole-of-society approach. Aside from seasonal agricultural labor transfers, Xinjiang subjects large numbers of ethnic minorities to longer-term labor transfers in factories. To detect and measure these forms of forced labor is far from easy. Company-based forced labor can be measured in specific times and places. By contrast, noninternment state-sponsored forced labor applies its coercive pressures mostly during the initial recruitment, training, and transfer stages. The resulting work contexts may not look much different from a normal workplace. Companies accepting Uyghur workers may feature security features common to most work environments in Xinjiang, such as fences, walls, or entrance/exit controls. This may explain why China was willing, in August 2022, to ratify ILO conventions banning the use of forced labor. To understand and evaluate the dynamic, whole-of-society nature of state-led coercive work placements, international inspectors would have to conduct extensive fieldwork in relevant rural settings—something impossible in Xinjiang. While under the previous party secretary Chen Quanguo, labor transfers involved intense mobilization campaigns and were therefore more visible, the system is gradually becoming more institutionalized under his successor, Ma. Several of the ILO's 11 indicators capture labor coercion in Uzbekistan, where the primary motivation for forced recruitment was economic: Cheap labor for cotton harvesting benefited the kleptocratic elites. While Uyghurs are paid much less than their Han Chinese counterparts, Xinjiang's labor schemes are mainly driven by political mandates to shift Uyghurs into full employment. Xi himself said that when ethnic minorities work in factories, they are less likely to commit actions of “religious extremism” and more likely to assimilate into Han Chinese language and culture. This means that efforts to detect forced Uyghur labor have to look beyond economic exploitation. What are the lessons for policymakers? The first is that forced cotton

picking continues despite Beijing's claims. Second, ILO indicators as currently formulated can be circumvented on the ground: While camp detainees have reported abusive and securitized work environments, work conditions of transferred laborers may not be exploitative enough to raise red flags during an inspection. Third, the national security rationale behind Xinjiang's labor programs means a boycott of Xinjiang products may not be as effective as it was for Uzbekistan. A global campaign boycotting Uzbek cotton between 2011 and 2021 ultimately succeeded because it dented elites' economic profits. By contrast, Beijing has singled out Western companies that publicly renounce the use of Xinjiang cotton with nationwide boycotts, and in 2021 enacted a counter-sanctions law penalizing businesses that comply with Western sanctions. This doubling-down is enabled by China's economic heft, but also by the national security framing of Xinjiang's full employment mandate. In light of this, asking businesses to decouple out of sheer "moral responsibility" seems futile. Much now depends on the actions of legislators and policymakers. To combat Uyghur forced labor effectively, international efforts must be multilateral, coordinated, and long-term. The EU's proposed forced labor ban must be designed to accurately conceptualize, measure and counter Xinjiang's brand of state-sponsored forced labor. The 11-indicator ILO framework requires urgent adaptation. If these measures are not taken swiftly, consumers around the world are liable to become complicit in Beijing's strategy of slow genocide in the region.

All About Feed

[Russian aquaculture demands a ban on fish meal export](#)

21-08-2023

Russian fish farmers association Rosrybkhkhos has asked the government to impose restrictive barriers for fish meat and oil export, citing a raw material shortage in the domestic aquafeed industry. A deficit of fish meal and oil on the domestic market prevents the Russian fish farming sector from getting off the import needle, Vasily Slushenko, chairman of Rosrybkhkhos, warned. Russian farmers imported 125,986 tons of fish feed last year despite the import-replacement campaign in this field. Some Western companies, however, suspended sales to Russian customers, which makes the Russian fish farming sector nervous. Aquacultural industry development plan Under an aquacultural industry development plan, Russian production is scheduled to grow from 383,000 tons in 2022 to 420,000 tons in 2025 and 618,000 tons in 2030. This dynamic should be accompanied by a corresponding growth in fish feed production, but a raw material shortage makes beating that target challenging. Lower fish meal prices in Russia Russian fishing companies spoke against the idea of restricting fish meal export. Konstantin Drevetnyak, general director of the Union of Fisheries of the North, told local press that, in his opinion, fish farmers want to lower domestic prices, though it was already far below the world's average. He estimated that on the Russian market, fish meal is offered at 67 roubles per kg (\$0.65), compared to \$1.5 on the global market. This difference in price makes export more attractive than selling fishmeal to Russian customers, Drevetnyak said. Export is vital for the Russian production of fish meat and oil is steadily expanding, including the construction and commissioning of 25 coastal processing plants under state-run industry development programmes, German Zverev, president of the fish industry union VARPE, said. He admitted that the domestic supply remains limited but expressed confidence that export secured the

profitability for the new projects, and the proposed restrictions could appear to be quite painful for the investors. In 2023, Russia manufactured 161,400 tons of fish meat, 12% up compared with the previous year. Export totalled 130,000 tons, climbing by 32% against the last year. In monetary terms, sales to foreign customers jumped by 39% to \$205 million. On the other hand, some market players believe that Russia lacks capacities for the production of fish feed. Nearly a year since the sanctions were introduced, Russia has not established sufficient capacities in the fish feed segment, said Alexey Osintsev, president of the Russian fishing fleet owners' association, adding that "the supplies are going to where there is a demand".

CCTV Promotional Video about Xinjiang seafood (1/12/2023)

[00:00:00] Hello from Xinjiang. I am on Wulongguo Lake in the Altai region, literally on the snow covered frozen lake surface, which can be as thick as one meter. It is bone chilling cold here, but this is when the cold water fish are at their tastiest, with exceptionally delicate flesh. So, local people are throwing a winter fishing festival to celebrate. These are the fishing crew leaders. They call that fearless flying. Drink it up in one swallow and set out to harvest the fish. Winter fishing has a history of over six decades. [00:01:00] The lake is like a treasure trove for them and the local county has turned this traditional practice into a cultural event, attracting tens of thousands of tourists every year. Now we are waiting for the first carp fish caught, it will be put up for auction. You know, the lake has more than 20 fish species, but it has to be a carp because you know, it is the auspicious sign in Chinese culture representing surplus and prosperity. Wow! Look at that! It is sold at 428, 888 yuan to a local company for good luck. [00:02:00] So many people are rushing to have a touch on it to wish for good luck for the next year. You can also sample local specialties at the bazaar. Local roast fish, so fresh. This is the most popular food here at the festival, the go to choice, fish mutton soup. It is cooked for 6 hours with 16 sheep and a ton of fish in that huge 3. 5 meter wide pot. Really tasty. [00:03:00] From production to daily life, you can see a very rich fish culture here. Wulonggui Lake is an important aquaculture production base in Xinjiang, making Fuhai County, as its name, an ocean of good fortune.

Feeding a Monster: How European Aquaculture and Animal Feed are Stealing food from West African Communities (June 2021)

Globally, one billion people rely on fish as their main source of animal protein, according to the United Nations (UN) World Health Organization (WHO)¹. However, poor governance, illegal, undeclared and unregulated (IUU) fishing and overexploitation of fish stocks by industries like the global fishmeal and fish oil (FMFO) industry is leaving behind a trail of severe consequences for local populations, depriving them of one of their most important food sources and means of income in order to feed a broken food system. This report shows a clear example of exactly that. Each year, over half a million tonnes of fish – which could feed over 33 million people in the region – are instead being extracted from the ocean along the coast of West Africa and converted to FMFO in order to feed farmed fish and livestock, mostly in Europe and Asia. Virtually all FMFO produced in West Africa is exported for the benefit of other sectors – such as aquaculture, agricultural farming, dietary supplements, cosmetics and pet care – in third countries, most of

them outside the African continent, in contradiction with international commitments on sustainable development, poverty alleviation, food security and gender equality. This practice is not only undermining food security in coastal communities of Mauritania, Senegal and The Gambia but is also depriving people living in the interior of Senegal and non-coastal countries such as Mali and Burkina Faso of one of their most essential sources of protein. According to the UN Food and Agriculture Organization (FAO), the main fish species the FMFO industry in West Africa uses – sardinella and bonga – are already overexploited, posing ‘a serious threat to food security in the subregion’.² The FMFO industry thereby contributes to the exacerbation of social hardship and accelerates the depletion of fish resources, which threatens marine ecosystems and weakens the economies of several countries. The bulk of the FMFO sourced from West Africa goes into feeding aquaculture, a voracious industry that is already providing over half of global fish consumption and is expected to grow further to reach 60% of total global fish consumption by 2030.³ Furthermore, resource-intensive fed aquaculture has far outpaced non-fed aquaculture, making up nearly 70% of all aquaculture production in 2018.⁴ The EU is a major market for West African fish oil. In 2019, more than 70% of the fish oil Mauritania exported was destined for the EU.

[What Lies Beneath](#)

Nov 2020

Changing Markets

Peru is the largest fishmeal and fish oil (FMFO) producer in the world. It accounts for one-third of global production, and exports over 1 million tonnes of FMFO every year. According to the international FMFO trade body, the Marine Ingredients Association (IFFO), the amount of FMFO produced from Peruvian anchovy (anchoveta), the main target species, is enough to supply half the world’s fed farmed fish.

Unslowed by the global Covid-19 pandemic, the sector is expected to generate \$2 billion in export revenue in 2020.⁶ It has customers in countries around the globe, from Asia to Europe and North America.

The industry portrays itself as a model of sustainability, boasting that more of its FMFO plants are certified by the MarineTrust Global Standard for Responsible Supply (formerly IFFO RS) than anywhere else in the world.⁷ However, in reality, it is plagued by corruption and scandals – from underreporting fish catches and overfishing juvenile fish to diverting thousands of tonnes of anchovy destined for human consumption to FMFO production instead. Recent investigations show that Chimbote, the ‘fishmeal capital of the world,’ remains one of the most polluted places on the planet.

This wanton plundering of Peru’s precious anchovy populations is all the more indefensible, given the key role the species plays in the Humboldt Current System, one of the most productive marine ecosystems on earth. Assessing the status of the anchovy population under a precautionary ecosystem-based approach would require careful consideration of the impacts on fish, bird and marine-mammal populations; however, to the best of our knowledge ecosystem impacts are not given adequate consideration when anchoveta quotas are set, and there is no strategy to do so in the near future. Moreover, while the Peruvian FMFO industry and global aquafeed producers are keen to gain Marine Stewardship Council (MSC) certification of the anchoveta fishery to improve their image, scientists point to numerous risk factors affecting the

fishery which increase the likelihood of overexploitation of the stock, particularly when considered alongside the threat posed by climate change. Against this backdrop, experts interviewed for this report expressed concerns about future prospects for the anchoveta fishery – including fears of a potential collapse, similar to that which took place during the 1972 El Niño. Although Peru is by far the world’s largest FMFO producer, very little is known about its supply chain or relationships with companies in Europe, which trade data shows to be a key FMFO export market. This report sets out to address this knowledge gap by mapping the links between Peruvian FMFO companies and major international feed and aquaculture corporations based in Europe. It shows the farmed fish, such as salmon, that ends up on European plates is produced with FMFO inputs from companies that have been involved in corrupt and unsustainable practices such as fishing high volumes of juvenile anchovies – a practice that can have a devastating impact on marine ecosystems. It also highlights complicity between FMFO companies and Peruvian regulators, which have not only turned a blind eye to the industrial fleet’s plundering of precious fish stocks but also actively encouraged overfishing by setting unscientific and overly high fishing quotas.

To make matters worse, at a time when Peru is struggling to cope with one of the worst Covid-19 crises in Latin America, hundreds of fishermen and FMFO workers have fallen ill, largely as a result of companies’ failure to ensure their safety and provide them with medical care. Industry lobbying overturned an initial decision by the Peruvian government that deemed the FMFO industry non-essential, which led to the resumption of the fishing season, indicating the drive to catch fish to supply the voracious FMFO industry overrode considerations about workers’ health. In the end – after a slow start, owing to a juvenile fishing scandal – the first 2020 season was another bumper season for Peru’s FMFO fleet.

This report provides evidence that two major companies – Peru’s largest FMFO producer, Tecnológica de Alimentos (TASA), and the Norwegian-owned Austral Group – that supply FMFO to customers around the world violated their own health and safety protocols, putting their workers’ health at risk and (at least in TASA’s case) leading to widespread infections.

[EU sees 200% surge in imports from China’s Xinjiang region despite human rights concerns](#)

[South China Morning Post](#)

20.03.2024 Bulgaria, Europe, Denmark, Beijing, Brussels

Finbarr Bermingham

...The European Union’s imports from the Chinese region of Xinjiang surged in the first two months of the year, even as the bloc moved to finalize two laws aimed at tackling human rights complaints there. Exports from Xinjiang Uygur autonomous region to the EU’s 27 members rose 217.8 per cent in January and February compared with the same period last year, according to the Post’s calculations based on new Chinese trade data released on Wednesday. The biggest buyers of goods from Xinjiang were in Poland, Belgium and the Netherlands. The most popular goods were lithium-ion batteries, tomato paste and miscellaneous low-value goods that fall below the threshold for customs duties, according to Chinese customs data. The statistics emerge as Brussels puts the finishing touches on a ban targeting goods made using forced labour.

While the ban does not name China, it was written with Xinjiang in mind. Also in its final stages is a new law requiring EU businesses of a certain size to routinely audit their supply chains for human rights and environmental abuses. Observers have said the law will be tricky for businesses operating in Xinjiang to comply with as independent audits are thought to be impossible to attain in the region. China has been accused of operating a systemic campaign of forced labour in Xinjiang, where the UN's top human rights body said it might have committed "crimes against humanity"....

Nuggets from Laura Murphy (already swept and put into encyclopedia)

Hongqi Farm

This 2023 [article](#) from Chinese press says that "Xinjiang Shishixian Aquatic Products Co., Ltd. is a key enterprise for investment attraction in Hongqi Farm in 2022. It plans to build three phases, covering an area of about 5,000 mu." The article also says the farm primarily grows tilapia, grouper, white shrimp, abalone, and lobster. This 2023 [article](#) from Chinese press also says that the "Shishixian Company alone plans to develop another 1,000 acres of fish ponds, continue to build indoor constant temperature breeding bases and create the "Hongqi Song" brand, improve the marine breeding supply chain, drive more workers and the masses to participate in aquaculture, embark on the road of increasing income and becoming rich, and realize that seafood can be seen on the tables of Xinjiang people." Presently, "250 acres of outdoor fish ponds have been built," but the company "is expected to develop 3,000 acres, forming a modern technological seafood breeding with a full industrial chain that combines indoor and outdoor breeding, and integrates aquatic processing and sales," according to this 2023 [article](#) from Chinese press, which also verifies that the project is supported by xpcc. The [article](#) says that on May 20, 2023, the state boosted the expansion of aquaculture. The article mentions 37 locations chosen for growth and it also says that students from Shihezi University, Tarim University, and Northwest Agriculture and Forestry University to help the effort. Another [article from Sept 2023](#) from Chinese media describes the local benefits of fish farming at Hongqi: "Ylam Wumar is a farmer in the city of Atux. He tends a small number of fields alongside his wife. He is also a fisherman at Hongqi Farm, where he evaluates the conditions of ponds and feeds saltwater tilapia, which have adapted to the local saline-alkali water. "The work is not very demanding so I can have lunch with my wife at home," he said. "It gives me an extra yearly salary of 36,000 yuan (about 5,000 U.S. dollars) to complement my corn and wheat harvest, which brings in 30,000-40,000 yuan a year." The 42-year-old Uyghur farmer got his fishing job after Hongqi Farm began a bold experiment to raise saltwater fish in saline-alkali water. Flowing in abundance from a nearby valley, the salty water has long been seen as unusable wastewater." The article also says Saltwater seafood options from prawns to lobsters have been piloted since last year, and tilapia were found to be both profitable and easy to cultivate for beginners. The farm then built 67 hectares of fishponds, raising 650,000 tilapia since late May and realizing an output value of approximately 8 million yuan. In recent months, the "Xinjiang seafood" label has soared to prominence on China's social media, stirring discussions on the prospects of saltwater seafood production in China's inland areas. This has shone a spotlight on several saline-alkali aquaculture farms that have popped up in the far western region." The article said that The farm's new fishing jobs have so far increased the yearly incomes of 30 local households by 15,000-20,000 yuan each, according to Guo Lei, the director of the farm. The number of households is expected to double next year with the introduction of more fish categories, including freshwater snakeheads that have been reared to adapt to the saltwater environment."

Longda Aquaculture Farmers Collective

According to [this story](#) The farm raises South American White Shrimp and Grouper, it is located at a "breeding base" in Alaer City, located on the northwest edge of the Taklimakan desert. The farm has 9.8 hectares. The cooperative invested 10 million yuan or 1.3 million dollars to launch the farm. It has raised 5k grouper and 1.3 million shrimp. It has 15 greenhouses and 360 ponds, the shrimp sells for 120 yuan per kilogram and the grouper for 150 yuan per kilogram. "The goal is for Xinjiang to become a significant region for future aquaculture," said Shu Miao'an, an aquaculture researcher at Zhejiang University. The immediate region has six aquatic farming cooperatives and companies that has released 414k fish of various species, 305k crabs, 4.8 million south american white shrimp, of which 15 tons of shrimp are already on the market.