

House of cards: China's development rush may be behind slew of geological disasters, says scientist

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The potential environmental fallout from China's super-heated development may be putting lives at risk, says a Chinese geologist in [an exclusive report for Probe International](#). Fan Xiao, chief engineer of the Regional Geology Investigation Team of the Sichuan Geology and Mineral Bureau, says a recent landslide that struck the Dazhai Village in the southwestern province of Guizhou that killed 99 people may be the latest example.

Though the official Chinese media is blaming torrential rainfall for the deadly landslide, the nearby Guangzhao dam may have been the fundamental cause.

According to Fan, the previous day's severe rainfall was likely the final straw that sent the land mass sliding into the dam's reservoir, but the reservoir itself may have caused an increase in seismic activity and destabilized the surrounding land, making the landslide almost inevitable. In fact, according to reports, the town's villagers experienced earthquake-like tremors before the deadly landslide—with a number of houses in the town visibly cracked as a result of the tremors. The villagers have, for the past year, been voicing their concerns about a potential landslide without response by officials.

Through a well known geological phenomena called reservoir-induced seismicity (RIS), large reservoirs are known to induce earthquakes by shifting land masses and permeating fault lines and karst formations with their water. Fan Xiao is an expert in the field and, like many other scholars, thinks that the Zipingpu dam likely triggered the 2008 earthquake in Sichuan that killed some 90,000.

Rising and falling reservoir levels are also known to induce landslides by saturating and loosening shoreline around the reservoir's edge. This phenomena is plaguing the Three Gorges reservoir, which has suffered many deadly landslides since the dam was completed.

Back at the Dazhai Village, the facts seem to substantiate the villagers concerns that seismic activity increased as a result of the dam, which then induced the landslide: according to Fan Xiao, since the dam's reservoir began filling in 2007, both the intensity and frequency of seismic activity in the area has increased. As many as 1,299 earthquakes were recorded between December 2007 and August 2008. Of those, 20 were large enough to be felt by local people, with the largest measuring 3.2 on the Richter scale, he says.

Fan says the region's geology of karst mountains and valleys makes it particularly prone to geological disasters such as landslides, land subsidence, mountain collapses and

seismic activity.

More worrying, though, is Fan's warning that the risk from geological disasters are on the rise across the country as a result of the construction frenzy—pointing to a recent train derailment in Jiangxi Province, and a mud-rock flow at the Changheba dam and a mountain collapse at the construction site of the Pubugou dam—both in Sichuan province. He says the country's blistering pace of development in recent years is the likely reason for this rise in geological disasters.

Furthermore, says Fan, regions experiencing some of the worst geological disasters have never been identified as "high risk zones"—and, as a result, lack proper monitoring facilities and effective measures to ensure public safety.

"Human activity," he says, "is likely to exacerbate known geological risks and create new risks where none existed before."

This means, says Fan, that government officials need to enforce stricter standards for feasibility projects and establish a system of accountability for the owners and builders of such projects.

[Read the full report, here.](#)

<http://www.probeinternational.org/three-gorges-probe/house-cards-china%E2%80%99s-development-rush-may-be-behind-slew-geological-disasters-says>