

A scoop of explosives, a short fuse and a gamble with death for Afghan miners in the Hindu Kush, The Guardian Newspaper, 4th May 2009

Crude techniques for mining emeralds destroy assets and risk disaster, geologists warn

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- guardian.co.uk, Monday 4 May 2009 22.45 BST
- [Article history](#)

A cigarette dangling from his mouth, Zubair Amin casually pulls out a plastic carrier bag containing five kilograms of high explosives and scoops out a couple of handfuls, which he warms up on a metal shovel held above a gas lamp.

Heating up a combustible mixture of old Russian ordnance and Pakistani fertilizer would be a dangerous thing to do nearly anywhere. When it's done at the end of a long tunnel in the mountains of [Afghanistan](#), it's near suicidal.

After the mix has been warmed to its correct temperature and stuffed into a hole drilled in the rock face, into which a short, 45-second fuse is inserted, a group of three emerald miners turn tail and run through a tunnel 1.2 metres (4ft) high and more than a hundred metres long in a bid to evacuate the mine before the blast. The shockwaves from the blast roar past the miners, painfully compressing their ear drums, while still 20 metres or so from the stunning mountain scenery outside. No one seems to mind a bit of tinnitus when [mining](#) accidents cause a steady trickle of serious injuries and deaths.

"My brother was killed in the mine when he went back to check on a bomb that hadn't exploded," says Faisal Sherzad. "The fuse was broken."

This entirely improvised approach to mining emeralds second only in quality to those found in Colombia in the high Hindu Kush would not just give a British health and safety officer heart palpitations; it also appalls geologists.

After the dust from the explosion has settled and rubble from the blast has been carted out, the crumbling rock face is hacked away with screwdrivers for any signs of the little green stones. Sadly though, it is clear to even an untrained eye that the chipped green fragments are of low quality. The high-powered blasts fill the emeralds with thousands of micro-fractures, robbing them of the translucency valued by gem dealers. Using heavy duty pneumatic road drills doesn't help either.

After years of western neglect, the mines are being seen as a source of jobs and wealth by US officials attempting to implement Barack Obama's strategy of finding non-military solutions to the conflict in Afghanistan. General David McKiernan, the senior US general in Afghanistan, frequently says that jobs and education for Afghanistan's young men will be crucial for undermining the Taliban insurgency.

But Sophia Swire, a British development consultant for the US Agency for International Development, warns that unconstrained mining will one day cause the mountain to collapse. "The biggest problem is the use of these high explosives not only causes injury and death but fractures the emeralds and is destabilising the mountain," she says.

With such techniques the returns for individual miners are meagre. Many of those

interviewed by the Guardian claimed not to have found anything for years. Others were sustained by their families, or local investors, who hope to hit the jackpot one day – just a few large clear gems can be worth hundreds of thousands of dollars. Nonetheless, mining dominates the otherwise agricultural local economy. In the nearest town – a three hour hike down the mountain – the bazaar is full of shops selling cheap Chinese LED headlamps, fuses, pickaxes and explosives.

The emerald deposits, which locals say were found by a young shepherd in the 1970s, are one part of a rich jigsaw of mineral deposits, including iron, copper, oil, gas and precious gems, strewn across Afghanistan. The collision of the Indian tectonic plate into the Eurasian land mass around 35m years ago not only created the mountainous topography that gives Afghanistan its fractious politics, but also a huge amount of largely untapped mineral wealth including iron, copper, oil, gas and precious gems.

The emerald belt stretches from Iran into Pakistan, via Afghanistan and Tajikistan. In Pakistan's Swat valley the Taliban has taken over the emerald mines, which they mine around the clock to help fund their insurgencies, threatening both Pakistan and Afghanistan.

Gary Bowersox, a US gem hunter who first came scouting for stones in Afghanistan in 1972, estimates that if the emeralds were properly mined they could be worth \$200m in three years – a significant sum for a country whose GDP (excluding illegal opium revenues) in 2008 was \$10bn. USAID estimates that Afghanistan's rubies, emeralds, sapphires and lapis could be worth \$300m a year in total.

During the jihad against Soviet forces in the 1980s, the mines were a vital source of cash for Ahmed Shah Massoud, the famous mujahideen leader who managed to keep most of the Panshir out of Russian hands.

Bowersox, who ran mining courses in the Panshir during the jihad years, says that the Russian bombing campaigns of 1986 helped in some ways.

"We found plenty of crystals in some of the bomb craters so the Russians were actually funding Massoud in some ways."

Unexploded Russian ordnance was, and still is, valued as "gifts from the sky" by the miners who prise the bombs open for their explosives.

But it is not just emeralds which are being poorly mined. Similar techniques do horrendous damage to the lapis lazuli mines of the northern province of Badakshan, thought to be the source of some of the bright blue stones on Tutankhamun's sarcophagus.

A British businessman who once toyed with the idea of investing in minerals recalls an Afghan once walking into his office with a satchel filled with "rubies the size of cricket balls".

Unfortunately the fractured rubies were nearly worthless, as the slightest knock made them fall apart. "All of these things could be rectified with a bit of training in micro-blasting, proper tunnelling and some geologists to tell them which veins to follow," says Swire.

Bowersox is again training Afghans in improved techniques for mining and gem cutting. His course, in Kabul, includes techniques for assessing the quality of gems in

a city that is awash with fakes. He hopes Kabul can become a regional centre for the gem industry – stealing the crown from Peshawar, in Pakistan, to where nearly 90% of Afghan emeralds are illegally exported.

But before the industry can take off, the fiercely autonomous Panshiris will have to come to an understanding with the central government, which says their unlicensed mining is illegal. A -previous dispute in 1977 about who owned the rights to Panshir's emeralds was partly responsible for sparking a rebellion in the valley.

Abdul Samad Wahaj, a Kabul gem dealer, says sorting out the industry should be a priority. "Afghanistan is sleeping on treasure and yet is begging for handouts from other countries."