

Dark crystals: the brutal reality behind a booming wellness craze

Demand for ‘healing’ crystals is soaring – but many are mined in deadly conditions in one of the world’s poorest countries. And there is little evidence that this billion-dollar industry is cleaning up its act.

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Tue 17 Sep 2019 06.00 BST <https://www.theguardian.com/lifeandstyle/2019/sep/17/healing-crystals-wellness-mining-madagascar>

Last modified on Wed 18 Sep 2019 15.42 BST

In February, crystals colonised Tucson. They spread out over car parks and gravel lots, motel courtyards and freeway footpaths, past strip malls and burger bars. Beneath tents and canopies, on block after block, rested every kind of stone imaginable: the opaque, soapy pastels of angelite; dark, mossy-toned epidote; tourmaline streaked with red and green. There were enormous, dining-table-sized pieces selling for tens of thousands of dollars, lumps of rose quartz for \$100, crystal eggs for \$1.50. Crystals were stacked upon crystals, filling plastic trays, carved into every possible shape: knives, penises, bathtubs, angels, birds of paradise.

It was the month of the Tucson gem shows, a series of markets and exhibitions that collectively make up the largest crystal expo in the world. More than 4,000 crystal, mineral and gemstone vendors had come to sell their wares. They were expecting more than 50,000 customers to pass through, from new age enthusiasts with thick dreadlocks and tie-dye T-shirts, to gallery owners, suited businessmen and major wholesalers. Deals done here would determine the fate of tens of thousands of tonnes of crystals, dispatching them across the US and Europe into museums and galleries, crystal healing and yoga centres, wellness retailers and Etsy stores.

Five years ago, crystals were not a big deal. Now, powered by the lucrative combination of social media-friendly aesthetics, cosmic spirituality and the apparently unstoppable wellness juggernaut, they have gone from a niche oddity associated with patchouli and crushed velvet to a global consumer phenomenon. On Instagram, hashtags for #crystals and #healingcrystals tick into the tens of millions. In 2017, the New York Times heralded “the great crystal boom” and in 2018 Hello! described them as the year’s biggest health and wellness trend. Sold as lamps, sex toys, facial massagers or “vaginal eggs” hawked by Gwyneth Paltrow’s lifestyle empire Goop, there is now a crystal for every possible occasion. As Kim Kardashian was recovering from her robbery at gunpoint in 2016, she embraced healing crystals. The model Miranda Kerr has said that she filters all her skincare products through rose quartz “to give the vibration of self-love”.

In the US, demand for overseas crystals and gemstones has doubled over the past three years, and quartz imports have doubled since 2014. (Those numbers capture raw stone, but not the crystals imported under many other categories: jewellery, home goods, decorations.) Daniel Trinchillo, owner of Fine Minerals International, a high-end crystal dealership, told me that his business makes between \$30m and \$40m in sales each year. Trinchillo caters to a growing cohort of celebrities, collectors and investment buyers who want rare and valuable crystals. The most expensive single piece he has sold went for \$6m, but he knows of some that have sold for \$10m. Trinchillo estimates that high-end dealers now account for about \$500m in annual sales. Include the lower end, he said, and you are talking about a highly profitable, multi-billion dollar industry.

Believers say crystals conduct ambient energy – like miniature phone towers picking up signals and channelling them on to the user – thus rebalancing malign energies, healing the body and mind. First popularised in the west in the 1970s, crystal healing’s recent resurgence has coincided with growing interest in alternative spirituality and healing practices. According to Pew Research Center data, more than 60% of US adults hold at least one “new age” belief, such as placing faith in astrology or the power of psychics, and 42% think spiritual energy can be located in physical objects such as crystals. Not surprisingly, then, scientific criticism of crystal healing has done little to dim demand. Last year, Paltrow faced (and settled) a misleading advertising lawsuit for claiming that Goop’s vaginal egg crystals had the power to balance hormones and regulate menstrual cycles. But still, the rise of crystals continues.

Despite that explosive growth, the way the crystal industry operates has largely avoided close scrutiny. There is little in the way of fair-trade certification for crystals, and none of the industry-wide transparency schemes developed for commodities such as gold and diamonds. Tracing a crystal from the time it is dragged, dusty and cracked, from the earth, to the polished moment of final sale requires a journey backward down the supply chain: from shop, to exporter, to middleman, to mine, and finally to the men and women who work below the ground, on whose labour a billion-dollar industry has been built.

Madagascar is one of the poorest countries in the world, but beneath its soil is a well-stocked treasure chest. Rose quartz and amethyst, tourmaline and citrine, labradorite and carnelian: Madagascar has them all. Gems and precious metals were the country’s fastest-growing export in 2017 – up 170% from 2016, to \$109m. This island country of 25 million people now stands alongside far larger nations, such as India, Brazil and China, as a key producer of crystals for the world. And in a country where infrastructure, capital and labour regulation are all in short supply, it is human bodies rather than machinery that pull crystals from the earth. While a few large mining companies operate in Madagascar, more than 80% of crystals are mined “artisanally” – meaning by small groups and families, without regulation, who are paid rock-bottom prices.

If you want to know where the rose quartz on your shelves comes from, Anjoma Ramartina is a good place to begin. A collection of villages that sits atop some of Madagascar’s largest rose quartz deposits, it is a day’s drive from the capital city of Antananarivo. The further you travel from the capital, the greater the security risks. Large swathes of territory are described as “red zones”, considered unpoliceable by state forces. Rural villages often face raids from armed gangs known as dahalo, who steal cattle, sometimes killing, robbing or raping villagers. In January, the week we arrived in Anjoma Ramartina, three men armed with machetes were killed in a clash with village police. Do not travel or go out at night, people warned. Drive in convoy. Stay off the roads after 5pm.

Most homes in Anjoma Ramartina have no electricity, no running water, no phone or network connections. Malnutrition is common. According to the World Bank, around 80% of those outside Madagascar’s cities live below the \$1.90-a-day poverty line. Health researchers found around half of parents in Anjoma Ramartina had lost at least one infant child to illness or hunger. As we made our way there, the driver noted that the road had recently been sealed – a vast difference from the deeply potholed gravel nearer town. “This is one of the best roads I have seen here.” He laughed: “Here in Madagascar, the road only gets made when there is something they want to get out.”

In a cool, dark room in the town council hall, Many Jean Rahandrinimaro, the deputy mayor of Anjoma Ramartina, sunk into a black vinyl couch. “Crystal, amethyst, rose quartz,” he said. “Everything except sapphires and rubies, we mine here.” He placed a few stones on the wooden table in front of him: polished clear quartz and purple amethyst. He estimated that from a population of about 10,000 people, up to a quarter of locals now depended on the mines for some income. Between two and four men died each year in the crystal pits surrounding this village, he said – only two last year, but often it was three or four. “Sometimes it’s very dangerous but they still mine, because they want money,” he said. “There’s the possibility of landslide, that happens a lot here. The soil falls on them and they die.”

Landslides are not the only danger for miners. Smashed rocks create fine dust and quartz particles can penetrate deep into the lungs. There, they fester, inflaming surrounding cells, increasing the risk of lung cancer and silicosis. Child labour is also widespread: the US Department of Labor and the International Labour Organization estimate that about 85,000 children work in Madagascar’s mines.

A few days after our first meeting, I returned to the town hall. In a ruled exercise book, Many Jean traced a finger over the town’s registry of deaths, tapping entries on the page: here and here, the two men who died in the mines last year, recorded in neat cursive handwriting. And here, Benoit Razafimahatratra, who had died two years earlier when he was looking for quartz at a quarry to the east. Many Jean knew where Benoit’s family lived, and offered to show the way on his motorbike.

Bomber jacket flapping behind him, Many Jean took us to the next village. Sitting in a small shop that sold fritters and dried fish was Jean Gregoire Randrianarisoa. He looked tired. Yes, his older brother had died, he said. “What killed him was digging for stones, about 15 metres deep. He went into a tunnel and it collapsed from above and he was buried – someone called for help: ‘Help! Zafimahatratra is buried down there!’ That’s when I went with his children to dig him up,” he said.

Benoit was about 55 when he died, said his widow, Josephine Rasondrina, a tiny woman, less than 5 feet tall, with hair neatly divided into braids. She brought out a photograph of him. His features had faded. Josephine gestured at her two granddaughters, about six or seven years old, sitting on the steps. “Since my husband died, they stopped going to school. Since my husband died I got really tired.” She raised her fingers to her temple. “I am really tired. Emotionally and physically – because I have to work the field to feed my children.”

Common crystals, such as quartz, can form almost anywhere around the world, when water and steam carry mineral particles into fractures in the earth. Drawn together by the mutual attraction of their electrical charges, their molecules stack in orderly sequences, forming defined planes and repeating facets that can create the pleasing shapes – geodes, prisms – that they’re sought for. In the mineral-rich earth of central Madagascar, villagers often find quartz and citrine deposits by chance, when they are revealed by landslide or washed down to nearby riverbeds. The mines dug to meet growing demand are often improvised, operated off the books and without permits.

One of these makeshift mines lies about an 18-mile hike from Anjoma Ramartina’s nearest road. Rakotondrasolo, the man who villagers called the mine owner, found the site about 20 years ago, and continues to work there, along with his family, to this day. One morning, he agreed to show me the mine. Rakotondrasolo is tall and very thin. His worn flannel shirt was buttoned over a T-shirt with the face of Andry Rajoelina, Madagascar’s newly elected president. (The T-shirts were everywhere, after being thrown from trucks and doled out at political rallies across the country during the 2018 election

campaign.) The red dust of the landscape had worked its way into the weave of his clothing until every garment was infused with terracotta orange.

As we made our way along the red dirt track to the mine, the sun was directly above, shimmeringly hot. Here and there was a sparkle among the scrubby grass: hunks of pink crystal, scattered at the path's edge. Walking behind Rakotondrasolo, his wife pointed: "The stones are beautiful," she said quietly, "but the work is very hard." Then the grass of the track ended sharply and the deep red cavern of the mine fell away in front of us. "Keep away from the edge," said Rakotondrasolo, gesturing to where the ground was cracked and unstable. The pit dropped 15 metres deep, narrowing as it deepened. On the sheer face of rock were cross-hatched marks of spades and pickaxes. At the far side of the cavern, a huge pile of rose-coloured stones caught the sunlight. At the bottom, a passage disappeared, curving out of the light.

"Be careful," he said, as we trod over the edge of the crater, "the rocks are sharp." Rose quartz cracked underfoot: jagged, gleaming, a little translucent, shining like the flesh of a fresh-filletted tuna. Later, he lifted a worn trouser leg to show the scars he had acquired from a lifetime of mining: on the right leg, where falling stones crushed his shin, and on the left where a sharp edge split the skin, requiring six stitches.

At other times, this crater would have been busy with the sound of men at work – his sons and nephews, who would come to dig and then split the cost of stone they sold – but today it was silent except for Rakotondrasolo's careful footsteps. They had stopped work: rains had been heavy, and they worried that the water made the cavern less stable. "I was afraid, and was afraid for my children because of this soil. It can collapse on them. I asked them to stop working here," Rakotondrasolo said.

He threw in a handful of gravel and it tumbled to the bottom. Of his 10 children, seven worked with him in the mine. The boys started at the age of about 14. When they find a thick seam of quartz they smash it out of the rock, then chain the pieces together. Some blocks are small, but others are 100kg or even 200kg. The miners drag the boulders out of the hole, sometimes five people hauling together, up on to the grass embankment and toward the hill where lorries come to load them.

I asked where the crystals went from there. "To the ports," Rakotondrasolo shrugged. He did not know. Somewhere overseas. A long time ago a client brought him a rose orb, cut and polished into a sphere, to show him what eventually became of some of the stones he had mined. But the buyers mostly say little about what the crystals are used for or where they end up. They pay him and leave – about 800 ariary, or 23¢ a kilo, he said – 17¢ for lower quality. It is not much when the money is split between the men at work: 800 ariary buys a cup of rice at the village market.

As Rakotondrasolo stepped away from the crater, a low hiss sounded behind him. We turned back to see a thin layer of red gravel, loosened from the wall, slide down into the hole.

While some mines are large, open pits, others are claustrophobically small: networks of tunnels piercing the earth. About 120 miles east of Anjoma Ramartina lies Ibity, a small village surrounded by tourmaline mines, where you have to dig deep to find stones.

"The deeper you go, the more difficult it is to breathe," said Italy Miliama, a shopkeeper at the centre of the village, scooping coffee into enamel cups.

"Once you see a stone, you follow it to find the other stones," said one of his friends. "We dig, dig, dig. We call it the stone way, the way of stones."

The mines at Ibity spread out like an ochre moonscape. On the morning I visited, about 20 people were above ground sifting through the soil. Among them, a local miner named Jean Baptiste Rakotondravelo and his son stood barefoot, turning a large, improvised pulley. Their backs strained against the weight. A moment later, up came a large yellow jerrycan, full of red earth from below. Jean Baptiste's son carried it to his mother and young siblings and dumped it on a pile of dirt that they sifted with their fingers. The day was hot, the sun nearing its peak. "It's extremely hard work," Jean Baptiste said. "It can't be done by a few people. It has to be done by many."

At his feet was a hole about a metre in diameter, with sheer sides like a well. Shining my torch down the hole, I couldn't see to the bottom. Every so often a faint shout echoed up from the darkness, and Jean Baptiste and his son put their backs again to pulling up the bucket. His other sons were working down there, Jean Baptiste told me, digging for tourmaline. He shrugged: "Go down if you like."

Near the top of the hole, it was possible to make out mosquitoes catching the light. As they turned the pulley and I descended, gripping the rope with both hands, the light retreated. The passage down was tight, the damp earth walls grazing my back, elbows and knees. Reaching the bottom, the air felt thin and it was a little harder to draw a full breath. On one side, there was a small horizontal tunnel with room only to crawl.

I crouched and shouted into the darkness. "Salama!" two young voices called back, and deep in the tunnel, pair of dim headlamps turned to face me. Two boys blinked into the torchlight. The smallest wore a yellow cloth baseball cap, and his eyes were wide, mouth slightly open with surprise. Their names were Roland and Tavita: Jean Baptiste's sons, who he says are about 14 and 17. They started working down here two years ago, spending hours digging underground, crouching in the dark, backs curved, calves aching.

Deep underground, we looked mutely at each other for a moment. Ducking into the crawl-space, I was conscious of the weight of dirt resting above us: about 19 tonnes of soil and rock, suspended only by its own natural cohesion. Roland and Tavita squatted, jamming a spade or crowbar into the soil to dislodge it and pack it into the jerrycan. When it was full they would crawl back toward the light, shoving the heavy dirt bucket ahead of them, to be dragged up top.

"When it's too long they can have difficulty breathing, so they come out," Jean Baptiste said, back at the top of the well. Above ground, the boys' mother, Odette, sat working alongside two generations of children, the youngest a fat-cheeked six-month-old girl. Odette sifted through the dirt, searching for a rock shaped differently from the rest: the small, wine-red and green crystal, tourmaline. "Sometimes we go months without finding any," she said. They had found just one today, about the size of a knuckle.

Odette held it out to me, streaked with red dust, in the middle of her palm. At that moment, it was worth just a few cents. But in the months to come, it would slide along the global supply chain, its value multiplying with each stage of the journey.

For the crystals mined in Anjoma Ramartina, the path out of the country is through a company called Madagascar Specimens, which exports about 65 tonnes of carved crystals a year. At its premises, a converted house in the outer suburbs of Antananarivo, boxes of crystals were stacked against the wall. A row of shining SUVs were parked outside the house. Samples stood on the disused fireplace: carved angels, pyramids, geodes, wands. The rose quartz had been trucked in rough from Anjoma Ramartina by a local middleman, the village's former mayor, who bought large quantities from Rakotondrasolo's mine.

The owner of Madagascar Specimens, Liva Marc Rahdriaharisoa, a tall man in dark jeans, wire-rimmed glasses and a navy T-shirt, gestured to the stack of boxes to his left, packed for shipping. “This, for example, is going to Canada. This to Netherlands. This to the United States,” he said.

He lifted the lid on a box of quartz massage wands. “These are very popular.” Then another box of rose quartz hearts: “Some of our best sellers,” he said. “Crystals are the most popular stones now – many customers are looking for it, because – I’m not sure of the English – the medicine with crystals is very popular now. Like therapy, the belief crystals have healing power, you know? It’s very – how do you say? – trendy.”

The gem and mineral expo in Tucson was a key point in Liva Marc’s year. “That is where you’re looking for customers,” he said. “You see all customers from around the world: Chinese, Japanese, New Zealand, Australian. It is the biggest market in the world. We go there to exhibit, to sell, but most important is to find customers there.”

Between the buyers in the US and the mines in Madagascar was a gulf of experience, which, sitting in the courtyard of Liva Marc’s small factory, he found hard to express. “It’s like two galaxies,” he said, grinning and shaking his head. “It’s a big difference. If I say to people at the mine what Tucson is like, they will never understand. And if I say to the Tucson people to come here, they will never understand. It’s very different worlds.”

He acknowledged the poor conditions at the mines he bought from. “You were shocked, but I was shocked, too! When you see in the rough, [stones weighing] like 50kg, 60kg, they drag it four, five kilometres, two or three per day, and earning only \$1? You know, it’s ...” He paused. “Sometimes you can’t imagine how they can do this.”

Madagascar Specimens exports some crystals rough, but its workshop in Antananarivo also works the stones, cutting them into shapes, grinding and polishing the faces. From Liva Marc’s perspective, refining the stone in Madagascar means creating steady jobs and keeping more of the value of the crystals in the country. With stone that was exported rough and then carved in China or the US, almost none of the profit stayed in Madagascar.

“Maybe they [shops in the US] don’t explain it to their customers. It’s business for them, they want money. They will never say: ‘I buy this for \$1 and I sell to you for \$1,000’,” he laughed, “but that’s the reality.”

The plunder of Madagascar’s resources for profit is nothing new. In the 18th and 19th centuries, the country was a source of slaves, bought by Europeans and sent to work in brutal conditions, often on sugar plantations on the islands of Mauritius, Réunion and Rodrigues. When the French colonised Madagascar in 1895, they outlawed slavery, but ushered in a new era of forced labour and extraction, with tens of thousands of tonnes of rosewood and millions of francs’ worth of gold shipped offshore each year. More than a century later, the country’s riches still rarely benefit the Malagasy people, says Zo Andriamaro, a sociologist and human rights analyst. Gold, cobalt, sapphires, crystals: she sees them all as part of the same old story, resources siphoned out of the country for the benefit of foreign companies. “There has to be some more systematic way of controlling and regulating the market for all types of minerals coming from here,” she says. “It is totally unjust.”

Mining also threatens Madagascar’s rainforest. When new mining sites are discovered, sometimes thousands of men migrate to mine, encroaching on protected environmental areas and threatening the survival of endangered species. Embracing mining on a larger scale is “intrinsically, fundamentally

unsustainable and destructive”, Andriamaro says. “You can never pretend that you will restore the environment to its initial state.”

The month after we spoke in Madagascar, Liva Marc and a shipping container full of his stones landed in Arizona, bound for the Tucson shows. I met him in a hotel lobby, one of three retail spots he had in the city. Business was good, he said. Buyers from all over the world had come.

The stalls around him showcased towering display pieces: rose quartz boulders, massive amethyst geodes. They had been cleaned, polished and set on display, but he still looked at them and thought of their origins. “All these big pieces – imagine how they must dig it. How difficult it must be,” he said. “Imagine how it starts.”

While the crystal business is booming, and largely among consumers who tend to be concerned with environmental impact, fair trade and good intentions, there is little sign of the kind of regulation that might improve conditions for those who mine them.

Julia Schoen, co-founder of the crystal drink bottle company Glacce (tagline “Luxury Spiritual”) told me that ethical sourcing is “the No 1 priority” for her company. Schoen was speaking on the phone from her office in New Orleans, where she told me she was surrounded by crystals that had been unboxed and laid out, waiting to be blessed by staff, who would burn sage smudge sticks and pray to cleanse them before use.

Glacce sells water bottles and metal straws embedded with rose quartz, amethyst and other crystals, which are supposed to transform ordinary water into a “crystal elixir”, where the water takes on the healing properties of the crystal. The bottles were touted by Vanity Fair as “2018’s Status Symbol” and are sold by bohemian-themed fashion retailer Free People, as well as Goop. Schoen said sales of the bottles, which retail for \$60-\$100, had increased exponentially since they started the business, and demand often outstripped supply.

But even with a booming market, she said, the company didn’t yet have a budget to track their crystals to their source at the mines. Instead, Glacce depended on Chinese middlemen to select crystals, including those from Madagascar. Schoen told me that Glacce’s suppliers “know that we do not want to be having our money go towards a mine that’s using child labour. They know all these things.” At present, she said, they considered transparency a high priority and hoped to develop relationships with individual mines by 2020, but could offer no concrete reassurances about the current conditions of their miners.

“In an industry that has not been so regulated and maybe hasn’t had so many eyeballs on it, there are obviously practices that most people who are purchasing crystals would not want to know about,” Schoen acknowledged. “You know, at the end of the day it’s like, our intentions are – ” she paused. “I think we’re clear what our intentions are.”

The challenge of sourcing crystals ethically is one faced by the industry as a whole: Glacce, Goop or any given Etsy vendor are no more culpable than the next crystal dealer. Every retailer I spoke to raised the question of price. Would crystal consumers really be willing to pay more to guarantee safer, child labour-free mines, or a fair wage for miners? Schoen compared it to the organic food movement: if enough people wanted assurance of their products’ provenance, the supply systems would develop.

At Tucson, in the marquee for crystal vendor The Village Silversmith, I asked owner John Bajoras – tall, tanned and broad-shouldered, with an enormous shark tooth around his neck – where the

responsibility lay if crystals were coming from mines where people, many of them children, were risking their lives for meagre pay. It is all about the customers, Bajoras said. “It’s a complete conundrum. I get somebody with dreadlocks, and a peace-hippie attitude, and you try to sell them a piece of labradorite from Madagascar for \$12. And they’re like: ‘I’ll give you \$6, dude.’ That’s where the fucking problem is. If they were like ‘It’s \$12? Well, how about I give you \$20?’ [then] you could kick \$8 back down the line, sure. That’s the problem. The problem is your end consumer. Not anybody else in the pipeline. The end consumer is the person who sets the price.”

Bajoras visited Madagascar often, but rarely made it out to the mines, opting instead to deal with middlemen in the cities. But he knew the villages of Anjoma Ramartina and Ibity: “Yeah. All our rose quartz comes from that area. All the tourmaline comes from there,” he said.

And if some of the conditions are truly awful? “Awful is relative, remember,” he shot back. The volume of his voice rose slightly, but he was still smiling. “Your job looks horrible to me. I feel for you. I’m glad that you’re willing to do it, because we need people like you to do it, but I ain’t fuckin’ doing it, no way. I would rather die in a mine, any day, no doubt. Holy shit. No. Not happening. Spell check? You’re out of your fucking mind.”

Meanwhile, the \$4.2tn wellness industry rolls on, bolstered by profits from cheap crystals and a generation looking for alternative modes of healing. Bajoras was confident his stones had healing power. After all, he said, if uranium could kill you, why shouldn’t lithium quartz be able to help cure your depression? And when you broke it down to an elemental level, he said, people are mostly minerals and water anyway. “You’re hydrated mineral powder,” he told me. “You are! You’re like Kool-Aid.”

Beneath a tented canopy beside the Tucson freeway, his colleague Alexa Stamison was selling an array of Madagascan rose quartz, carnelian and amethyst. Stamison had a warm, open manner and an encyclopedic knowledge of their stones.

A woman dressed all in white – crocheted shirt, maxi skirt and headscarf draped over her top-knot – approached the stall. “How much is this carnelian?” she asked. The stone was \$30. A stone of empowerment, Stamison told me, great for women going out on their own or moving into a new home.

“I think I need it, it was just calling to me and I couldn’t walk away,” the woman said. “I don’t need a bag, I’ll just carry it.” She walked away, cradling the stone.

If anything, Stamison wonders if the circumstances of miners in Madagascar, “makes the pieces a lot more special. Because I know some person in a little baby hut was actually polishing it by hand, and they’re setting their intentions into it, too,” she said. “People’s intentions and people’s energy are put into the stones as they’re producing it.”

“So the circumstances they’re mined in, they are embedded into the stone somehow?” I asked.

“I think so. A little bit, it has to be. It has to be.”

Additional research by Holifeno Hantanrinoro and Teddy Rahenintsoa