

NOVEMBER 23, 2017 ₹60

A Times of India publication

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ISSN 0970-0171
ISSUE NO. 1123
NOVEMBER 2017
COVER PRICE ₹60
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A hidden GEM

Tucked in the wilderness of Zambia lies an unexplored mine of the world's rarest jewel. **Akshita Singh** explores

Situated in the southern part of Africa is the elevated landlocked country of Zambia. The country was named after the river Zambezi, which means the river of god. The name is no exaggeration you'll see when you land in this beautiful country of vast, clear blue skies and nature in its purest form. Apart from the pristine scenery, this land also houses a bounty—the Kagem Mine, reservoir of the world's second most valuable gemstone, the emerald.

The mine is located in the middle of the woods, near the river Kafubu, in the central part of the Ndola Rural Emerald Restricted Area. It covers over 41 sq km and accounts for 25 per cent of the global emerald production. The birth of the stone dates back to 500 million years when deep beneath the surface of the earth, two types of rock with contrasting



(Above) Miners excavating the pit; a raw emerald stone from the mine



characteristics fused under unique geological conditions to form something rare.

Emeralds get their green colour from the presence of the element Beryllium. Zambian emeralds are a specific combination of talc magnetite rocks, chromiferous elements (Chromium and Vanadium) and alteration of Beryllium substances that form a thin black layer of fluids and crystallise over millions of years into unique hexagonal shapes. The stone reflects the irony of nature, as a pitch-black, opaque reaction zone between rocks mineralises into a thing of beauty.

We were given a tour of the open pit mine, which was approximately 150 metres deep. These vibrant stones go through multiple processes once wrenched from the belly of the earth. First, they're washed, sorted and graded. Then, they are examined, divided and >



(From far left) The Kagem mine; earrings, necklace and bracelet set with Zambian emeralds



THE MOST SURREAL EXPERIENCE WAS TO WATCH HARD BLACK ROCKS CRUMBLE, REVEALING A DEEP GREEN CRYSTAL RIGHT IN FRONT OF OUR EYES.

categorised based on size, quality and sustainability. Finally, they're put up for auction.

Nearly one tonne of solid rock has to be removed for every single gram of emerald extracted. The most surreal experience was to watch hard black rocks crumble, revealing a deep green, iridescent crystal right in front of our eyes. These would then be collected in red boxes. The tiniest of these stones can set a woman's heart racing, and here I was, casually holding a precious rock the size of my palm.

Producing approximately 30.1 million carats of emeralds a year, Gemfields is a pioneer in an exciting frontier. They pride themselves on balancing the demands of mining, marketing, exploration and ethics, and for their focus on transparency and sustainability. It is heartening to see



(Clockwise from above) Treatment of excavated rocks; Gemfields works in the rural and education sector to uplift locals



(From left) Sorting of emeralds in the lab; necklace and ring featuring Zambian emeralds

that the company isn't just digging and leaving craters, but rehabilitating the land too by back-filling exhausted areas and re-vegetating the site.

Besides taking care of the environment, Kagem also takes great care of its people. The organisation's vision is to empower the natives by creating a positive socio-economic impact. Gemfields, the world's largest producer of emeralds, spends 1 per cent of its gross revenue in supporting several primary and secondary schools, local clinics and hospitals. Education, health and agriculture are the three sectors through which Kagem seeks to uplift the locals.

It's one thing to stare at a jewel in a box and marvel at its gleaming facets. But to immerse yourself in the history and cultures associated with a stone—that's real luxury. **f**

