Hikers walk next to sinkholes across a dried-up sea area which exposed and created a salt plain, some 20 Km south of the Israeli Kibbutz Ein Gedi in the southern part of the Dead Sea, on January 15, 2021. — AFP photos

Sinkholes on receding Dead Sea shore mark 'nature's revenge'

In the heyday of the Ein Gedi spa in the 1960s, holidaymakers could marinate in heated pools and then slip into the briny Dead Sea. Now the same beach is punctured by craters. A spectacular expanse of water in the desert, flanked by cliffs to east and west, the Dead Sea has lost a third of its surface area since 1960.

The blue water recedes about a metre (yard) every year, leaving behind a lunar landscape whitened by salt and perforated with gaping holes. Going forward, "you might be lucky to have a channel of water here, that people will be able to put their toes in," laments Alison Ron, a resident of Ein Gedi who once worked at the spa. "But there will be a lot of sinkholes."

The sinkholes can exceed 10 metres (33 feet) in depth and are a testament to the shrinking sea. Receding salt water leaves behind underground salt deposits. Runoff from periodic flash floods then percolates into the ground and dissolves the salt patches. Without support, the land above collapses.

A picture taken on October 6, 2021, shows an Ibex herd grazing in a abandoned palm grove that was destroyed following the formation of sinkholes filled with water as a result of a drop in the water level in the Dead Sea.

Picture taken on September 21, 2021, shows sinkholes filled with water which were formed as a result of a drop in the water level in the Dead Sea.

Ghost town

At the Ein Gedi thermal baths, the roughly three kilometres (two miles) of rocky sand that now separate the spa from the shore are dotted with holes and crevices. Further north, a whole tourist complex has turned into a ghost town, disfigured by craters and enclosed in fences. The pavement is gutted, the lampposts overturned, the date plantation abandoned.

Ittai Gavrieli of the Zionist Geological Institute told AFP there are now thousands of sinkholes all around the shores of the Dead Sea, in Jordan, Zionist entity and the occupied West Bank. They reflect human policy that has literally decimated the flow of water into the Dead Sea. Both countries have diverted the waters of the River Jordan for agriculture and drinking water. Chemical companies have extracted minerals from the seawater.

Climate change further accelerates evaporation. In Sodom, southwest of the Dead Sea, the country's highest temperature in over 70 years was recorded in July 2019 — 49.9 degrees Celsius, or nearly 122 Fahrenheit.

'Nature's revenge'

Gavrieli said the Geological Institute is monitoring the formation of sinkholes from space but it is not an exact science. He said they are certainly "dangerous" but also "magnificent." "It has potential to become a tourist attraction, if you're willing to take the risk on one hand and if insurance issues are clear," he said.

Much too perilous, answers Gidon Bromberg, director of the NGO EcoPeace, for whom the sinkholes are "nature's revenge" for "the inappropriate actions of humankind". "We will not be able to bring back the Dead Sea to its former glory," he said. "But we are demanding that we stabilise it." His organisation, comprised of Jordanian, Palestinian and Jewish environmentalists, advocates increased desalination of seawater from the Mediterranean to relieve pressure on the Sea of Galilee and the River Jordan, which could then flow back to the Dead Sea. EcoPeace would also like the industry to be "held accountable" by paying more taxes.

Inescapable decline

Asked by AFP, a spokesman for Jordan's water ministry offered no detailed fix for the crisis. Instead, he said the donor community should play a "vital role" in sparking interest "to find reasonable solutions to the Dead Sea problem".

In June, Jordan abandoned a long-stalled proposal to build a canal with Zionist entity and the Palestinians to carry water from the Red Sea to the Dead Sea. Instead, Amman announced it would build a desalination plant to supply drinking water. Even if the canal had been built, it could not have saved the lake on its own, said hydrologist Eran Halfi of the Dead Sea-Arava Science Center.

"The Dead Sea is at a deficit of one billion cubic metres per year and this was supposed to bring 200 million cubic metres," he said. "It would slow the drop but not prevent it." So is the Dead Sea doomed to evaporate? Scientists say its decline is inevitable for at least the next 100 years. Sinkholes will keep spreading over the century.

However, the lake could reach an equilibrium because as its surface decreases, the water becomes saltier and evaporation slows down. In Ein Gedi, Ron said that forecast gave her little satisfaction. By diverting rivers and building factories, she said, "man has interfered". "We have to be ashamed of ourselves that we have allowed this to happen," she said. — AFP

DWC holds farewell dinner for Chad envoy

Wife of the ambassador of Republic of Popular Sudan held a farewell dinner for Chad ambassador to Kuwait whose diplomatic mission in Kuwait concludes. The dinner was attended by the head of the Diplomatic Women Committee (DWC) Sheikha Hala Bader Al-Mohammad Al-Ahmad Al-Sabah, ambassador of Kenya and members of the diplomatic committee. She spoke about her diplomatic and social experience of which she benefitted a lot especially that it achieved a lot for her country.

Kiwi boffins aim to clear the air on livestock emissions

Tucked away in rural New Zealand, a multi-million dollar research facility is working to slash the greenhouse gases released into the atmosphere by farm animals-saving the world one belch at a time. Cattle and sheep are kept in perspex pens for two days per session as scientists carefully analyse every burp and fart that emerges from them at the New Zealand Agricultural Greenhouse Gas Research Centre.

"I never thought I'd make my living measuring the gas that comes out of animals' breath," the facility's director Harry Clark told AFP. The UN says agricultural livestock accounts for 14.5 percent of all greenhouse gas emissions generated by human activity and the centre-regarded as a world leader in livestock emissions research-is hopeful it can play a key role in tackling the problem.

How authorities ended up funding the project to the tune of NZ$10 million (US$7.0 million) a year is a story of economic necessity and changing attitudes to climate change. But it begins in the gut of ruminant livestock, which use microbes to partially digest their food by fermenting it in a compartment of their stomach before regurgitating it to be chewed as cud.

The process results in copious amounts of methane-a gas that has more than 80 times the 'global warming potential' of carbon dioxide, across 20 years according to the UN Economic Commission. There are estimated to be 1.5 billion cows on the planet, with each one capable of producing 500 litres (132 gallons) of the gas each day. In addition, livestock urine produces nitrous oxide, another powerful climate pollutant.

PALMERSTON NORTH, New Zealand: This photo taken on September 29, 2021 shows a calf standing inside a holding cell having its gas emissions monitored at the New Zealand Agricultural Greenhouse Gas Research Centre in Palmerston North. — AFP

'Tantalising' methane vaccine'

New Zealand's farm-reliant economy means its proportion of agricultural emissions is much higher, accounting for around half of its greenhouse gases.

At Clark's centre in Palmerston North, the major focus is on livestock methane, which accounts for almost 36 percent of the country's total. "New Zealand has a specific problem and it's imperative we give farmers the tools and technologies to reduce their emissions," Clark said. The facility, which is vetted by an ethics committee, is exploring research that includes selective breeding programmes to develop bloodlines of animals that naturally produce less gas.

Sheep have been bred that produce 10 percent less methane than average and Clark said researchers were trying to produce similar results with cattle.

Other projects include putting emission-inhibiting additives in livestock feed and even developing a harness or mask with filters that capture methane before it leaves the animal's mouth.

But Clark said perhaps the most exciting prospect being developed in Palmerston North is a vaccine that reduces methane by targeting the microbes in the gut that produce the gas.

"It's tantalisingly close, in the sense that it works in the laboratory but it doesn't work in the animal yet," he said, adding such a vaccine could be easily administered to flocks and herds worldwide, with an immediate impact on global emissions. It is a growing area of research globally: In the US, researchers are experimenting with probiotics for cattle, while in India, scientists are adding supplements to feed-with the aim of reducing the amount of methane produced.

But critics warn this approach offers only short term benefits and "band-aid" solutions to major problems. "Reducing methane output while breeding still more methane-producing animals ignores animal suffering, deforestation, and the increased risk of diseases-including zoonotic viruses-all associated with animal agriculture," said Aleesha Naxakis, spokesperson for People for the Ethical Treatment of Animals (PETA).

Global shift

New Zealand's government has committed to reducing livestock methane 10 percent by 2030 and 24-47 percent by 2050, compared with 2017 levels.

But some have questioned why the lucrative agricultural sector is treated differently to the rest of the economy, which has been set a target of zero net emissions by 2050. Monitoring website Climate Action Tracker rates New Zealand's climate policies as "highly insufficient", citing the methane carve out as one of the main reasons.—AFP