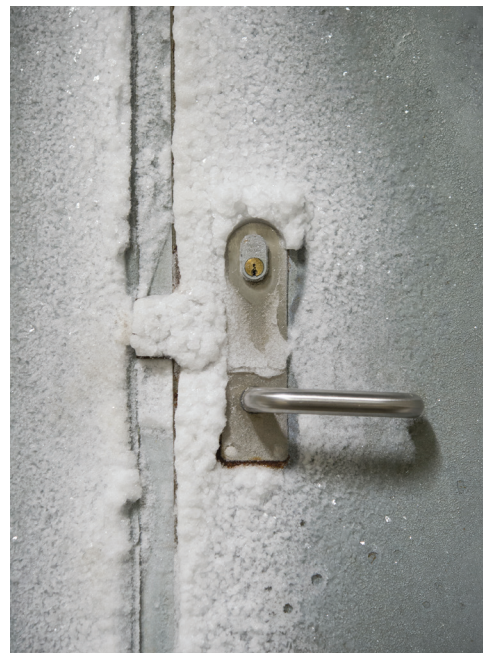
Seeds of Hope

A doomsday bunker at the end of the world is safeguarding global food security. But for how much longer?

Text—Gloria Dickie



Photos: Global Crop Diversity Trust

There are few places on earth more remote, and yet still accessible by commercial flight, than the Norwegian archipelago of Svalbard. Just 650 miles [1,046 km] from the North Pole, the frozen islands are submerged in darkness for two months of the year, which eventually gives way to deep hues of indigo, violet, and rose when the sun edges over the horizon in late winter. Temperatures regularly hover around –20 °C [–4 °F] from January through March. Nearby, polar bears and reindeer pad across the permafrost. It may seem odd, then, that such an unforgiving landscape is brimming with life.

On an early February day, in the middle of the "polar night," I travel to the outskirts of Longyearbyen, Svalbard's largest human settlement with 2,400 people, where a retrofitted coal shaft glimmers like an azure jewel in the darkness. In town, the archipelago's "northernmost jazz festival" is in full swing; locals dance and clink crystal champagne glasses together. But out here it feels as if I've arrived in a desolate moonscape. With a large rectangular entrance and angled cement sides that slope downward into the snowy hillside, the $9 million structure designed by Tromsø architect Peter W. Søderman appears to me as a survivalist gateway to the underworld. And such an interpretation wouldn't be far from the truth. Deep in the recesses of the former coal shaft lie thousands upon thousands of tiny seeds from around the world, ready to be retrieved at a moment's notice should the apocalypse ever be nigh.

The Global Seed Vault, known colloquially as "The Doomsday Vault," was established here in Svalbard over a decade ago, with the goal of providing a backup seed sample catalogue for the more than 1,700 seed gene banks around the world that store collections of food crops for safekeeping. Svalbard, under Norwegian sovereignty since 1925, was chosen in large part due to the country's stability and reliability on the global stage, as well as its ease of access and the natural cold-storage properties from the surrounding permafrost—seeds need to be kept frozen and dry. If seed samples were to be lost due to, say, a natural catastrophe, war, or some sort of climate Armageddon, the thinking went that the natural vault would ensure that crop varieties don't go extinct.

When the vault first opened, it housed roughly 300,000 seed samples. Today, there are nearly one million from 73 countries, encompassing 13,000 years

of agricultural history, including staple crops like 150,000 samples of rice, 140,000 samples of wheat, and 70,000 of barley, as well as their wild relatives. In 2015 agronomists with the Syrian-based International Center for Agricultural Research in the Dry Areas became the first to make a withdrawal from the vault after losing access to seed samples stored in Aleppo. On the surface, it looked like a success.

But the Arctic is changing, environmentally and politically. After a record-breakingly hot year in 2016, with Svalbard experiencing temperatures regularly approaching 7 °C [13 °F] higher than normal, the permafrost began to thaw and the entrance of the 328-foot-long vault flooded. Meanwhile, tensions in the Arctic are heating up too. The region has long been touted as an example of peace and cooperation for the rest of the world. But as ice melts, opening up access to oil and gas, shipping routes, and rare minerals, it also sets the region up for conflict. Already, pundits have pointed to the rapid militarization of the Russian Arctic, and China's growing interest. It's not inconceivable that rather than a place of refuge and sanctuary from war and disruption, Svalbard could one day be a battleground.

Even if earth's most peaceable region were to devolve into chaos, the idea remains that the human race must and will persist, despite the odds. Architecture of the apocalypse can now be found around the world; banks with collections ranging from exotic animal milk to living animal cells dot the United States. Still, Svalbard remains a hot spot for doomsday believers. In 2017 the Arctic World Archive opened in another nearby abandoned coal shaft—a data repository of the world's memory, filled with books, documents, and photosensitive film central to human culture and history. If and when things collapse, future humans may still be able to enjoy their wheat and barley alongside Edvard Munch's *The Scream*. ■

Gloria Dickie is a freelance journalist specializing in the topics of climate change, biodiversity conservation, land management, Arctic geopolitics, and food sustainability. Her writing appears in *National Geographic*, the *Atlantic*, the *Walrus*, the *Guardian*, *Hakai Magazine*, *Adventure Journal*, and *Outside*. She is based in British Columbia, Canada.