Bronze Age Egyptians’ strategy holds a message for our civilisation

Tel Aviv University researchers reveal how 3,000 years ago Egyptians managed a drought lasting over a hundred years

More than 3,000 years ago the queen of the Hittites, who lived in what is now Turkey, sent a clay tablet to Ramses II, the Egyptian pharaoh, with an SOS: “I have no grain in my lands.” Previously, the two kingdoms had been at war. Now a severe drought was carving a path of destruction through the ancient Levant, killing crops, cattle and people.

Egyptians and Hittites

But the Egyptians, unlike the Hittites, had anticipated a crisis and planned ahead for a food shortage, researchers at Tel Aviv University say. And in an attempt to stabilise their borders, the pharaohs appear to have mounted a relief effort, sending grain to their former enemies.

In a study published in this year’s edition of the journal Egypt and the Levant, the researchers pieced together ancient evidence — including flint and bone records from the fallen city of Megiddo, fossilised pollen data from the Sea of Galilee and ancient cattle DNA — to shed light on how Bronze Age Egyptians foresaw and planned for a drought that would last from around 1250 B.C. to 1100 B.C., while their ancient counterparts appeared to be less well prepared.

Even with preparation, however, the Egyptian empire ultimately collapsed. But the study shows how recognising and preparing for climate disaster can make societies more resilient.

“All this put together, you see a picture of a crisis and the reaction of an empire in order to try to stabilise the situation,” said Israel Finkelstein, a professor of archaeology at Tel Aviv University and the lead author of the paper. “For a while they managed, and then it was too late.”

Prescient pharaohs

For about a decade, archaeologists have known that widespread drought in the Mediterranean was a culprit in the fall of civilisations there in the Late Bronze Age. But it is only in this latest study that evidence of the pharaohs’ prescience has emerged: In anticipation of a crisis in their empire’s southeastern arid zones, ancient leaders ordered increased grain production in its greener parts, and crossbred local cattle with zebu, or humped cattle, to create a more heat-resistant plow animal, the researchers found.

At the ancient ruins of Megiddo in northern Israel, Finkelstein and his colleagues also discovered sickle blades used for harvesting grain, and an unusually high frequency of cattle bones. The age of those bones indicates that the animals were used for plowing crops, rather than eaten, explained one of the paper’s authors, Lidar Sapir-Hen, an archaeozoologist from the Steinhardt Museum of Natural History at Tel Aviv University.

These agricultural feats managed to extend the life of the Egyptian empire about half a century longer than it might otherwise have lasted, according to the archaeologists. The lesson for our
own civilisation — which is likely to face increasingly severe droughts as humans change the climate far faster than nature has ever done — is to plan ahead, Finkelstein said.

“This collapse of the Late Bronze Age is not just a matter of ancient history that has no relevance to us,” said Eric H. Cline, a professor of classics and anthropology at George Washington University, who worked at the Megiddo site for two decades but was not involved in this latest study.

Just as drought was among the “stressors” leading to famine and war during the Bronze Age, Cline said, today’s droughts could amplify existing problems.

“It’s a perfect storm: You’ve got not just drought and famine but there’s also earthquakes, there’s also invaders, and that’s what causes collapse,” he said, referring to a confluence of events which some think led to the end of the Bronze Age, which included powerful earthquakes in the region, and the invasion of the Levant by a group known as the Sea Peoples. The ancient world, like our own, was interdependent and suffered a “domino” fall, Cline added.

**Coping mechanisms**

Gavin A. Schmidt, the director of the Goddard Institute for Space Studies at NASA, said that in some ways, modern civilisation had not advanced much in its coping mechanisms for climate crises. “If the sea is rising, you either get out of the way, or you get flooded; if there’s a drought, you either plant more drought-resistant crops, or you die,” he said. But, he added, modern humans possess much better predictive power and are therefore “the first generation who is able to take mitigation seriously.”

Yet many countries are still behind on goals set as part of the 2015 Paris climate agreement. “This is the tragedy,” said John F. Haldon, a historian at Princeton University who studies how ancient civilisations coped with climatic upheaval. “Everyone’s aware of the problem but there’s a massive stasis in the system.”

If a civilisation’s leadership “has feet of clay and isn’t willing to take the challenge on in an innovative way," Haldon said, “then often the challenge will overcome them.”

Present-day humanity may have the resources and tools to deal with climate change, Haldon said, but action is often stifled by those who have a vested interest in denying the reality of human-caused climate change. “We seem to have the idea that people in ancient times or people in the past generally weren’t quite as clever as we are, but *Homo sapiens is Homo sapiens,*” he said.

“If it’s something that we are creating — and we see what happened the last time — I think we’d be foolish not to take steps to stop it," Cline said. “The problem is when we have deniers,” he added. “Then we’re no better off than the Hittites.”