

Archaeologists find continuous human settlement for 3,500 years in Vadnagar

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KHARAGPUR: An archaeological excavation at Gujarat's Vadnagar by a team of scientists from IIT Kharagpur, Archaeological Survey of India, Physical Research Laboratory, Jawaharlal Nehru University and Deccan College has discovered evidence of human settlement dating back to 1,400 BCE. The find is significant as it plugs a gap in Indian archaeological history between 1,500 BCE and 500 BCE and points to a continuity in human settlement in India over 5,500 years. There was no record of an advanced city-like settlement before 500 BCE. The study was funded by Infosys Foundation and Gujarat government's Directorate of Archaeology & Museums that is entrusted with building India's first experiential digital museum at Vadnagar.

"Some of our recent unpublished radiocarbon dates suggest the settlement could be as old as 1,400 BCE and contemporary to the very late phase of post-urban Harappan period. If true, it indicates a cultural continuity in India for the past 5,500 year and that the so-called Dark Age may be a myth," said IIT Kharagpur geology and geophysics professor Anindya Sarkar, the lead author of the paper titled 'Climate, human settlement, and migration in South Asia from Early historic to medieval period: evidence from new archaeological excavation at Vadnagar, Western India' in prestigious Elsevier journal 'Quaternary Science Reviews'.

The period between the collapse of Indus Valley Civilisation around 4,000 years ago (early 2nd millennium BCE) and the emergence of Iron Age and cities of mahajanapadas like Gandhar, Koshal, Avanti (6th-5th century BCE) is depicted as the 'Dark Age' by a section of archaeologists as records are rare - one of the earliest is the rock inscription of emperor Ashoka during Mauryan period (320-185 BCE) at Sudarsana Lake, Girnar hill, Gujarat.

The excavation at Vadnagar, carried out from 2016 till early 2023, has revealed characteristic archaeological

artefacts, potteries, copper, gold, silver and iron objects and intricately designed bangles. "We also found coin moulds of Greek king Appollodatus during the Indo-Greek rule at Vadnagar," said ASI archaeologist Abhijit Ambekar, who led the excavation and co-authored the paper.

The study also indicates that the rise and fall of different kingdoms over 3,000 years and recurrent invasions of India by central Asian warriors were driven by severe change in climate like rainfall or droughts.

"Vadnagar is the only archaeological site in India where early to medieval history is completely preserved and whose precise chronology is now known. It is also the oldest living fortified city in India with continuous habitation from 800 BCE. We often refer to Varanasi as a very old city. But the exact antiquity of the settlement excavated at the archaeological mound of Rajghat near Varanasi is unknown due to lack of radiocarbon dating. Also, in most other places, human occupation was not continuous. But there are no such gaps in Vadnagar," Sarkar said.

According to Ravi Bhushan and Navin Juyal of Physical Research Laboratory and collaborators who painstakingly dated these archaeological periods and events at the excavation site, the radiocarbon dates show that successively Vadnagar was ruled by Indo-Greeks (till 100 CE), Indo-Scythian or Shakas known as Kshatrapa kings (till 400 CE), Maitrakas (Gupta kingdom), Rashtrakuta-Pratihara-Chawada kings (till 930 CE), Solanki kings (Chalukya rule till 1,300 CE), Sultanate-Mughals (1680 CE), and Gaekwad/British. "The modern city of Vadnagar lies on the mound below which pages of history are buried," said Bhushan.

Sarkar said the inference from the findings at Vadnagar was that cold arid/hyper-arid conditions could have triggered migration from the uninhabitable central Asia and eventual invasion into the agrarian subcontinent that was prosperous under monsoon rainfall. "Our study provides strong evidence of large-scale migration and

invasions due to climate change in the past causing societal instability and has important bearing on the ongoing climate change and consequent human migration," Sarkar added.