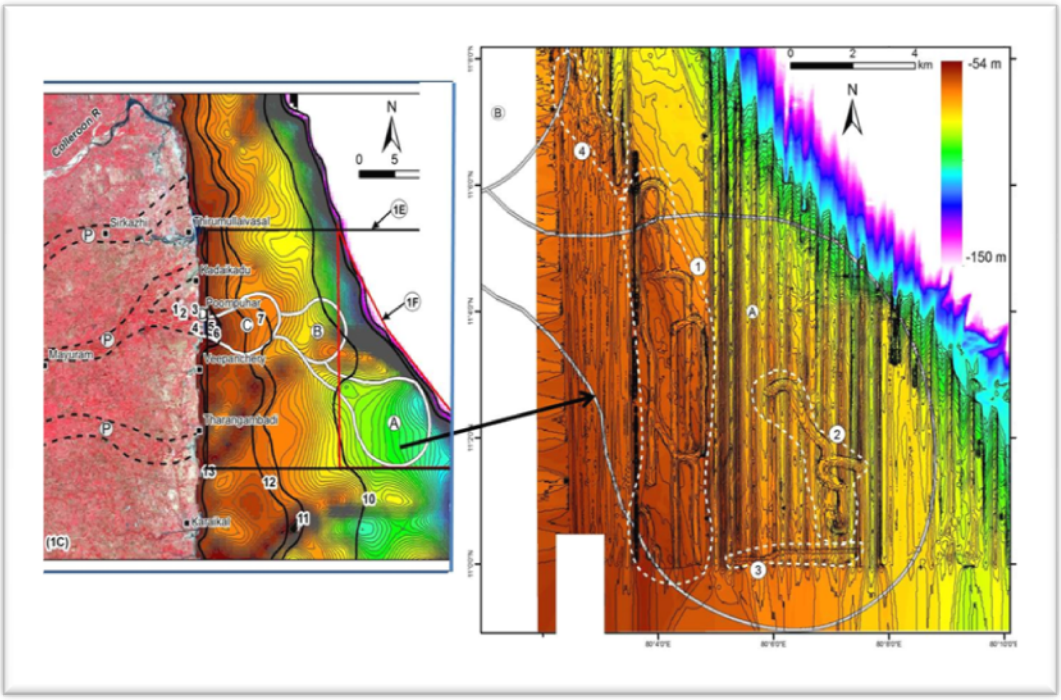
DST takes up digital reconstruction of Chola Heritage site in Tamil Nadu

The Poompuhar port city, established by the Chola dynasty around 3000 years ago, suddenly vanished from the maritime history of the world around 1000 years ago.

The ICPS division of the Department of Science and Technology (DST) is digitally reconstructing the underwater heritage site which is now a submerged port located 30 km away from the present Poompuhar town.

The city was a hallmark of inters- continental trade, social systems, architecture, buildings, and culture and had maritime trades with several far-flung countries around the world. Exhaustive narrations on Poompuhar are embedded in various sangam Tamil literatures like Prananuru, Aganannuru, Natrinai Silappathikaram, Manimegalai, and Pattinappalai. Some of these literatures inferred that Poompuhar was submerged due to kadalkol (sea-level rise and swallowing up of the land by the sea).

However, despite several studies on Tamil literature, archaeology, history, epigraphy, underwater exploration and geosciences, the mystery of the exact location of initial establishment of Poompuhar, its age, later shifts, along with periods, time series spatial evolution in the present location at the mouth of river Cauvery and the reasons and periods of its extinction remain unresolved.



DST is setting up a network of around 13 eminent academicians and research institutions in the country to trace the history of the ancient port city Poompuhar. Some of the institutions are School of Marine Sciences, Alagappa University, Academy of Marine Education & Training

(AMET) University, Chennai, National Institute of Ocean Technology (NIOT), and Department of Earth Sciences, Annamalai University.

The study involves underwater surveys and photography by remotely operated vehicles and sea bed drilling, remote sensing based geodynamic studies to bring out comprehensive information on the time series evolution and extinction. The study also involves the visualisation of geodynamic processes of the last 20,000 years like land subsidence, sea-level rise, Cauvery's migration, floods, tsunami, cyclones and erosion. The information extracted from the studies will help digitally reconstruct the life history of Poompuhar.

The initial studies carried out using the Indian Remote Sensing Satellites LISS IV and GEBCO (General Bathymetry Chart of the oceans) data sets have brought out exciting information, which says that Poompuhar city was initially established in Cauvery delta-A, 30kms away from the present Poompuhar town around 15,000 years ago. It shifted further 10 km to the west to Delta-B around 11,000 years ago and again further 10 km west to delta –C around 8000 years ago. Finally, it was re-established at the present location at the mouth of the river Cauvery around 3000 years ago. The shifts took place due to the continuous rise of sea levels and the submergence of the deltas.

Further studies, using Multi Beam Eco sounder data of the National Institute of Ocean Technology (NIOT), Chennai has led to the discovery of a harbour like structure as well as sea walls and a probable bridge. The harbor like structure is North-South oriented, 10 km long and 3 km broad.

These have given new insights about the life history of Poompuhar and the social, cultural, and technological evolution of this part of the country as well as the age of Poompuhar from 3000 years to 15,000 to 20,000 years.

The study is also expected to provide packages of scientific information not only on the life history of Poompuhar and the socio-cultural evolution but also the science and technological evolution and the disaster history of this region.