

Keeladi - An Urban Settlement of Sangam Age on the bank of Vaigai River



Keeladi Excavation

A turning point in the cultural historiography of Sangam Age

Keeladi Civilization/Culture of 2600 years old

The six carbon samples collected from the fourth season (2018) of excavations at Keeladi have been sent to Beta Analytic Lab, Miami, Florida, USA for AMS [Accelerator Mass Spectrometry] dating and the reports have been received. The sample collected at the depth of 353 cm goes back to 580 BCE.



The Keeladi cultural deposit could be safely dated between 6th century BCE and 1st century CE.

After analyzing the AMS dates obtained from Keeladi excavations, Prof.K.Rajan, a noted archaeologist, felt that the recent excavations at Keeladi present strong evidence to some of the hitherto held hypotheses.

The results suggest that the urbanization of Vaigai plains happened in Tamil Nadu around 6th century BCE as happened in Gangetic plains.

Likewise, the recent scientific dates obtained for Keeladi findings pushback the date of Tamil-Brahmi to another century i.e. 6th century BCE. These results clearly ascertained that they attained the literacy or learned the art of writing as early as 6th century BCE.

Trace of Agrarian Society and Cattle Rearing

The 70 samples of skeletal fragments collected from Keeladi had been sent to Deccan College, Post Graduate and Research Institute, Pune to analyze the faunal remains.

The analysis is made under the categorize due to the nature of the specimens. In which the species such as Cow/Ox (*Bos indicus*), Buffalo (*Bubalus bubalis*), Sheep (*Ovis aries*), Goat (*Capra hircus*), Nilgai

(*Boselaphus tragocamelus*), Blackbuck (*Antilope cervicapra*), Wild boar (*Sus scrofa*) and Peacock (*Pavo cristatus*) were identified.



Bull with Hump



Bones of Bull with Hump

Among the species, ox, cow, buffalo and goat indicating that they were predominantly used for agriculture purposes. The availability of cut marks in some of the animals like antelope, goat and wild boar suggest that they were consumed.. Thus, the faunal remains report suggests that the people mainly depended on agriculture and cattle rearing.

Analysis of the Structural Remains

The samples like bricks, lime-mortar, roof tiles and the binding materials of the ring well collected from the structural remains were sent to the Vellore Institute of Technology for scientific material analysis. The analysis revealed that every specimen contained elements like silica, lime, ferrous, aluminum and magnesium. The detailed report also furnishes of its constitution and nature. The bricks and roof tiles contained more than 80% silica mixed with 7% of lime while lime plaster possessed 97% of lime. In fact, the long survival of these materials with considerable strength and quality is due the quality of material deployed in the construction activities.



Structure Wall – Aerial View

Structural Engineering

These two seasons of excavation conducted at Keeladi exposed includes a 13 meter long wall. The dimension of baked bricks used and the dimension of baked bricks available in other Sangam Age archaeological sites are found in the ratio of 1: 4: 6.



Structure Wall

The well-laid floors, made of fine clay, along with roof tiles in collapsed state. It seems, wooden poles were planted over which roof was erected, the occurrence of iron nails give clues of festering the poles and rafters. The roof tiles contained finger groove impressions meant to drain water and double holes at the top to be tied with rafters. Such structural activities express the high standards of living during the Sangam Age.



Roof tiles in collapsed state

Graffiti and Symbols

Among the available scripts of India, the Indus scripts are considered to be the earliest one and were 4500 years old. One kind of script that survived between the disappearance of Indus script and the emergence of Brahmi script is called as graffiti marks by the scholars. These graffiti marks are the one evolved or transformed from Indus script and served as precursor for the emergence of Brahmi script. Therefore, these graffiti marks cannot be set aside as mere scratches. Like Indus script, this also could not be deciphered till date. These graffiti marks were found in Chalcolithic culture as well as in Megalithic culture.



Earlier excavations at Adichchanallur, Korkai, Alagankulam, Kodumanal, Karur, Teriruvelli, Uraiyyur, Mangulam, Perur and all other places yielded such type of graffiti inscribed potsherds were recovered.

Beyond Tamil Nadu, these marks were recovered from the sites such as Tissamaharama, Kantarodai, Manthai and Rithiyagama of Srilanka. Of the graffiti sherds collected from the sites of the Indian sub-continent, more than 75% of the symbols are traced from Tamil Nadu alone.

The symbols and graffiti are very much suggestive of the symbolic and codified expressions and communication of the megalithic and Iron Age people. In this context, the recovery of 1,001 graffiti sherds from Keeladi excavation recalls the preliminary writing expressions of the Iron Age people.

Tamil- Brahmi

As far as Tamil Nadu is concerned, the large number inscribed potsherds available next to graffiti is of the Tamil-Brahmi inscribed potsherds. The scholars called the Tamil-Brahmi script as *Damili* or ancient Tamil script. Majority of Early Historic sites excavated so far met with Tamil-Brahmi inscribed potsherds. At Keeladi, 56 Tamil-Brahmi inscribed potsherds were recovered from the excavation conducted by the Tamil Nadu State Archaeology alone.

Inscribed Tamil Brahmi Script in pot sherds



குவிரன் ஆத[ன்] - *kuvira_n-āta_n*



ஆதன் - *ātan*

Some of the inscribed sherds carry the personal name such as *kuviraṇ-ātaṇ* and *ātan* and a few sherds with incomplete personal names carrying one or two letters. In this sherds, the name *ātaṇ* is inscribed as *ataṇ*. In the early phase of Tamil-Brahmi, there is diacritical mark to indicate the long vowel from short vowel. This feature is well explained in the book *Early Writing System – A Journey from Graffiti to Brahmi* written by K.Rajan. This feature is only observed in vowels. The availability such features in Keeladi inscribed potsherds clearly suggest that the Tamil-Brahmi inscribed potsherds found at Keeladi are older in date.

Literacy Standard of the Sangam Age

Tamil-Brahmi letters as part of inscriptions are found engraved on the shoulder portions of the earthen vessels. In general, these letters were inscribed when the pot is in leather condition or were inscribed/engraved after the pot became dry. The letters engraved in leather condition could be made only by the potters at the time making pots. In the case of Keeladi examples, they were all post-firing in nature and were engraved by the owners after purchasing the pots. The representation of various styles of writing also suggests this view. It clearly suggests that the literacy level of the contemporary society that survived in 6th century BCE.



Inscribed Tamil Brahmi Script found in Black and Red Ware and Red Ware pot sherds

Handicrafts

In total, 17 pottery specimens were sent to the Earth Science Department of Pisa University, Italy through Vellore Institute of Technology for mineral analysis. The samples were analyzed and the results confirmed that water container and cooking vessels shaped out of locally available raw materials.



Deposits of Pot Sherds

Interestingly, it is to be noted that two quadrants of adjacent trenches below the depth of 4 m revealed heaps of potteries of many cart loads. The occurrence of such large quantity clearly suggests that there could have been a pottery making industry at this site.

The Spectroscopic analysis of the Black and red ware sherds of Keeladi revealed that the reason for its black colour is due to the use of carbon material and for the existence of red colour is due to use and presence of Hematite (Iron core). The potters of Keeladi were familiar with the technique and knew the art of raising the Kiln temperature to 1100°C to produce the typical Black-and-Red ware pottery.

The results of the samples sent to the Pisa University, Italy reveal that the earthen vessels produced by the Keeladi people of Sangam Age were followed the same technique and content of minerals and constituents of clay right from 6th century BCE. to 2nd Century BCE. The same report also states that few pottery samples of 2nd century BCE do contain earth content similar to that of other region thereby suggesting that they exchanged the

goods between the neighbouring regions probably through traders, craftsmen and visitors.

Weaving Industry

Recovery of 10 spindle whorls, 20 sharply pin pointed bone tip tools used for design creations, hanging stones of the yarn, terracotta spheres, copper needle and earthen vessels to hold liquid clearly attest the various stages of weaving industry from spinning, yarning, looming and weaving, later for dyeing. The archaeological findings of the Excavation wing of Archaeological Survey of India at this site confirmed of the dyeing industry.

Artefacts used for Weaving



Spindle Whorls



Bone Points

So, the occurrence of recent antiquities also attests the existence of weaving industry.

Life Style of Ancient Keeladi People

The occurrence of seven gold ornaments, copper article, beads of gems, more than 4000 beads of semiprecious stones, glass beads, shell bangles, ivory bangles and well crafted household utensils which indicate the culture richness and economic prosperity of Sangam Age.

House hold Utensils



Grinding Stone



Well Crafted Terracotta Vessel

Precious Ornaments



Gold Artefacts



Glass Beads

Gamesmen and pastimes

The occurrence of gamesmen such as hop scotches and gamesmen, really reflects the pastime activities of the ancient people. Majority of the gamesman recovered from excavations are of terracotta. In this context Keeladi yielded 600 hop scotches even now the same game is prevalent Madurai and other regions as '*Pandi*' or *Nondivilayattu*). Dices were also recovered from the site. The occurrence of single and double holed

terracotta discs represents either use of wheel of the toy cart or twist disc game pieces. Apart from these, 80 chessmen of similar shape but in different sizes were collected from the excavation.

Gamesmen



Dice



Hop Scotches

Commerce



Agate and Carnelian Beads

Keeladi excavation yielded beads of agate and carnelian and their origins are Maharashtra and Gujarat.

The occurrence of Roman potteries like Arretine and imitated rouletted sherds could have reached the site either through Alagankulam port town which had international trade contacts during the early centuries of Common Era. In fact, such potteries were used by Roman during 2nd BCE.

Therefore, the traders of Roman or the Roman traders housed in Alagankulam could have come to this region.

Terracotta Images

Terracotta Figurines



The terracotta objects recovered from Keeladi excavation, 13 are of human images, 3 of animals, more than 650 represent gamesmen and 35 are of ear ornaments. Other than terracotta objects the site also yielded jewellery pieces of gold, copper, objects of iron were also recovered. But it is to be noted that this site didn't yield any objects meant for worship so far