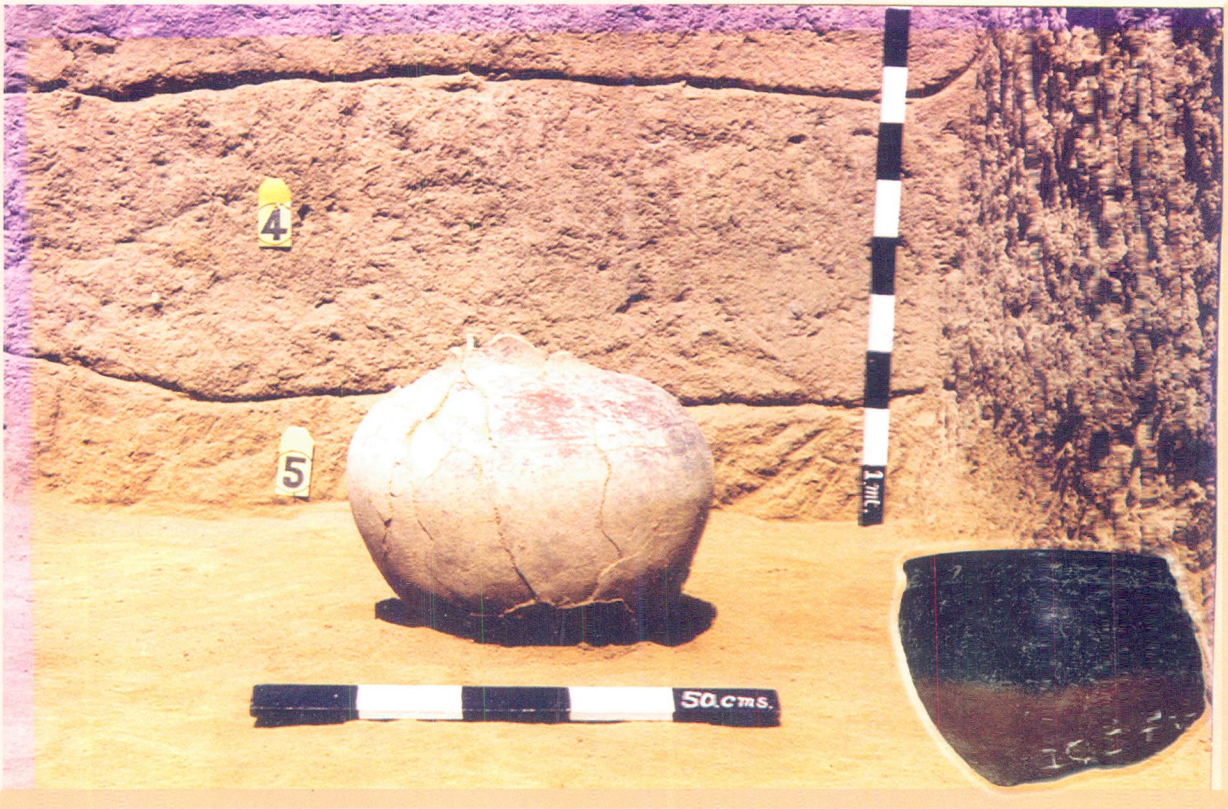
ARCHAEOLOGICAL
EXCAVATIONS OF TAMILNADU

Volume. I

[Sendamangalam, Maligaimedu, Teriruveli]



Authors
Dr. S. Vasanthi
V. Ramamurthi
M. Kalaivanan
S. Sreekumar

General Editor
Dr. T. S. Sridhar, IAS,
Principal Secretary and Commissinor

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Authors

Dr. S. Vasanthi

V. Ramamurthi

M. Kalaivanan

S. Sreekumar

Government of Tamil Nadu, Department of Archaeology

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Dr. T. S. Sridhar, IAS.,
Principal Secretary & Commissioner

Department of Archaeology,
Tamil Valarchi Valagam,
Halls Road, Egmore,
Chennai-600 008.

PREFACE

The prime function of the Department of Archaeology is the conduct of excavations in archaeologically and historically important places of Tamil Nadu. So far the Department has conducted excavation in 34 places all over Tamil Nadu and brought out valuable findings which revealed the ancient historical significance of the State. The excavation reports have been published for 27 sites.

The book Archaeological Excavations of Tamil Nadu - Volume I contains the report on excavation carried out at the following places.

1. Sendamangalam, Villupuram District, 1992-93, 1994-95 – Early Historic period
2. Maligaimedu, Cuddalore District, 1999-2000 – Early Historic period
3. Teriruveli, Ramanathapuram District, 1999-2000 – Pre Historic & Historic period

Sendamangalam was the capital of Later Pallava ruler Koperunjinga, wherein the excavation revealed number of terracotta figurines, brick structure and a well of early historic period. At Maligaimedu, brick structure, terracotta ring wells, and antiquities such as copper coins of Sathavahana, Vijayanagara dynasties, spindle whorls, terracotta smoking pipes, ear lobes,

gamesmen etc., were the important findings in the excavation. At Teriruveli, the noteworthy finding are the microlithic tools. Apart from this, the remarkable findings were the inscribed potsherds with Tamil Brahmi bearing the names of Chola king Nedunkili, Kottran, Sathan etc.

I am happy in bringing out this volume for the benefit of scholars, students and general public. I thank the Government of Tamil Nadu for providing adequate funds to bring out this publication. I wish to place on record the contribution made by Thiruvalargal Natana. Kasinathan, K. Damodaran and A. Abdul Majeed, former Directors of this Department in the conduct of the excavations and the authors Dr. R. Poongundran, K. Sridharan, R. Selvaraj, Dr. S. Vasanthi who contributed papers.

T. S. SRIDHAR

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2. (Insert) Inscribed Potsherd - Nedunkili

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2. Brick Structure and Terracotta Ring Well - Maligaimedu

SENDAMANGALAM EXCAVATION
1995 - 1996

1. INTRODUCTION

Sendamangalam is a small village that lies (Latitude 11° North and Longitude 78° East) 15 km, north of Ulundurpettai and 30 km. south of Villupuram on the Trichirappalli-Chennai Highway. Sendamangalam is in the Ulundurpettai Taluk of Villupuram District. The river Gadilam flows on the northern side of the village and on southern side the mound is located.

The site was initially explored by the officials of this department. They noticed an ancient mound with some brick structure and collected black and red ware pot sherds, iron nails and other antiquities. This site has also yielded good number of coins of Rajaraja Chola I. These factors led to Archaeological excavation.[1]

The excavations at Sendamangalam was carried out with the following objectives.

1. To know the early history of Sendamangalam.
2. To reveal the history of Sendamangalam fort and palace Complex.



2. HISTORICAL BACKGROUND

The earliest occupation of this village was by the megalithic people. (i.e. Iron age) Megalithic Urn burials are noticed near the Malaiamman temple on the western side of Sendamangalam and on the Gadilam river bank. Urns are locally called as ***"Madamadakka Sal"*** a local variant of the ***"Mudumakkal Sal"*** (the urn of the ancient people). Sherds of black and red ware and black ware bowls were collected in this area. There are some local legends connecting this site to the Mahabharatha story. According to this legend, the Pandavas came to this area during their exile. Unfortunately Dharma, the eldest brother was left alone in the nearby forest while his brothers went in another direction. A few days later Dharma met his brothers at Sendamangalam. Due to this tradition the sculpture of Dharma is not found in the Pandava group of sculptures in Draupathy temple at Sendamagalam. But at Sendanadu, another small village located at 10 km. away from Sendamangalam. sculptures of all the five Pandava brothers are seen.

Its history during the Sangam age is not clear. However Sendamangalam played an important role in the medieval history of Tamil Nadu. Early Chola rulers conquered Tondaimandalam and kept it under their control. In later Chola period (13th Century C.E.) the central administration lost its control over the northern territories. So the local chieftains became powerful in their territories. Kadavas also began to rule the areas of Villupuram and Virudhachalam

independently. The boundaries south of Penniyaru and north of Kaveri came under the control of the Kadava rulers. Some scholars believe that the Kadavas were the descendants of Pallavas and some of the names and titles of Kadavas resemble those of the Pallava rulers.

Sendamangalam became the capital city of the Kadava kings. The inscriptions of the Kadava rulers are found in and around Sendamangalam. An inscription from Tiruvennainallur attributes *'Elisaimohan'* the title, meaning the 'Conqueror of the four directions'. Elisaimohan also defeated Kudal and took the title 'Kudal Alappirandan'. 'Kudal' is identified with Puramalai nadu of Tagadur region (Dharmapuri District)[2] Another inscription which belongs to Kulottunga III mentioned him as Alagiya Pallavan alias Manavalaperumal in 1195 C.E.[3]

It is known from an inscription in Sendamangalam that *Sri Sakala bhuvanachakravartigal* Sri Manavalapperumal founded the capital city called Sendamangalam on the southern bank of the river Gadilam. A strong fortification wall and a moat were constructed around the city and it was called as Padai Vidu.[4] (Cantonment)

It was founded by the Kadava King Manavalapperumal in his 5th regnal year (1195 C.E). From the available ruins it may be asertained that it was an extensive and planned city. The city seems to have had two fortification walls. one inner and the other outer. Its walls were built out of granite stones. The inner fortification wall was around the royal palace. The brick wall was running around the *Maligaiveli.* The foundation of the rampart wall was exposed in the excavation. Baked bricks were used for the construction. The royal palace was also built of burnt bricks. The ceiling was covered with 'L' shaped tiles. The fort of Sendamangalam seems to have

followed the plan of Thanjavur and Gangaikondacholapuram with a few new additions.

Within the fortified city, Manavalapperumal constructed a temple called *Valnilai Kandiswaram Udaiyar* (Valnilaikandan may means a peerless sword man equivalent to *Khadgamallan*). Manavalapperumal might have ruled from 1191 C.E. to 1213 C.E. in this Nadunadu region.

Kopperunjingan was the most important ruler in the Kadava family. He ruled for 36 years between 1243 C.E. and 1279 C.E. The Vayalur inscription states that he his army defeated Rajaraja III at Tellaru, and took him and his family as prisoners in his capital city Sendamangalam. After that, the Hoysala king Viranarashimha sent his troops to Sendamangalam and relieved the Chola king Rajaraja III from Kopperunjinga in 1232 C.E.[5]

Three temples were constructed within Sendamangalam. They are 1) Malaiamman temple, 2) Durgaiamman temple and 3) Apatsakayesvarar temple. Malaiamman temple is situated near the highway. It is believed that the Malaiamman was the family deity of the Kadava rulers. This temple was reconstructed during the Vijjayanagar rule. Malaiamman sculpture is found in the mandapa that belonged to the 12th century C.E.

The Durgai Amman temple which was built by the Kadavas probably situated outside the village is now in a completely ruined condition. Some sculptures of this temple are noticed within the vicinity of the temple area.

The Kadava king Manavalapperumal built the Siva temple called *Valnilai Kandisvaram Udaiyar,* within the fort. This east facing temple is locally called as Apatsakayesvarar temple. It contains *sanctum,*

ardha mandapa, muka mandapa and maha mandapa. It has an *eka tala* (one tier) *vimana* and the *griva* and *sikhara* are in circular shape. A beautiful *lingodhbhava* sculpture placed in the *mahamandapa* belongs to the 12th century C.E. In addition to this two Sculptures of Subramania and Bhairava are in the temple. An Amman temple was also constructed within the *prakara wall.*

Three inscriptions of Kadava king (1243-79 C.E.) Koppuerunjinga were engraved in the temple.[6] The first one dated to his second regnal year records a gift of 32 cows and a bull to Valnilai Kandisvaramudaiyar temple. A similar gift was given in the 9th regnal year to the Siva temple by one Tirumalai Alagiyan Virakavira pallavaraiyar, a kaikola of Tiruvennainallur.[7] The third inscription deals with the gift of 4000 kasus, donated by one Tondaiman Udaiyar,[8] the araiyan (Chief) of Pennadam to maintain two perpetual lamps in the temple.

A tank was also dug near the temple for supplying water. Two stone sculptures of horses are found near the *Kudirai Mandapam,* which is now in ruined condition. The Pandya kings also occupied Sendamangalam area after the Cholas. Pandya inscription was also found in the doorjamb of Chandikesvarar shrine Sendamangalam temple. It reads as,

"Svasti Sri Rajakkanayan triukkoyil Svasti Sri" (the sacred temple of Rajakkanayan)

Pandya rulers used the title "Rajakkanayan'" in their inscriptions. A circular seal was found on the surface in the Kottaimedu area. The brass seal has a figure of Chendu (royal scepter) in the center and two fishes on both sides. A cresent is engraved on top of the seal. It may be attributed to Pandya ruler. Two fishes and a Chendu are the emblam of the Pandyas. They use the phrase "Iratti Kayalum Chendum Kondu" in their inscriptions frequently."[9] So this seal might have been issued by the Pandya rulers.

From the available construction it may be concluded that it was an extensive and planned city. The city seems to have had two fortification walls, one inner and an outer wall. It was built out of stones and a moat was also noticed around it. The inner fortification wall was around the royal palace. The brick wall was running around the Maligaiveli. This foundation of the rampart wall was exposed in the excavation. Fire backed bricks were used for the construction. The royal palace was also built of burnt bricks. The ceiling was covered with 'L' shaped tiles. The fort of Sendamangalam seems to have followed the plan of Thanjavur and Gangaikonda Cholapuram forts, with few new additions.[10]

References :

1. This area was explored by Thiru K. Damodaran (the then Deputy Director) and Thiru. S. Krishnamoorthy, Archaeological Officer.
2. S.I.I. Vol. VIII No. 351.
3. S.R. Balasubramanyam - Later Chola Temples - 1979, Page: 396.
4. S.I.I. Vol. VIII No: 350 inscription read as "ஸ்ரீ மணவாளன் பெருமாளுடையார்க்கு யாண்டு அஞ்சாவது சேந்தமங்கலத்து ஊரும் படைவீடு செய்து".
5. ARE 418 of 1922.
6. S.I.I. Vol. VIII No: 346.
7. S.I.I. Vol. VIII No: 348.
8. S.I.I. Vol. VIII No: 345.
9. ARE 81 A of 1903.
10. Natana Kasinathan - The Metropolis of the Medieval Cholas, TNSDA - 1998.

3. THE CUTTINGS

The Department excavated the site Sendamangalam in the month of February 1995. In the first season seven trenches were laid on the top of the mound situated on the western side of the village. In the second season (Feb.1996) another seven trenches were laid. Out of the seven trenches SMM 11 and SMM 12 were laid near the Tiruchirappalli-Chennai trunk road. Five trenches were laid in the Kottaimedu area. Locally this place is called as *Kuyavanodai,* situated on northern side of the village and on the southern side of the trunk road.

SMM1 and SMMIA: The trench SMM-1 measuring 5 X 4 meters with cutting area of 4 X 4 meters was laid in east-west orientation. It was in the southern side of the mud road, which connects the village Sendamangalam and Malaiamman temple. This place is known as *Malaimedu* or *Maligaiveli. Six* layers were exposed in this trench. One meter thick layer(I) was noticed in all the sections of the trench. The soil was loose and light brown in Colour and occasionally mixed with lime. brick bats, 'L' shaped tiles in various sizes were also found. Fragments of Terracotta pipes and hopscotches were also collected in this layer. Coarse red ware sherds were found in large quantity. Coarse black ware was also noticed.

Layer (2) was found on the eastern section only. Soil was red in colour and ash mixed. Compared to the layer (1) the occurrence of 'L' shaped tiles and iron nails decreased. Brickbats were also noticed. Laterite stone pieces were found here and there. Spouts and bangle pieces were also recovered.

Layer (3) noticed in the eastern section and the soil was red in colour, Brick bats were mixed with the soil. Not even a single full shaped brick was collected. The number of 'L' shaped tiles and spouts further decreased. Bangle pieces were also collected. Coarse red ware and coarse black ware decreased in number. Two full pots were exposed in this layer.

Layer (4) was also found in the eastern section and the soil was hard and red in colour. Minimum thickness of the layer was 40 cms.

This ashy grey colour layer (5) was noticed in all sections. Potsherds and antiquities were found less in number. One or two tiles were collected in the upper level of the layer. Black and red ware sherds rouletted sherds were noticed in the lower level of the layer.

The Lowermost layer (6) of this trench was found in all sections. Dark brownish soil mixed with the ash was seen here and there. Tiles and brickbats were absent in this layer. Black and red ware sherds were collected. One terracotta human figurine was obtained at the depth of 3mts. Urn pieces and russet coated potsherds were the associated findings with the human figurine. Sixth layer was the earliest level in the trench SMM.I. The natural soil was reached at a depth of 3.40 meters from the datum line.

PITS:

An oval shaped pit-1 probably a posthole measuring 40 X 17 cms was found in the eastern side of the trench SMM I. This pit filled with loose sand and was seated by the layers (4) The identical pit, both in content and shape was also found in the same section. Both the pits did not yield any antiquity.

BRICK STRUCTURE:

Brick structure was noticed in SMM I and SMM I-A. It was running North - South direction. So another trench was laid on the southern side to study the continuation of brick structure.

Single layer alone was exposed in this trench. Soil was loose and ash mixed. The average thickness of the layer was one meter and it was found in all sections. At a depth of 90 cms a small brick structure was noticed in the western section. Broken bricks, roof tiles and iron nails were encountered in large quantity.

Laterite stone structure was exposed in the whole trench SMM-3. So further digging was stopped at this level. In the center of the trench a channel like portion was noticed. After clearance it was found that the channel is running from South to North direction. It was 30 cms is depth and 55 cms wide. Brick structure was constructed on both sides of the channel and above the laterite stones. Three uses of brick structure was noticed and some portions of the structure were damaged due to the brick robbery.

Coarse red ware and coarse black ware sherds were unearthed in this layer.

SMM 4 and SMM5: The trench SMM 4 was laid in the Northern side of the trench SMM 1. Soil was red in colour and of hard texture.

At the depth of one meter two parallel walls were exposed. One was in the East another one was in the West. The eastern side wall was smaller than the western side wall.

SMM5 was the extension of SMM 4. It was 5 X 4 meters and the cutting edge was 4 X 4 meters. Laterite stone structure was exposed in this trench also at a depth of one meter.

It revealed five layers Layer (1) was loose gray color soil. Iron nails and 'L' shaped tiles were collected in large quantity. 'L' shaped nails and box headed nails were also unearthed.

The succeeding layer (2) was ash mixed soil. Roof tiles decreased but potsherds increased in number. Spouts, hopscotches and bangle pieces were collected. Average thickness of the layer was 60 cms. Layer (3) was red in colour and an average thickness

of the layer was 50 cms. Bangle pieces and spouts were obtained. These two layers were found in the western section alone.

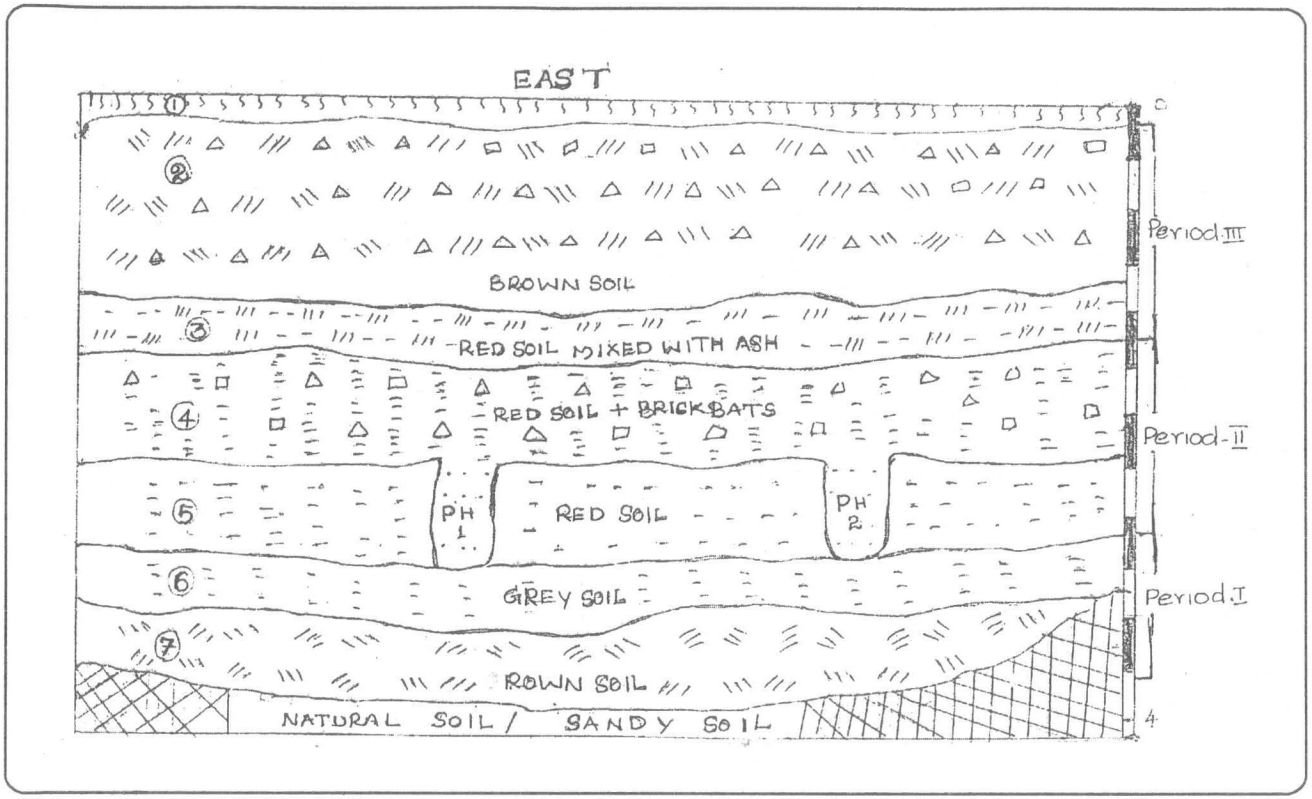
Layer (4) was hard soil and red in colour. Conical jar pieces and few black and red ware sherds were found in this layer. Tiles, iron nails and spouts decreased. The lowermost layer (5) was loose sandy soil. This soil was clearly different from the natural soil in colour and texture. Soil was mixed with ash and bone pieces. This layer yielded black and red ware and black ware sherds. Black and red ware sherds with graffiti marks were also collected in this layer. Natural soil was found at a depth of 3.80 meters.

SMM 8 : SMM9: SMM8 was laid on the top of the mound called *Sulaimedu* near *Mlaligaiveli.* Totally two layers were found in this trench. Layer (1) was found in the east and southern sections. Average thickness of the layer was 75 cm., which was hard and red in colour and laterite stones were mixed with the soil. Iron nails and 'L' shape tiles were unearthed.

Layer (2) was found in eastern and western sections. Unburnt bricks were noticed in this layer. Nine mud brick coarses were exposed in this section. Average thickness of the layer was 1.10 meters. Two pits also occurred in this trench. A brick structure was exposed in this trench near the section. To know the continuity of the brick structure SMM8 was extended on the western side.

This trench SMM9 was oriented East-West direction and the measurement was 4 X 4 meters. Two layers were exposed in this trench. At the depth of 10 cms a brick structure was noticed in the northern side of the trench.

A circular laterite well 2 meter diameter was exposed on the southern side of the birck structure. Half of the well was noticed in the trench 8. Another two trenches were laid adjacent to this. Twenty rows of laterite stones were found from top to bottom and total depth of well was 2.70 meters.



Drawing showing the Eastern side of the Trench-8 SMM 8

Above the circular well was a square laterite stone wall or protective wall was seen . Four big rectangular laterite stones were used in the four corners of the wall. The dimensions of the stone was 43 X 50 X 20 cms. Most of the stones were square and dressed on one side. Undressed stones were used inside the wall. whereas the uppermost level stones were dressed. Red soil was used as binding material. Above the laterite stone structure disturbed brick wall noticed .

Nothern side of the wall has a floor paved with two layers of bricks. The floor joined with the laterite stone wall. The sizes of the Lower level bricks were 23 X 13 X 4 cms and the upper level bricks were 20 X 13 X 3 cms and the lower level bricks were bigger than the upper level. Full bricks alone were used for the floor. This floor had two walls on both southern and northern sides. So it looks like a passage. The dimensions of the passage was 1.15 meters X 4 meters. It was constructed with twenty rows of bricks.

In laying out the brick floor red soil was paved in the lower most level. Above this, brickbats were mixed and packed. Full sized bricks were paved over this floor.

A circular well with protection wall was exposed in this place. This well had brick floor and drain passage in the northern side of the wall. This brick floor might have used for flowing the water from the well.

4. THE STRUCTURE

The excavations exposed two wall portions. These two walls exposed in the trench No. 1 and continued up to six trenches. One occurred between I-II and I' - II' and another. one was between IV-V and IV'-V' pegs. Wall No.1 was small in breadth measuring 1.45 meters and wall No.2 was 2.70 meters in breadth. Wall-1 was found in the eastern side of the trench and wall-2 was found on western side of the trench. Both walls run from south to north. There was 1.45 meters space between the two walls.

Laterite stone structures or basement noticed in six trenches, whereas the brick structure found in four trenches alone. The brick structure was damaged by the local people who robbed the stones for their house construction. Five rows of bricks exposed in SMM I and three rows exposed in SMM 5. Total length of the structure exposed in this place was 13 meters. Wall-1 found only eight meters length and turned towards wall-2. In SMM 5 it joined with the wall number two. In the joining place river sand was found at 50 cms depth. So wall Number-2 was considered as the main wall in the construction.

Wall number-2 was divided by a channel like portion in the centre of the wall. This channel exposed in SMM I and continued up to SMM 3. The channel has a breath of 45 cms and it is 30 cms depth. Laterite stone structure occurred at the depth of one meter from the surface level and the channel was found below the laterite stone structure. This structure could have been used as a drainage. This channel was filled with the clay and the soil was dark black in colour. Portsherds were also collected. It has a slope towards north and assumed that the water might have flowed from South to North.

One side of the wall was exposed to know the construction technique of the foundation of the wall. The foundation had a 'V' shaped pit and the pit was noticed in layer (2). This pit was one-meter depth below the laterite stones. The pit at the bottom measured 1.25 meters and was 1.50 meters at the top. Foundation pit had three layers upto 30 cms it was filled with river sand, the next layer was made out of a mixer of river sand with small pebbles. The topmost layer of the pit was filled with laterite stones and sand. Big boulders were found on both sides of the wall and small stones of different sizes were packed between the stones. This kind of foundation was found in all the places.

Brick structure was constructed above this laterite stone foundation. Full bricks were used in the corners and broken bricks were filled inside the wall portion. The bricks measured 22 X 12 X 5 cms and clay was used as binding material. Total breadth of the wall was 3.40 meters and total length of the wall exposed in the trench was 13 meters.

FORTIFICATIONS

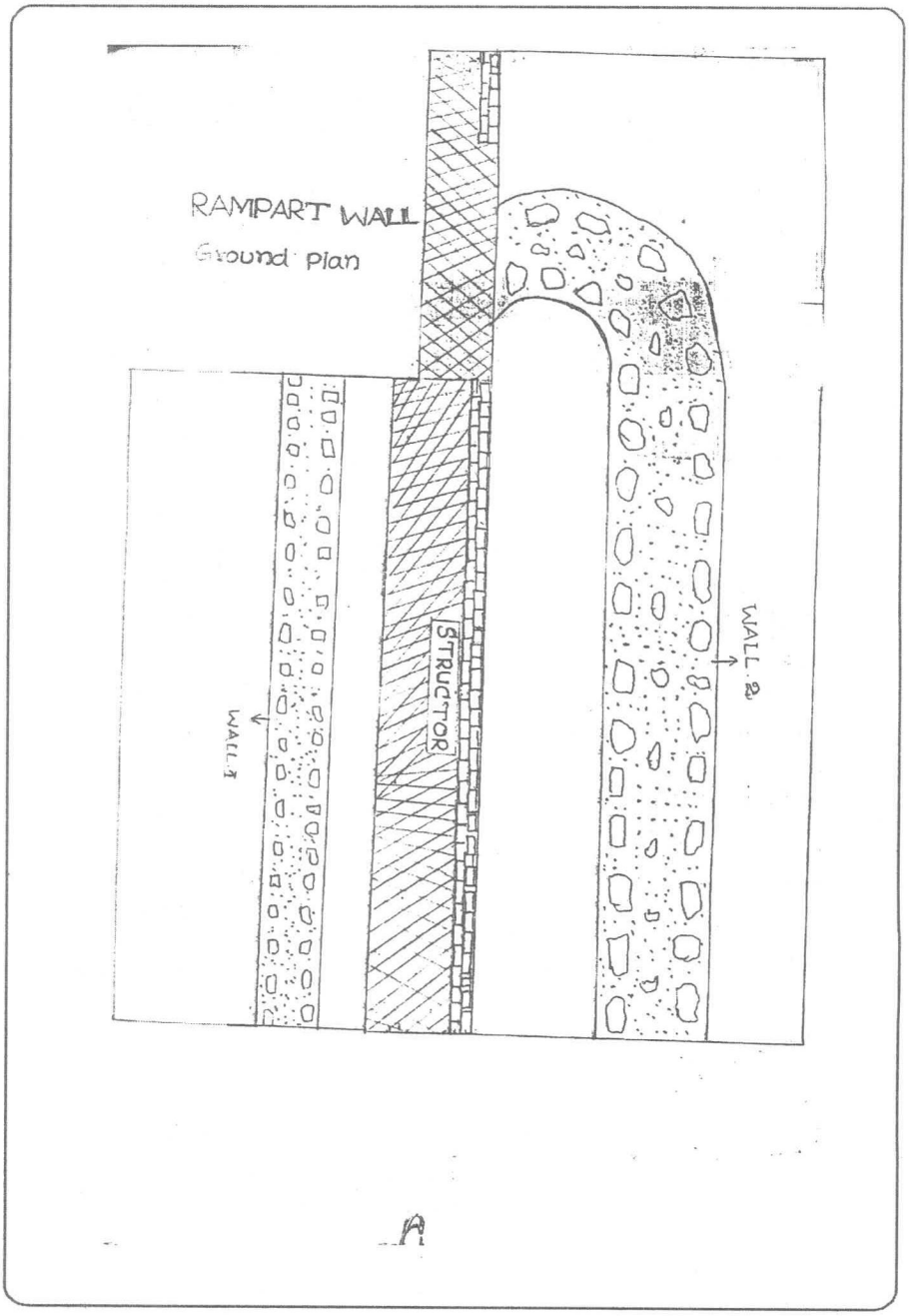
Construction of double wall system was known from the Chola structures in Thanjavur and Gangaikonda Cholapuram. The space in between the two walls was filled with river sand at the foundation level. Both walls were joined together at the surface level as a single wall. This method of wall construction was used in the fortification wall at Sendamangalam.

The fortification wall was oriented South-North direction. After considering all the remains of the wall, it was assumed that the fortification was more or less rectangular in shape. Some dilapidated palace buildings were noticed along this wall. The Siva temple built by the Kadava chief is situated within the fortification.

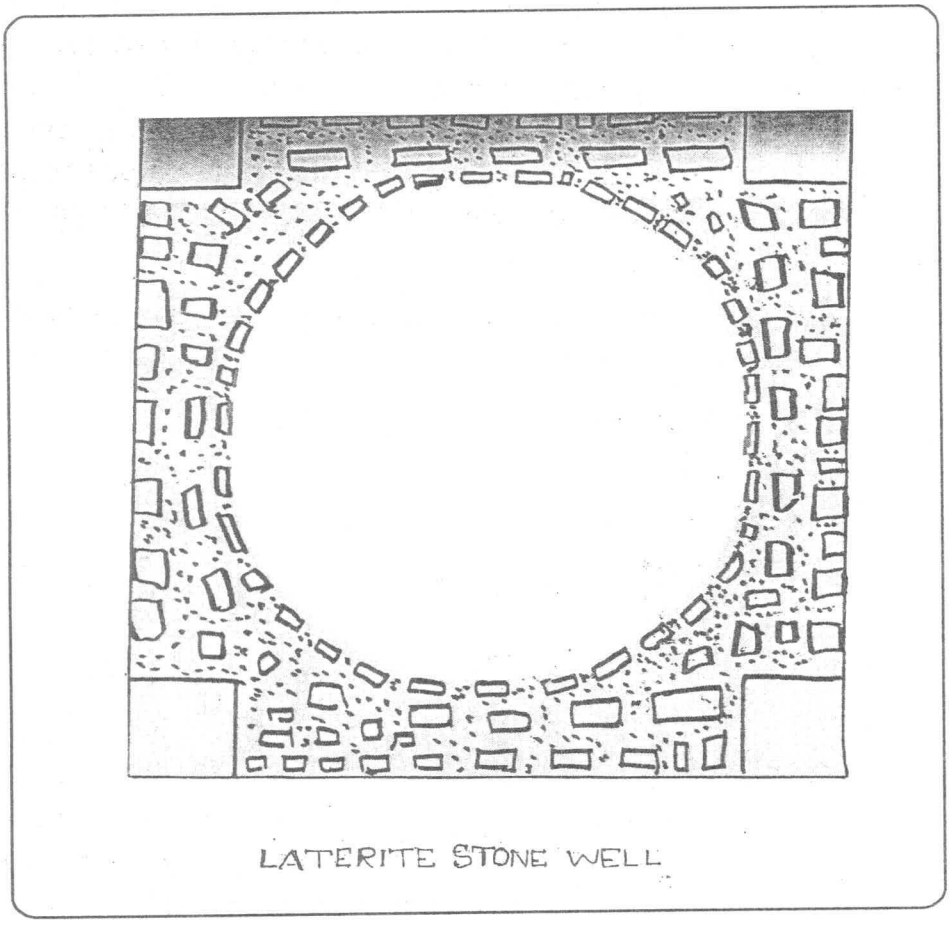
Another fortification wall was also found near the Malaiamman temple. Locally this area is called *"Kottai madil".* This fort wall was exposed due to the rain water. It was constructed out of stone slabs. Total area of the fort was more than 350 acres. Adjacent to fort wall a moat was noticed, but it was highly disturbed.

The areas around the outer fort wall are locally known as *Thallar kollai, Sulaimedu, Kuthirai mandapam,* and *Mathil veli.*





Fortification Wall - Drawing



Laterite Stone Well - Drawing

5. POTTERY

Pottery played an important source material for the Archaeologist to reconstruct the socio economic life of the people. These people were dependant on the pottery vessels for cooking, storing and for other activities of life. Some of these vessels used for daily needs were decorated with incised designs, grooves or simple finger tip or nail impressions. Some pots were also used for ceremonial purposes.

Sendamangalam excavation yielded large number of potsherds. They were classified as follows;

1. Black and red ware
2. All black ware
3. Red ware
4. Rouletted ware
5. Russet coated ware
6. Grey ware
7. Black ware

BLACK AND RED WARE:

It was found in the lower most level. It was made out of well levigated clay with high polish. All potsherds were of fine fabric and wheel turned. The available types were bowls and straight sided bowls. The black and red ware was represented by a typical sharply carinated dish and bowl with featureless rim. Fine varieties were found in the lower most levels. It was thin in section and well fired. A few sherds also occurred in the succeeding layers.

ALL BLACK WARE:

It was also found in the lower most layers. Only a few sherds were unearthed . The pottery was well fired and made on fast wheel. It was thicker in section than the black and red ware. The main type of the ware was bowl.

ROULETTED WARE

About ten rouletted ware sherds were collected in the layer(6). It was also thin in section. The rouletted impression was found on the inner surface of the bowl.

RUSSET COATED WARE:

SMM-I yielded five russet coated sherds in the lower level. They were thin in section like the black and red ware. The main type of this ware was bowl. Russet coated painting was found in the outer surface.

RED WARE:

Red ware sherds were found in large quantity. It occurred in all the layers except at the lower most level. It was thicker in section than the black and red ware. Most of the red ware was well fired. The predominant types of this ware were bowl and medium sized jars. Basins with tapering sides were also collected. Most of the basins were decorated with thumb and nail impressions.

The jars were having bulbous body and narrow neck. Beautiful decorations were found on the shoulder portion. The main design was a circle with a dot in the center. Other designs are wavy lines, zigzag lines and nail impressions. These type of potsherds belonged to period 11 A and Period II B.

GREY WARE:

Only few sherds of this ware was found in period II A and Period II B. It was also thin in section and well levigated clay was used.

The core was invariably grey in colour.

BLACK WARE:

A Few sherds were found in the lower levels and more in the upper levels. In comparison to the red ware it was less in number. The predominant types of this ware were lids and vases.

GRAFFITI MARKS

Description of the Graffiti Marks

1. There are two symbols (i)the first one is a trident like symbol with its central stem extended upwards further, (ii)the second one is astylized fish.
2. Trident like symbol with two lines and one line is intersecting the trident, symbol
3. Sun symbol with 9 rays. (Graffiti found on inner side of the rim portion)
4. Two oblique lines cutting each other at an acute angle looks like stylized drum.
5. A flying bird with curved wings
6. A trident similar to No. 2
7. Two horizontal lines

8-9. Similar to Brahmi letter 'ka'

10. 'N' shaped symbol

11, 13,14) Two oblique lines cutting each other at an acute angle

12. Three lines cutting one another at a common point.
15. Trident like figure similar to I with two cross lines.

BLACK AND RED WARE:

Type 1: Bowl of black and red ware with round base and medium fabric. It is well fired.

Type 2: Round base, deep bowl of fine fabric and straight-sided neck

Type 3: Medium sized bowl of black and red ware and of medium fabric. Round base and deep bowl

Type 4: Shallow bowl dish of black and red ware of fine fabric with short sickle and sagger base. It is well fired.

Type 5: Typical megalithic type of black and red ware bowl. Straight shaped body of fine fabric and well fired.

Type 6: Typical megalithic type of black and red ware bowl of medium fabric and well fired

Type 7: Bowl of black and red ware with straight sides and sagger base. Medium fabric and well fired.

Type 8: Bowl of black and red ware with featureless rim and sagger base. Medium fabric.

Type 9: Typical megalithic type of black and red ware bowl. Medium fabric with internally sharpened rim and sides tapering to a flat base.

BLACK WARE:

Type 10: Black Ware bowl with flared rim, series of grooves at the shoulder, carinated body.

Type 11: Flared rim, carinated body, grooves at the shoulder of medium fabric.

Type 12&13: Black ware bowl medium fabric and grooves at the shoulders.

RED WARE:

Type 14: Everted rim, neckless, four grooves at the Shoulder. Medium fabric

Type 15: Red ware of round base, short neck and medium fabric. Well fired

Type 16: Red ware pot. Bevelled rim, grooves at the shoulder.

Type 17: Dish of black ware with an incurved rim, carinated waist and sagger base. It is medium fabric.

Type 18: Red ware pot, out turned rim, neckless, globular body and of coarse red Ware.

Type 19&20: Coarse red ware of out turned rim, neckless globular body, series of grooves on the shoulder.

Type 21: Small size vase and wide mouthed, grooves in the exterior.

Type 22: Medium sized vase of Red ware, outturned rim and widening shoulder.

Type 23: Wide mouthed jar with thick coarse fabric and grooves in the exterior.

DECORATED DESIGNS:

Type 24: Shallow basin of Red ware having multi grooved shoulder.

Type 25: Wide mouthed jar with thumb impression and grooves in the exterior.

Type 26: Wide mouthed jar with thumb impression and stamped decoration.

Type 27: Shallow basin of cooking vessel with raised bends with oblique strokes and thin incised lines on the shoulder.

Type 28: Big bowl with grooves and dot decoration.

Type 29: Red ware vessel with 'S' shaped designs and stamped designs on the shoulder.

Lids:

Type 30: Lids of medium sized pots. It has a horizontally splayed out thin and conical base, the exterior being rough.

Type 31: Red ware conical bowl. It is having prominent wheel grooves on either side of the coarse ware.

Type 32&33: Red ware conical bowl. having flat base. All of them have wheel grooves in the exterior surface. They are uniformly fired.

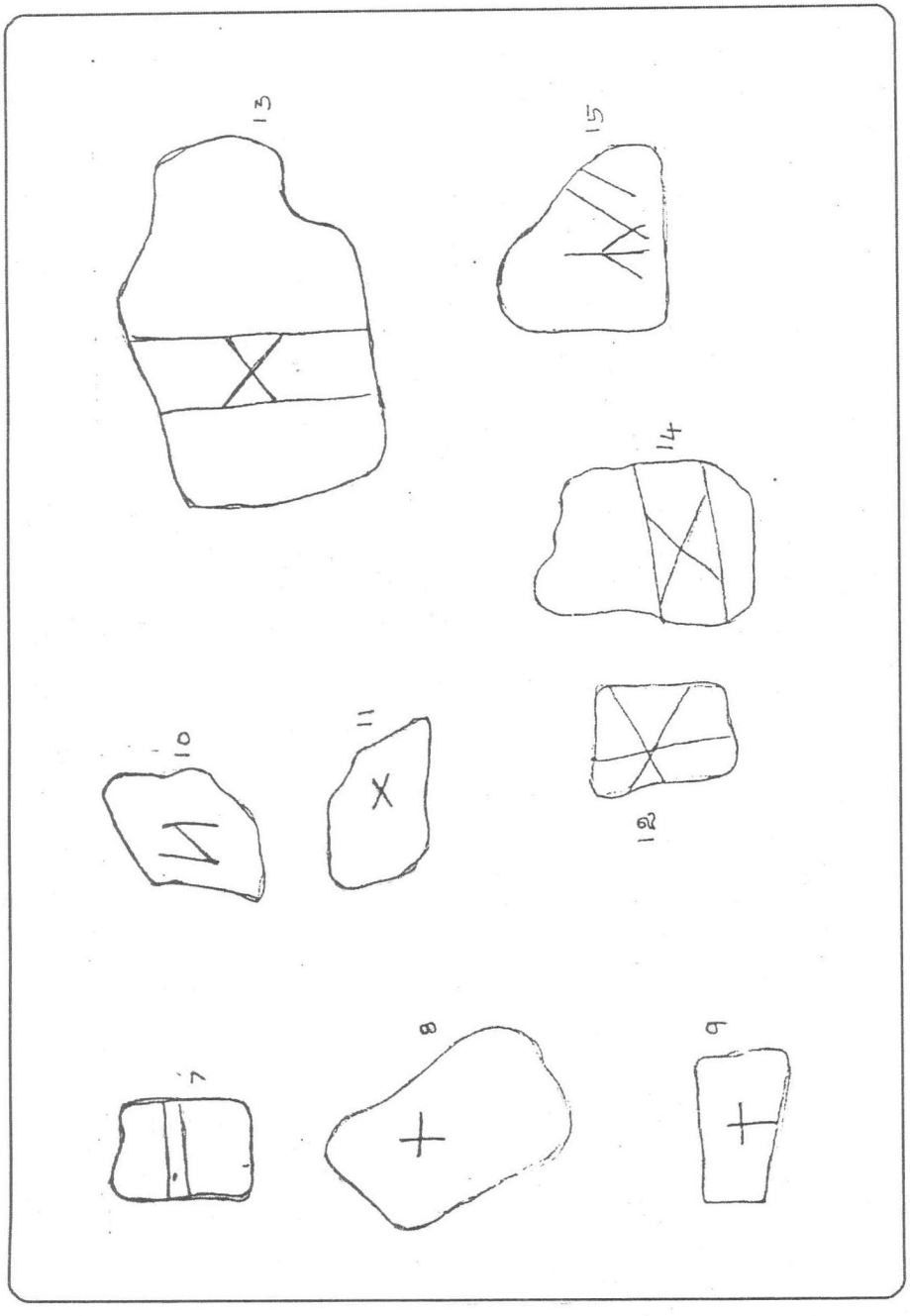
Type 34: Lid cum bowl of red ware with ledged waist, which could rest on the rim of a vessel and coarse fabric.

Type 35: Lid cum bowl of coarse red ware with a vertical side and prominently flanged waist which could rest on another pot.

Type 36&37: Lid cum bowl of red ware with ledged waist which could rest on the rim of a vessel and coarse fabric. They were used on the cooking vessel.



GRAFFITI MARKS
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PLATE

RED PAINTED WARE

6. CHRONOLOGY

On the basis of the antiquities, potsherds and the cultural deposits the site could be dated as follows. The first and second periods were further divided into two sub phases.

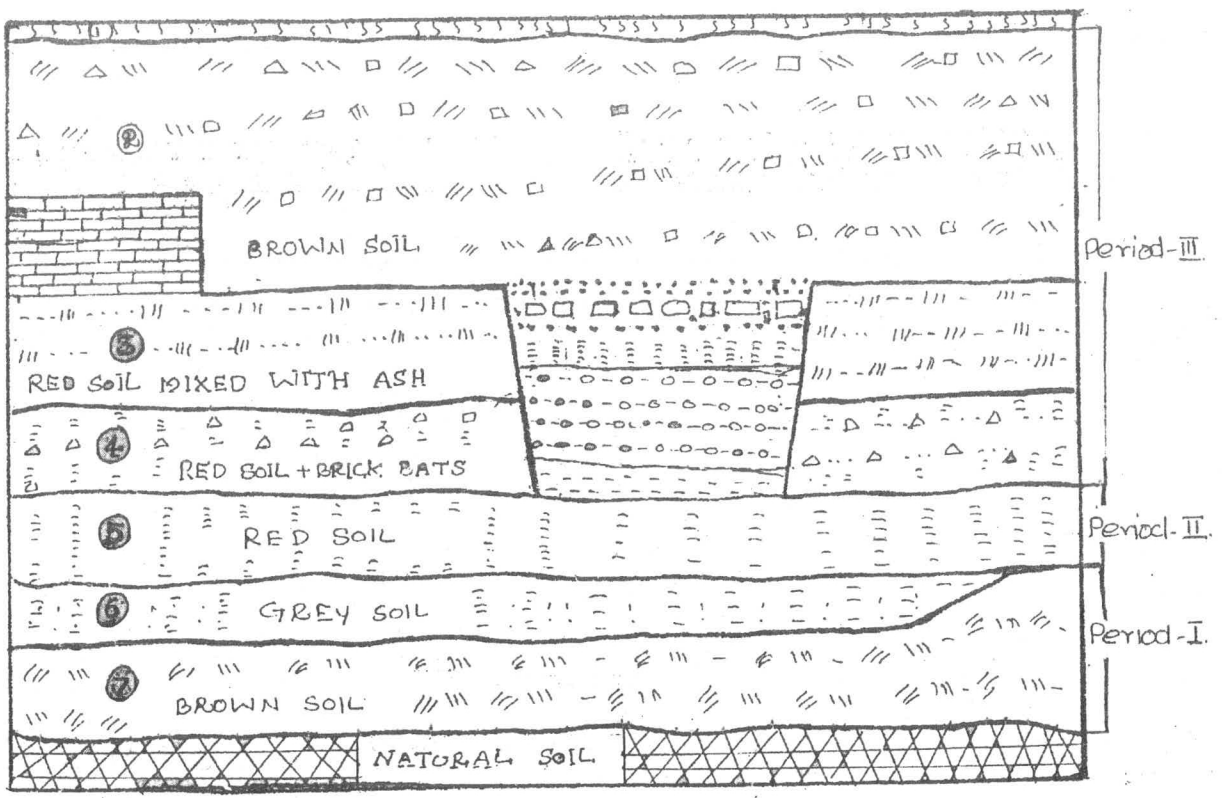
Period	Cultural Materials	Date
Period A I	Black and red ware.	3rd BCE to Ist Century CE
Period I B	All black ware, Russet coated ware, Rouletted ware, Red ware with Rouletted ware, Red ware with graffiti marks and Terracotta figurines	Ist Century CE to 4th Century CE
Period I A I	Red ware	400 CE to 800 CE
Period II B	Black ware,'L' shaped tiles, iron nails and bricks	800 CE to 1200 CE
Period III	Red ware Black ware, iron nails, Terracotta pipes and bricks	1200 CE to 1500 CE

Period-I was divided into phase A and B. It was characterized by the potsherds found in the layer (6) and (7); Average thickness of the each layer is 40 cms. Rim portions of the urn was collected. Rouletted potsherds also occurred with decorations. One terracotta female figure was found in the lower most level. On the basis of these antiquities period-I A may be placed between 3rd Century BCE to Ist Century CE and the period-I B may be dated between Ist Century CE and 4th Century C.E.

Period II A may be dated from 400 CE to 800 CE and Period II B between 800 C.E. to 1200C.E. Coarse red ware and black ware were collected. 'L' shaped tiles in various sizes were also found. Red burnt bricks, glass bangle pieces and terracotta beads were unearthed in this period. One Chola coin of Rajaraja I was also obtained in this layer.

An important inscription dated 1195 C.E. found in the *Valnilai Kandisvaramudayar* temple mentioned about the construction of the fort. The foundation of the fort was noticed in this layer. So Period III may be between 1200 C.E. to 1500 C.E. Bricks, spouts and iron nails were the associated findings. More than ten terracotta figures were obtained in the top of the layer. Head dress of the figures were round and looked like *Jadaa bhandam.* This kind of head dress is found in the Nayak period Sculptures. In SMM-2 a well built with laterite stones was also exposed in this layer.





Drawing showing the Stratigraphy & Chronology

7. ANTIQUITIES

The antiquities obtained in the excavation were:

1. Iron objects
2. Terracotta objects
3. Other objects

IRON OBJECTS:

Large number of iron nails were collected in this excavation. These iron nails were in various sizes and models. About 90% of the nails were small in size measuring 5-6 cm in length.

So it is assumed that the roof portion of the houses were constructed with the help of wooden planks and iron nails. Not even a single unused nail was collected. Most of the nails were in broken condition.

'L' shaped nails, box headed nails, round headed nails, nails on the both sides sharpened, four sided nails, tubular nails were collected in the excavation. Hook nails and one side sharpened head less nail were the other kind of nails found in this area.

Two iron hammers in broken condition were also obtained in the trench SMM 3 in the upper level. An iron door lock which contained four holes in the center was also found. One iron chain with five rings and an iron adze with 10 cms length and 3 cms breadth were some of the interesting finds.

TERRACOTTA OBJECTS:

A terracotta human figurine was unearthed in the lower most layer of the period I. It was black in colour and its head, hands and legs were broken. This figure had a dotted decoration at two places,

one on the hip portion another on the chest. The decoration shown around the body. On the basis of morphological features it can be attributed to female figurine.

Three human head portions were collected in the trench SMM 13. A beautifully head dress is found in one of the terracotta. It was like a 'jatamakuda' with coiled hair circled around the head. Present village gods of this area are having this kind of head dress. This kind of decoration is also found in North Indian terracotta figurines. They might be datable to period I.

A seated women goddess figurine seated in the padmasana with two hands was found in the excavation. Both the hands are holding flowers. But the head is broken. Below the legs a bowl like figure is seen. Dress is shown inbetween the legs and the breast band is also seen. On the basis of the style and way of wearing the dress the figure may be the deity Angala Paramesvari amman.

A broken bull figure with decoration was also collected in this place.

TERRACOTTA PIPE:

Pieces of terracotta pipe were unearthed in period II A and Period II B. The pipe has a length of 25 cm and the diameter was 10 cm. To accommodate another pipe, one edge of pipe was wider than the other. Two varieties of pipes were collected in this place.

LAMPS:

Two kind of lamps were collected in the excavation. They were round and star shaped. These lamps has concave inner surface and flat base. Circular lamps have a single wick canal. It was coarse red ware. The star shaped lamps were exposed in broken condition.

They had 5,7 and 9 wick canals and flat based body. The fabric was fine and the surface was well burnished.

Games man, ear rings, dabber, spindle whorls etc. were also collected in this excavation.

TILES:

Number of roof tiles were recovered in the Sendamangalam excavation. Most of them were 'L' shaped and some were triangular. Various sizes of tiles were collected and majority of the tiles were 4 to 6 cms. in breadth. All the tiles were kiln fired. Most of the tiles had rough surface but a few of them had polished surface. These polished tiles might have been used for decorative purposes.

The following is the measurements of different tiles

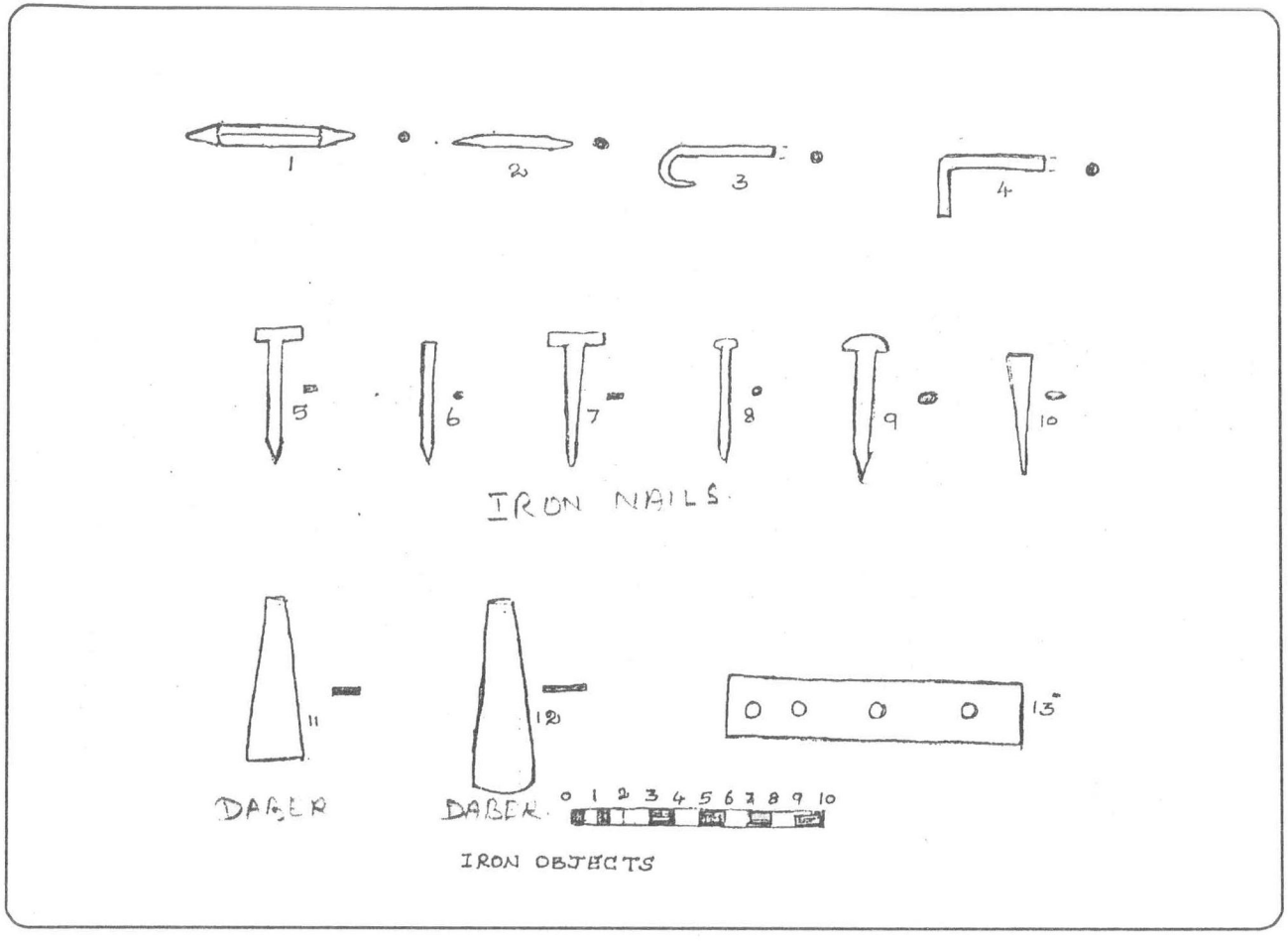
Sl.No	Breadth	Length	Thickness
1	7 Cms	15 Cms	1-1/2 Cms
2	6-1/2 Cms	13-1/2 Cms	1-1/2 Cms
3	6 Cms	12 Cms	I Cm
4	5.5 Cms	12 Cms	I Cm
5	5 Cms	10 Cms	I Cm
6	4.5 Cms	broken	I Cm
7	4 Cms	broken	I Cm
8	3.5 Cms	7 Cms	I Cm
9	3 Crns	7 Cms	I Cm

THE FOLLOWING MINOR ANTIQUITIES WERE FOUND IN THE SITE

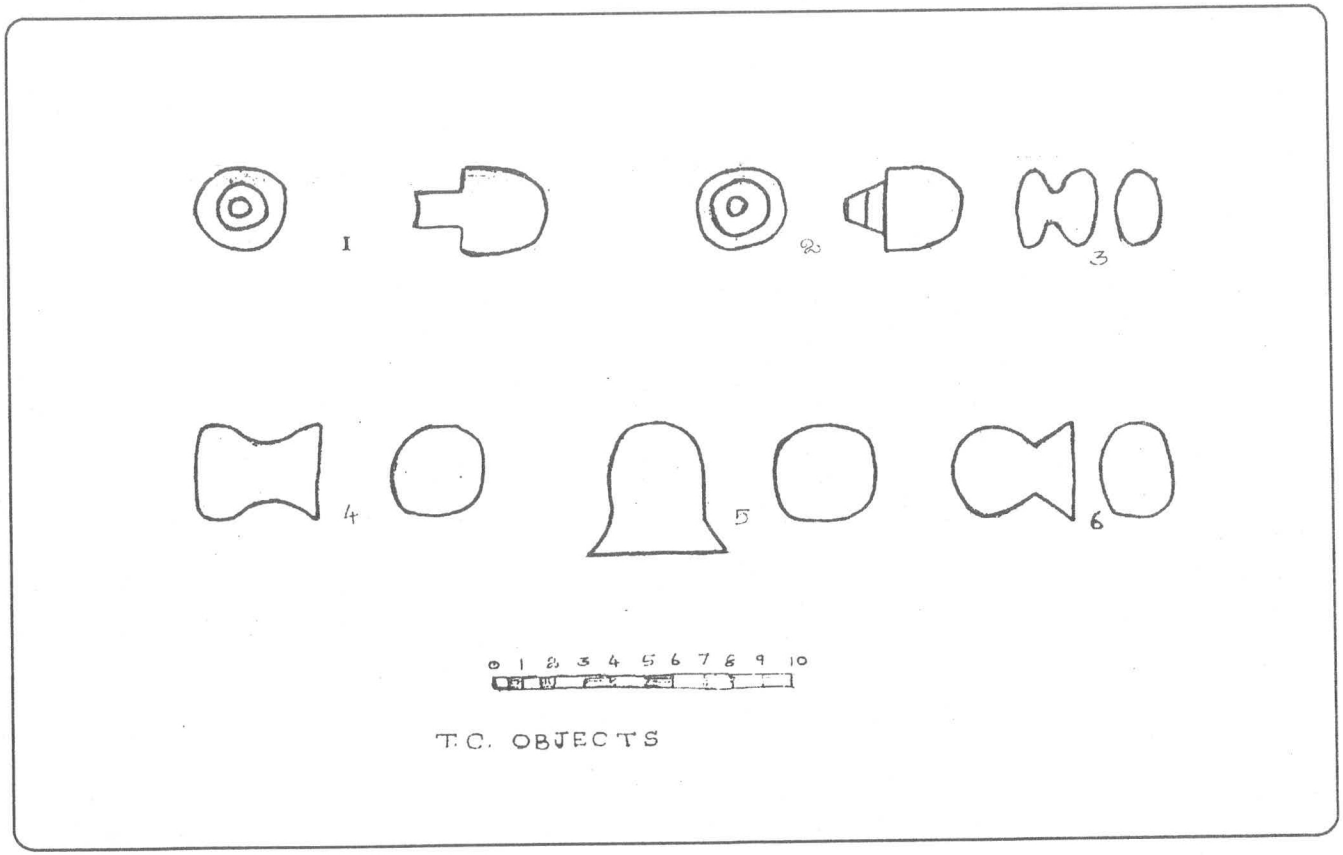
Sl.No.	Trench	Period	Description
I	SMM I	III	Spindle Whorl
2	SMM 2	II	Spindle Whorl
3	SMM I	III	Ear ring
4	SMM 1	II	Dabber
5	SMM I	III	Games man
6	SMM I	II	Ear ring
7	SMM 4	II	Stone adze
8	SMM 8	III	Terracotta bead
9	SMM 9	II	Ear lobe

POTTERY DISCS

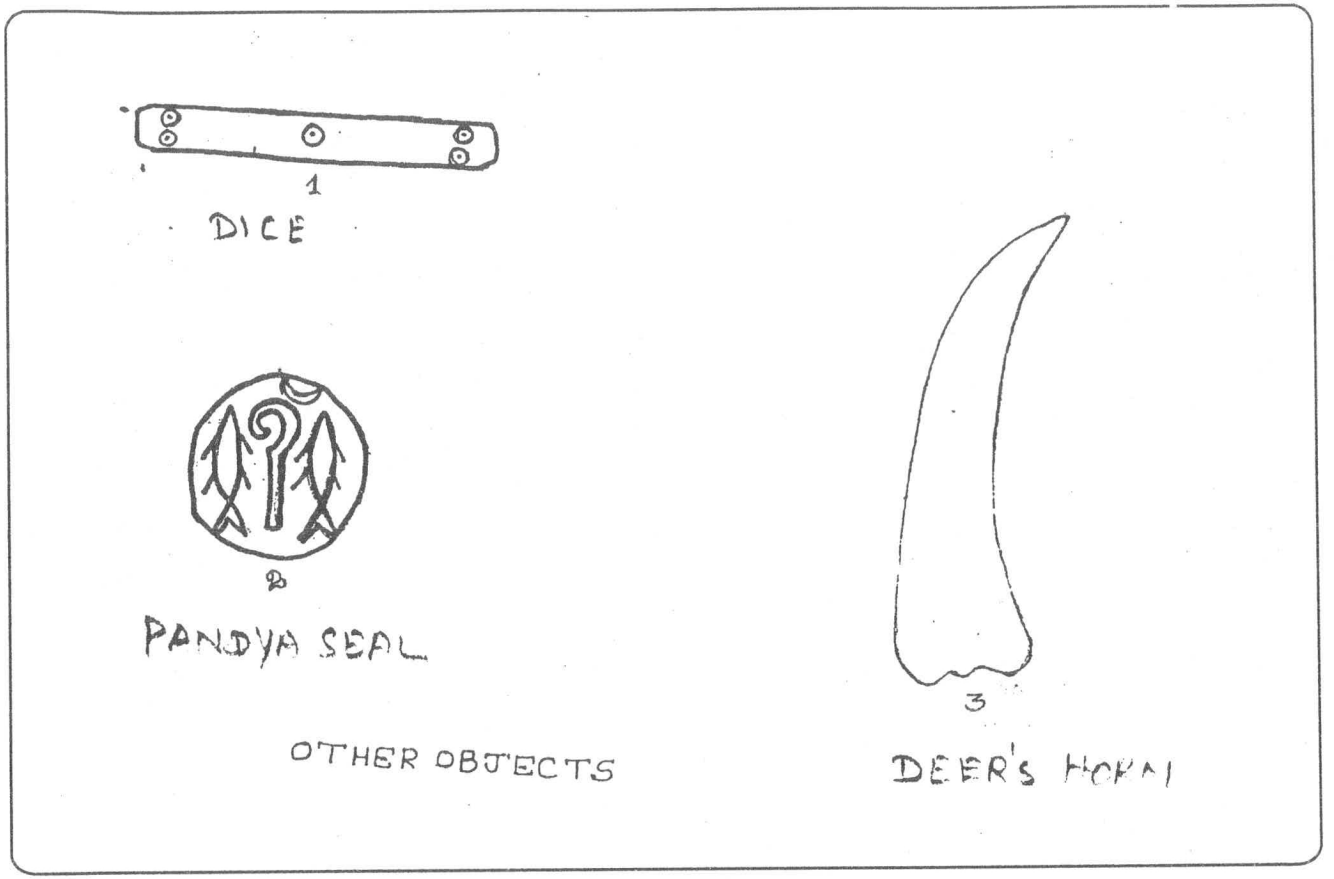
A number of circular discs made out of broken potsherds, by rubbing their broken ends were recovered. They might have been used by the children for games.



Drawings of Iron Objects



Drawings of Terracotta Objects



Drawings Showing the Antiquities

8. CONCLUSION

The main characteristics of the excavation may be summarized as follows:

The Megalithic people were the earliest occupants of the locality and they followed the urnburial system. Urn pieces and black and red sherds were collected in this level. The worship of Mother goddess was also familiar to the megalithic people.

In the Historical period they knew the technique of making mud bricks and burnt bricks. 'L' shaped tiles were used for the roof. Various kinds of iron nails were used for fixing the wooden fixtures of the buildings. The Kadava rulers constructed palace buildings and two fortification walls around Sendamangalam city. One rampart wall encircled the palace complex and another one covered the whole of Sendamangalarn city.

The rampart wall was constructed using two walls at the basement level. The space between the two walls 1.50 meters and these two walls were joined in the upper level. This kind of two walls technique was introduced by the Chola rulers.

Broken pieces of Laterite boulders were utilized for the basement of the rampart wall. Brick wall was constructed over the laterite stone foundation.

A circular well with dressed laterite stone structure was found in the palace complex. The capital of the Kadava rulers, Sendamangalam was a planned city like the Chola Capitals Thanjavur and Gangaikonda Cholapuram.

The Archaeological excavation at Sendamangalam proves that the site was occupied from Megalithic period to 14th Century C.E.

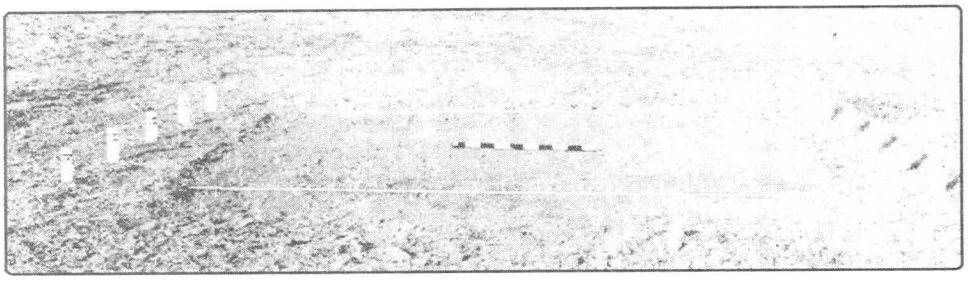
PARTICIPANTS:

1. Thiru. M. Kalaivanan, Curator
2. Thiru. T. Subramaniam, Archaeological Officer, Thanjavur
3. Thiru. S. Krishnamoorthy, Archaeological Officer, Chidambararn
4. Thiru. G. Arjunan, Epigraphist
5. Thiru. Thangavelu, Junior Draughting Officer.

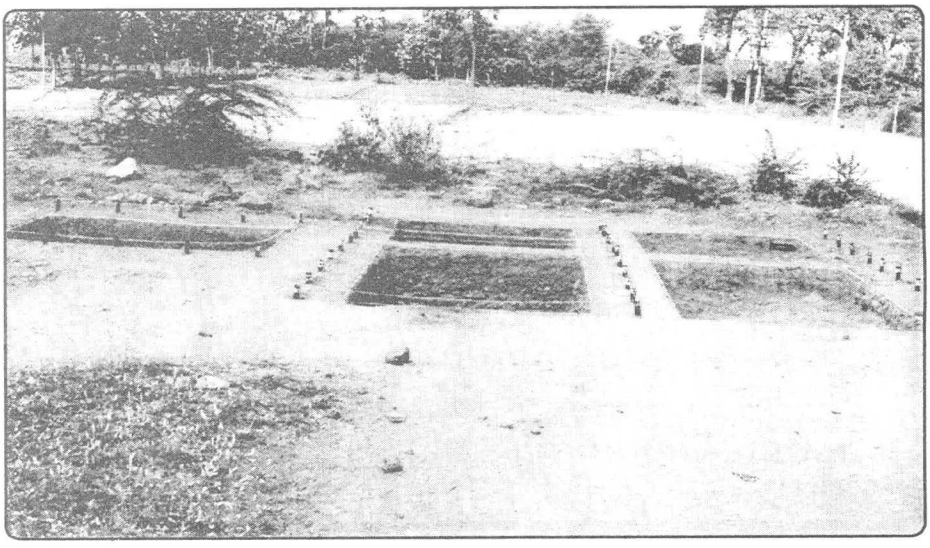
UNDER THE GUIDANCE OF

1. Thiru. N. Kasinathan, the then Director of Archaeology
2. Thiru. A. Abdul Majeed, the then Deputy Superintending Archaeologist.

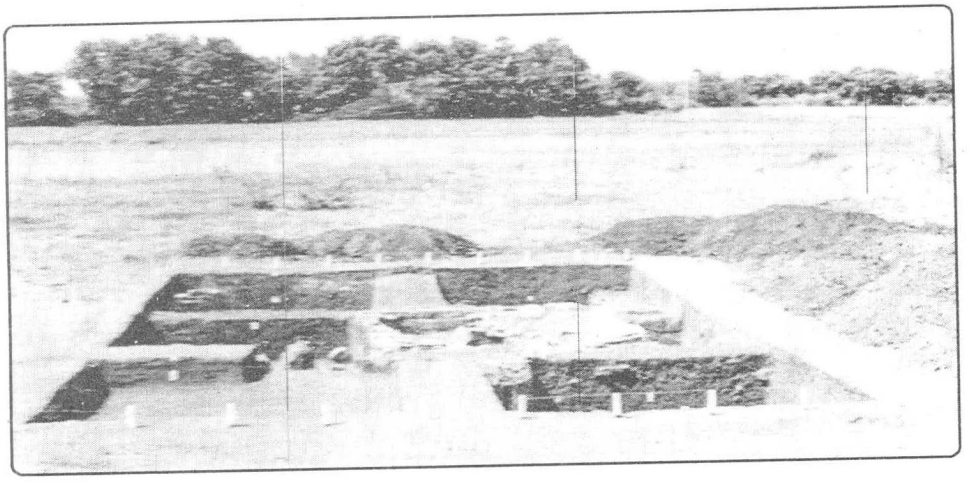




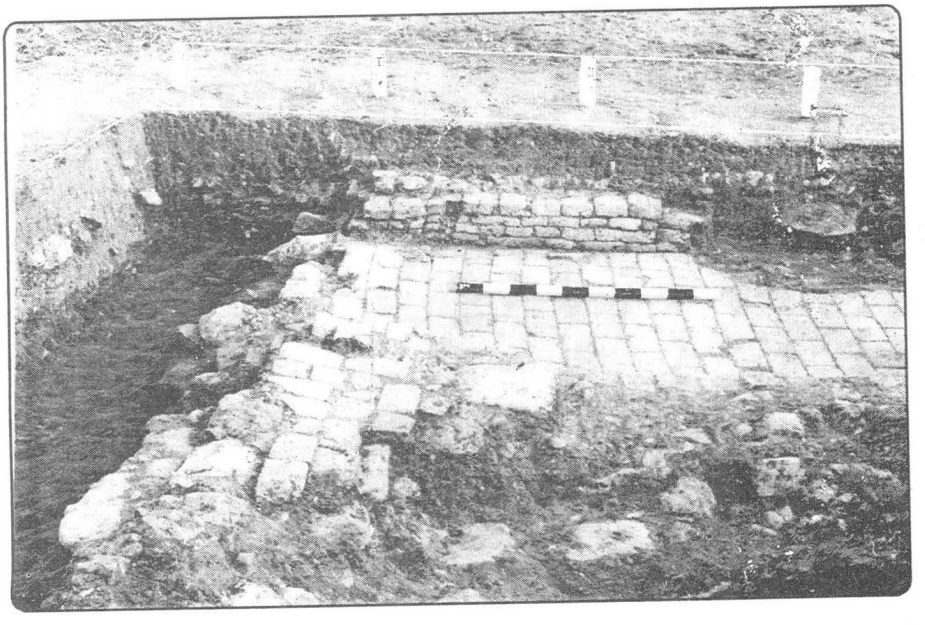
Marked Trench



General view of the excavated site

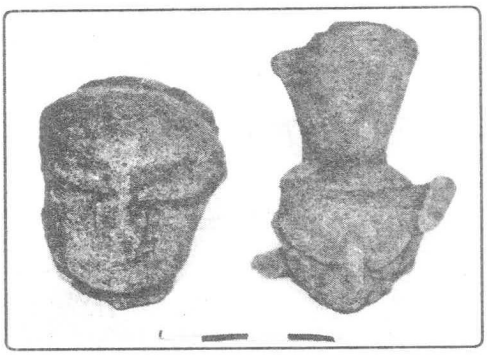


Exposed Brick Well

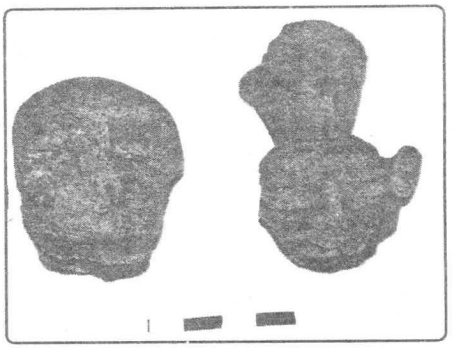


Exposed Brick Floor

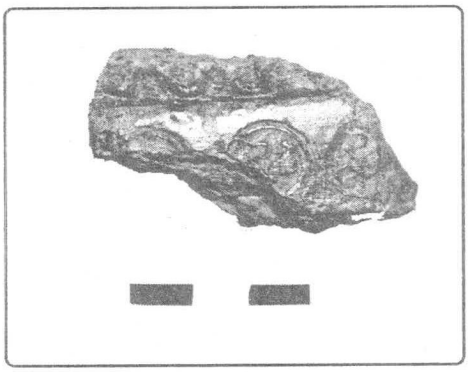
1 to 5. Terracotta Figurines from the Excavation



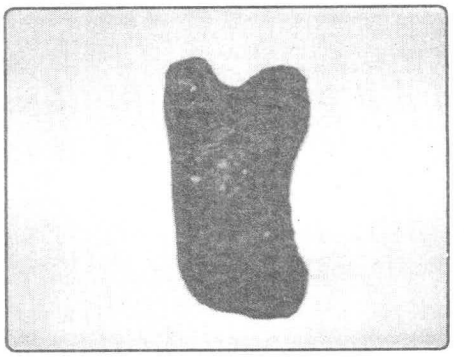
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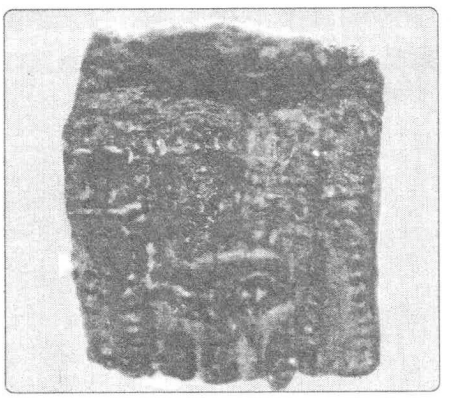
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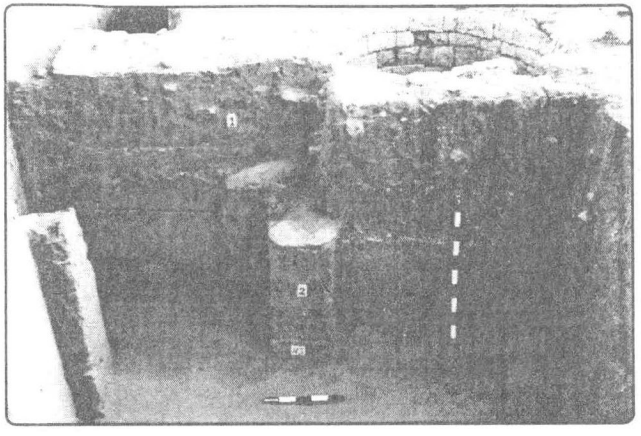


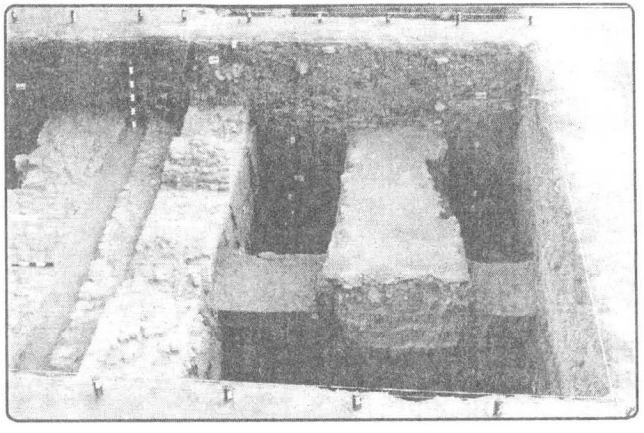
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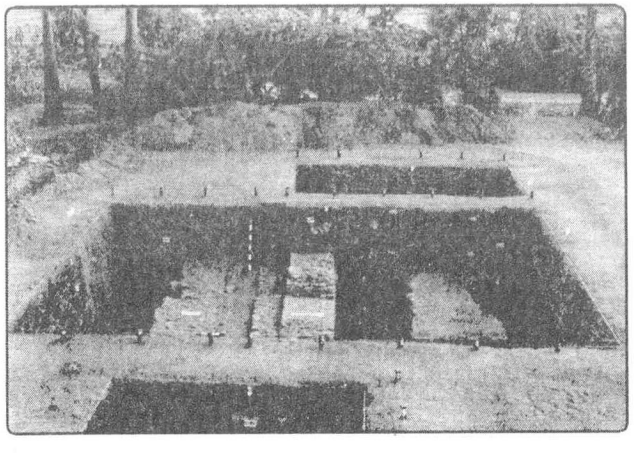


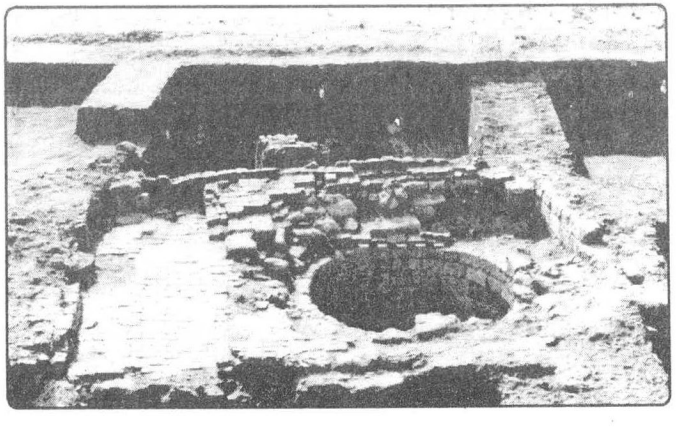
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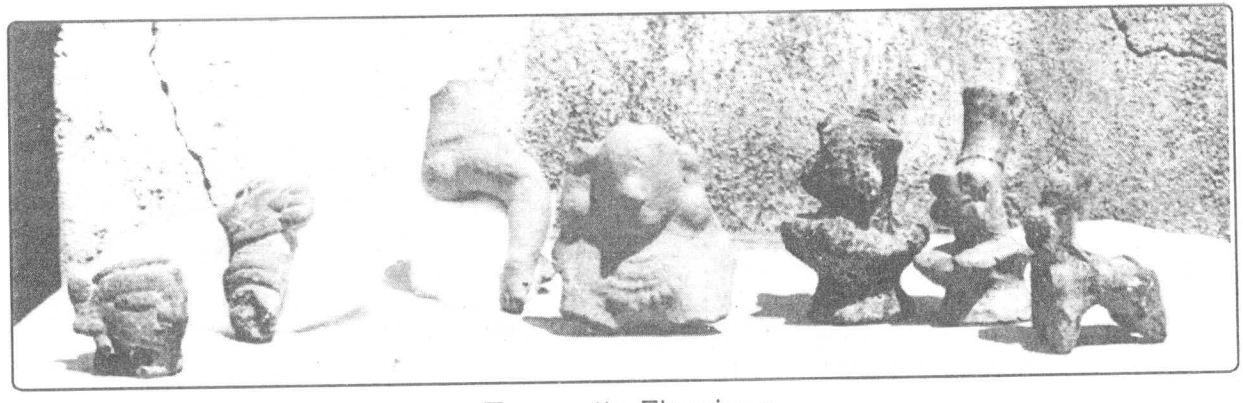
General view of the exposed structure,
Brick Floor and Brick Well







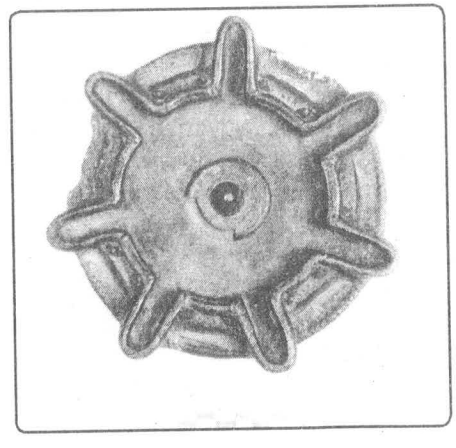




Terracotta Figurines



Copper Pandya Seal



Terracotta Lamp

Inspection of the Site

EXCAVATION AT MALIGAIMEDU
1999-2000

CONTENTS

LOCATION MAP

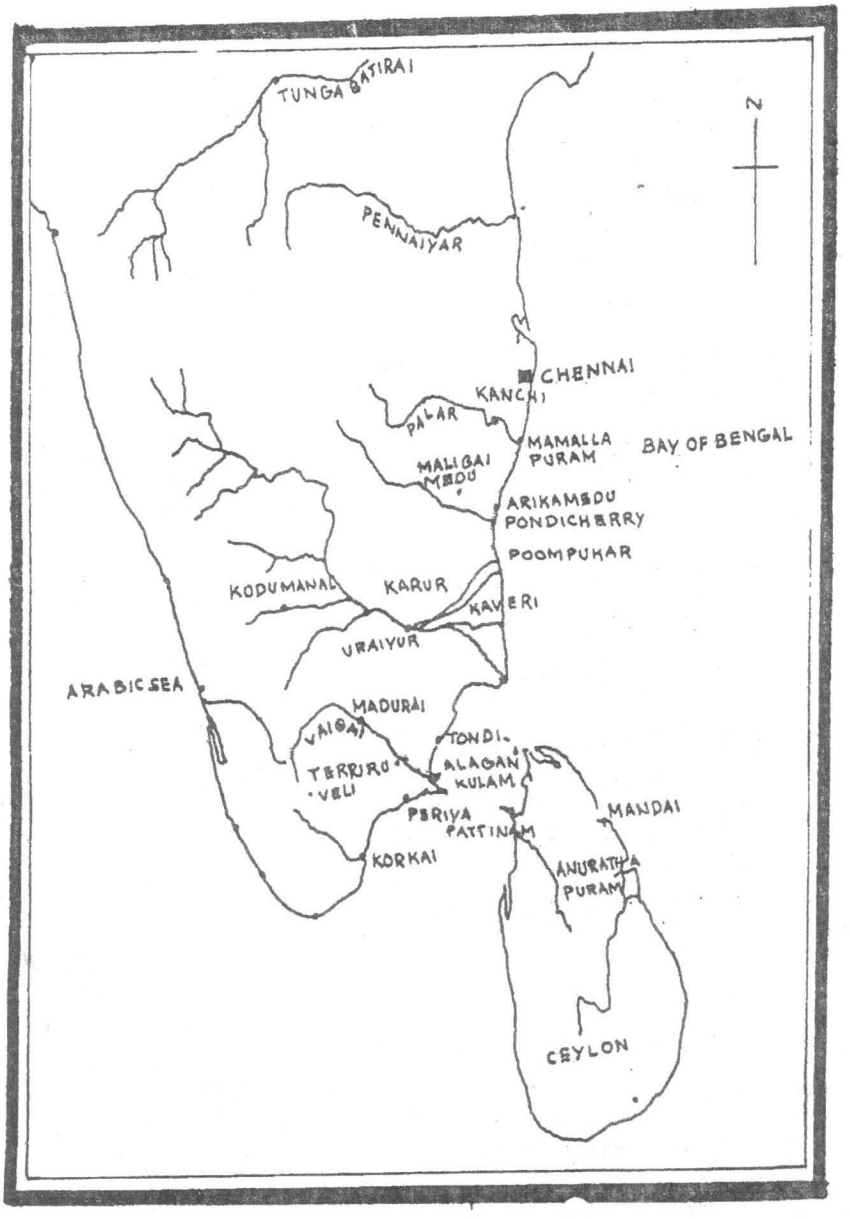
INTRODUCTION

1. HISTORICAL BACKGROUND OF MALIGAIMEDU
2. CULTURAL SEQUENCE AND CHRONOLOGY
3. CUTTINGS
4. POTTERY
5. ANTIQUITIES
   (COINS, BEAD, EAR LOBES, BRICKS, SMOKING PIPES)
6. CONCLUSION

ANNEXURE

DRAWINGS

PHOTOGRAPHS



Map Showing Excavated Sites

INTRODUCTION

The Department of Archaeology, Government of Tamilnadu undertook field exploration and excavation in various places in Tamilnadu to establish the existence of the ancient historical place and its signification from time to time.

Location:

Maligaimedu is a village situated about 22 kms. from Villupuram town, in the Panrutti taluk of Cuddalore district, and lies in the Long.-79° 34' 57" East and Lati.-11°49'03" in the North. Kondareddipalayam, Eripalayam, Pudueripalayam and Cholaikonda-palayam are the hamlets of the village Maligaimedu.

Place Name:

Maligai literally means in Tamil as place or building while medu means raised mound. This has a mound stretching about 100 sq. km. in circumference.

Flora and Fauna:

Crops namely Gauva, Sugarcane, Groundnut and cassava are extensively cultivated at Maligaimedu. Tamarind and Pappaya are also raised at available vacant lands and in the backyard of the houses.

As far as Fauna is concerned no special mention can be made.

Traditional stories:

The story connected with this place is very interesting. Dakshan the father-in-law of Lord Shiva wanted to excel the supremacy of Shiva and performed a great yajna. This angered Lord Shiva who inturn created Virabhadra from his matted hair. It is at Maligaimedu that Virabhadra is said to have slained Dakshan.



HISTORICAL BACKGROUND

The accidental discovery of ancient bricks and potteries throw light on the historical importance of Maligaimedu, on the absence of literary and epigraphical evidences.

Geographically, Maligaimedu was a buffet state in between the two imperial powers in the ancient times. In the Sangam period, about first century C.E., the area between river Palar in the North and River Kaveri in the South was known as Nadunadu the territory between Tondainadu and Cholanadu. Maligaimedu lies in the centre surrounded by Pennaiyaru, Gedilam and Malattaru.

Nadunadu lies between two different cultures. It maintains its own culture as well as adopts some cultural impacts from them. The two imperial powers on either side used to extend their sway over Nadunadu to show their affinity to the imperial monarchs. Whenever the central or the powerful rulers became weak the Nadunadu chieftains declared independence and ruled their territory on their own. This was the historical condition of Nadunadu through out its history.

From the epigraph Nadunadu was also known as Malainadu, Cheddinadu, Thirumunaippadinadu. In the Sangam age the Malaiamman chieftains of Thirukkoilur ruled this region. Malaiamman Thirumudikkari was one among the seven chieftains mentioned as "Kadaielu Vallalkal" in the Sangam literature.

In the 13th century C.E., the chieftain called Kopperunjinga ruled this area. His capital was Sendamangalam near Villupuram. He extended his power upto Thirupurantakam in Kurnool District in the North (present Andhra) and River Kollidam in the south. He had an alliance with other chieftains who were the enemies of the Imperial cholas. Then the chola king Rajaraja III was captured and imprisoned by Koperunjinga at Sendamangalam. But chola king Rajaraja III's father–in-law was a powerful Hoysala king Narasimha. He came to the rescue of his son-in-law Rajaraja III. He defeated Koperunjinga and established his supremacy in the chola territory. In this event the Hoysala army is said to have destroyed many "TAMUKKARS' at various places on the way to Sendamangalam. They destroyed the Tamukkars at Tiruppadirippuliyur, Thiruvathigai, Tiruvakkarai and other places east of Sendamangalam. Special types of drums used in the warfront were known as Tamukkar. Kopperunjinga might have established many Tamukkars at various places south of river Gedilam. The Thiruppurantakam inscription mentions (SII vol. XII P.155) the place where these Tamukkars were situated. These Tamukkars might have been with in the radius of 30 kms. from the excavation site Maligaimedu because the place lies on the land route from Chidambaram to Sendamangalam, in the 13th century C.E. The Tamukakars were temporary settlements with small forts and structures. This establishes the fact that the excavated structures at Maligaimedu might have been one among the Tamukkars or temporary settlement of 13th century C.E. There is another place called Maligaimedu near Thiruvennainallur about 20 km. from the excavated site of Cuddalore, Maligaimedu. To conclude, this place might have gained importance in the reign of Kopperunjinga in the 13th century and later was destroyed by the Hoysalas and their allies.

Exploration and Excavation:

A team of Archaeologists of State Department of Archaeology while exploring this region in the year 1998 collected few bricks, potteries etc., The bricks that were unearthed at Maligaimedu are similar to the bricks unearthed in the excavation conducted at Uttkottai of Gangaikondacholapuram. The team, which explored this region, includes Messers. S. Vasanthi, S. Krishnamurthy, G. Arjunan under the guidance of Mr. K. Damodaran the then Director of Archaeology. The rich yield of potteries and other associated findings paved way for conducting systematic excavation. With careful and proper investigation of this place the site Nathammedu (settlement mound) was selected for laying trenches. Mr. A. Abdul Majeed, former Director of Archaeology with the assistance of Department technical staffs aimed at exposing the possible remains of brick structures, Four trenches were laid at regular intervals after carrying out the site selection. Trenches were conveniently named as MGM, which represent Maligaimedu.



CULTURAL SEQUENCE AND CHRONOLOGY

The site seems to have been continuously occupied till the late medieval times. The site has revealed three cultural periods. Period I, Period II and Period III. These were determined on the basis of occurrence of the potteries and antiquities. These three periods are represented only in MGM-1 whereas two cultural periods *i.e.,* period II and III are represented in MGM-2,3, and 4.

Period I:

It is characterised by the occurrence of the following ceramics.

1. Black and red ware
2. Red slipped ware
3. Rouletted ware
4. Black ware
5. Russet coated ware
6. Inscribed potsherds
7. Graffiti potsherds

Period I: Represent the Megalithic culture having its habitational deposits of 152 cms. above the natural soil. Besides the Potsherds the Iron objects, Glass beads, Steatite Bead, Copper objects were also collected.

Period II: This period represents early medieval culture with the deposit of 75 cms. thickness above the cultural period I. It is characterized by the occurrence of potteries variety of red slipped ware red ware in association with the minor antiquities of copper objects etc.,

Period III: Represents late medieval culture with the deposits of 68 cms. thickness above the cultural period II. It is distinguished by the occurrence of coarse red ware in large quantity besides the objects like bangle pieces, Terracotta Dice, terracotta lamp, terracotta beads etc.,

Chronology:

The excavation at Maligaimedu revealed the fact that the people continuously occupied this site. The tentative chronology fixed on the basis of the findings from other sites like Thirukkoilur, Arikamedu, Uraiyur and other sites of early historic period.

PERIOD I 100 C.E. — 400 C.E.

PERIOD II 400 C.E. — 1200 C.E.

PERIOD III 1200 C.E. — 1500 C.E.

This data of tentatively fixing the chronology was scientifically proved from the pottery samples collected by the Scientist from Annamalai University Physics Department. The artifacts were subjected to Magnetic Studies to establish the Geomagnetic Field Intensity value and to determine the age of the samples. The samples found at 2 mt. depth belongs to 500-600 C.E.



CUTTINGS

Four trenches were laid at various places to reveal the Archaeological importance of this site.

Trench-1

First was laid with an extent of 4 x 4 mts. in the land belonging to Mr. Periyaswamy Gounder who enthusiastically spared his piece of land for this purpose. The roots of trees located at the proximity found thrashing the trench was a big hindrance for smooth progress of the excavation work. However it was out come with great care and difficulty, keeping the trenches undisturbed. In the course of excavation the occurrences of brickbats were noticed up to a depth of 1.20 mts. These brickbats were found in large quantities in between the pegs II-IV and II'-IV'.

Beyond 120 cm. level the yielding of brickbats were gradually reduced in numbers. At the depth of 1.35 mts. a strong flooring constructed with small pieces of bricks as it is called as *Sengal jelly* in Tamil and lime mortar was noticed with a posthole of 13 cm. in diameter and 7 cms. length and breadth of trench area thickness of the flooring measured 11 cm. Despite this excavation was continued after cleaning the flooring in between 0-II and 0'-II', to get a clear picture on the cultural habitation until the natural soil was met.

As for as the ceramics are concerned sherds of coarse red ware were collected in plenty through out the depth. However the

occurrence of Red slipped ware, Black ware, Black and red ware were also encountered, but fewer in number. Besides, this Roman rouletted sherds and imitated Rouletted sherds mostly black variety were also collected in the course of excavation.

The finding of archaic Tamil inscribed potsherds from this trench was encountered beyond 2.50 mts. depth. Recovery of such inscribed sherds and Graffiti potsherds pushes the habitation of this region to 1st century C.E. The other antiquities includes iron nail pieces, iron slag, beads, terracotta earlobes, broken smoking pipes terracotta lamp pieces, spouts, spindle whorls and copper coins. A red slipped sherd with peacock figure and terracotta dice are the noteworthy findings from MGM-1

The grade of the soil, which is sandy clay, varies on the basis of proportion of mixer of sand content. On account of the presence of ferrous matter the colour of the soil is reddish at certain levels. The trench MGM-1 has distinctly revealed eight stratigraphical layers.

Trench-2

The land of Mr. Prakesh of Maligaimedu was chosen for laying the second trench. It is about 100 mts. east of first trench MGM-1. This trench has also yielded brick bats in large quantity especially in the northern side. The selected site for laying MGM-2 is comparatively lower in elevation than that of MGM-1.

The recovery of objects was in considerable number from the southeastern corner of the trench while the yielding of beads were noticed in the north western corner. At 1.90 mts. depth flooring with a dimension of 1 x 1 was exposed at the south western corner of

MGM-2. Unlike trench 1 the flooring exposed here was smaller in dimension.

In this trench two brick structure was exposed of which the brick structure noticed at the south western corner at 2.55 mts. depth, was found with seven courses of bricks (40 x 25 x 9 cm.).The length and breadth of this structure is measured to be 2 mts. and 0.70 mts. respectively. The occurrences of second was brought to light at 3.35 mts. depth, in the north eastern corner of this trench.

The collection of potteries from MGM-2 include Coarse red ware, Black ware, Black and Red ware, Roman Rouletted ware and imitated Rouletted ware. The recovery of antiquities include Iron nail, Iron slag, Beads, Ear lobe, Spouts, Lamp pieces, Broken smoking pipes and Spindle whorls. The contribution of glass beads forms a major part among the collection.

Soil is sandy clay with varying grades. The colour of soil ranges from brown and red. Eight stratigraphical layers were demarcated.

Trench-3

In order to collect more archeological evidences and to trace structural remains, laying of third trench was planned. Subsequently, MGM-3 was laid at the land belonging to Mr. Ramanujan of Maligaimedu. Having been at 50 mts. East of MGM-2. The area of excavation was measured to be 4 x 4 mts. The occurrence of brickbats noticed up to a depth of 1.20 mts. In between the pegs II-IV and II'-IV' a brick structure was exposed at 1.40 mts. depth. The

orientation of the structure was found East West and North South directions. Measurement of the bricks making this structure are 43 x 22 x 7 cms. and 23 x 19 x 8 cms. Since this structure was encountered between pegs II-IV and II'-IV' excavation was continued in the other half of the trench *i.e.,* between 0-I and 0'-II'.

In addition to this, a minor brick structural remain was also noticed near the locus II' at 1.60 mts. depth. With East West orientation, the length and height of the structure was measured to be 1.32 mts. and 0.40. Similarly, another minor structure with three courses of brick was also encountered at 1.60 mts. depth, in the South Western corner. The height of structure is 1.72 mts. length, 0.21 mts. breadth and 0.21 mts.

Potteries viz., coarse red ware, red slipped ware, black ware were collected in considerable number. The yielding of black and red ware, Roman rouletted ware and imitated rouletted ware potsherds were fewer in number. Besides this, Iron objects, Beads, Spindle whorl, Perforated sherds were also unearthed from this trench.

Soil is sandy clay and its colour varied owing to the presence of ferrous matter. MGM-3 has distinctively revealed seven stratigraphical layers.

Trench-4

Fourth trench at Maligaimedu was laid a few yards West of MGM-1. Initially it was laid bare with an extent of 4 x 4 mts .Owing to the occurrence of brick structure with North, South orientation in between pegs 0-II and 0'-II', the area of the trench was expanded by 1 mt. on the Western side to the trench the extension of the exposed brick structure. It was found constructed with five course of brick which are perfectly aligned, with lime mortar as binding material.

Besides this ring well or sokage jar was also encountered at 3.30 mts. depth in between pegs II-IV & II'-IV'.

The yielding of varied potteries ranging from Coarse red ware to Roman Rouletted ware and antiquities viz., Iron objects, Spindle whorl, Broken smoking pipes, Broken terracotta lamps etc., considerable amount in this trench. Soil is sandy clay and brown to ashy in colour. Seven stratigraphical layers were marked.

FLOORING AND BRICK STRUCTURE

Maligaimedu excavation has not reaveled any major structure. Interesting thing was that the structure with North-South orientation was perfectly built in north direction which was known from the compass reading. The compass reading was done by the Faculty of Department of Physics, Annamalai University, Chidambaram District for Spectroscopic and Ancient Geomagnetic Field Intensity Studies.

In this excavation strong flooring constructed, with small pieces of bricks (*Sengal jelly* in Tamil) and lime mortar was noticed at the depth of 1.35 mt. in MGM-1. Thickness of the flooring was measured to be 11 cm. In the North-Eastern corner a posthole of 13 cm. in diameter and 7 cm. in depth was noticed in the exposed floor.

In the Trench-2 two brick structures were exposed at 2.25 mt. and 3.35 mt. depths. The brick structure noticed at 2.25 mt. depth was found with seven courses of bricks (40 x 25 x 9 cm.) The length and breadth of this structure was 2.00 mt. and 0.07 mt. The second brick, structure was brought to light at 3.35 mt. depths.

In the third trench, a brick structure with East-West and North-South orientation was noticed in between the pegs II-IV and II'-IV and

the measurement of the bricks were 43 x 22 x 7 cm. and 23 x 19 x 8 cm. Besides, this, two minor brick structures were also encountered below this structure. MGM-4 has revealed a brick structure at the depth of 1.50 mt. It was found with seven courses of bricks. The length of the structure was 4.05 mt., and the size of the brick was 60 x 25 x 5 cm.

RING WELL

In the coarse of digging a ring well was traced in the fourth trench at the depth of 2.80 mt. The occurrence of four rings placed one above the other to form a well was noticed. They are more or less conical in shape. The rings were laid firmly with the help of potteries, brickbats and sand. The measurement of rings is as follows.

First ring : Height-20 cm.
Second ring : Height-21 cm.
Third ring : Height-18 cm.
Fourth ring : Height-12 cm.

The thickness of rim portion was 5 cm. and the diameter was 20 cm. The rings were more or less cone in shape. Such kind of ring wells have been noticed in the excavations conducted in the Northern regions.



POTTERY

Archaeologists are concerned with the yielding of potteries from excavation sites. They play a significant role in understanding the cultured habitation of a region. In fact, the potteries are known as ABC of Archaeology and help giving more information on socio-cultural status prevailed in ancient period. The ceramics of Maligaimedu excavation includes all types ranging from coarse red ware to Roman rouletted ware. At depth the yielding of potteries was found to be more fragmentary. However, the recovery of fine studies on ceramics of Maligaimedu.

The ceramics of Maligaimedu are classified under two categories namely based on texture and colour. The potteries collected from excavation are distinguished as below.

1. Coarse red ware
2. Red slipped ware
3. Black ware
4. Russet coated ware
5. Roman rouletted ware
6. Imitated rouletted ware
7. Perforated ware
8. Amphorae

Irrespective of colour and texture, the potsherds bearing graffiti, figurative and scripts are classified under the following categories

1. Inscribed (Brahmi) sherds
2. Graffiti marked sherds
3. Picto-graffito sherds

COARSE RED WARE:

The occurence of Coarse Red Ware was noticed in considerable quantity from all levels of habitation. Bowl, Dish, Vase, Pot and Plate are some of the shapes identified among the collections. The clay used for the manufacture of this kind of ware is not of fine variety. On account of this fact and fire technique adopted, the coarse red ware is crude in appearence. No notable designs except nail mark was noticed on this ware. The recovery of coarse red ware throughout the depth stresses that this pottery had been in usage irrespective of period. Hence, the period of this ware may be assigned between 1st century C.E. to 12th century C.E.

RED SLIPPED WARE:

The fine red glaze of this ware is mainly due to the natural dye used and the technique adopted while firing. The yielding of red slipped ware stands next to coarse red ware in terms of number. It has displayed various shapes namely Bowl, Vase, Dish, Small Pot and Plate. The occurences of red slipped ware was noticed upto a depth of from 1.55 mts.

ROULETTED WARE:

This excavation has yielded few sherds of rouletted ware from 1.60 mts. depth. Rouletted ware is made of very fine and compact

variety of clay. In fact, the clay selected for the manufacture of this ware is practically free from impurities like quartz and mica. Hard and glassy appearence of this ware is mainly due to firing at high temperature. Because of this, the pores are completely closed resulting in hard pottery with metallic sound when tapped. Dish is the only shape of the pottery found in this site.

BLACK WARE:

The yielding of this ware is also fewer in number. The common shapes exhibited by Black ware are Pot, Carinated pot and Vessel. Most of the collected potteries are crude in nature. Ornamentations like concentric ribs and lines are noticed in few potsherds.

PERFORATED WARE:

Potsherds with perforations were collected in considerable number. However, no rim portion of this kind of potteries was recovered. The shape of perforated ware can not be ascertained due to this and the perforations appear all over the body.

CONICAL JAR:

In this excavation fragment of tapering end of Conical Jars were collected. But, no rim or handle portion of the Conical Jars were collected. The wall of this kind of pottery is this thick and strong. It is ascertained that the Conical Jars might have been used for the storage of edible oil or beverages.

BLACK AND RED WARE:

Black and Red Ware potteries were recovered in less number. The common shapes displayed by this ware are Pot, Carinated Pot, Bowl etc., It is always found associated with red slipped ware.

RUSSET COATED WARE:

The Russet Coated Ware recovered from Maligaimedu excavation are found with dotted design and criss cross pattern. However, dotted design potteries are predominent among the collection. The colour of the dot has been faded from russet to pale white colour. The occurrences of these wares were noticed from 2.40 cm. depth onwards. Dish and Bowl are common shapes identified among the collection from the trenches of this excavation.

INSCRIBED SHERDS:

There are nine Inscribed Sherds found in this site. One of the sherd has writing in two lines. This is the first time more than single line of writing is found. Another sherd starts with Swastika and the letter follows it. This kind of inscribed sherds starting with symbol were also found in the excavations at Alagankulam and Kodumanal. They were also noticed at the cave inscriptions at Srilanka.

Most of them are red slipped or coarse red ware. The occurences of inscribed wares were recovered from the layer 4 to 8. *i.e.,* between 1.85 mts. and 3.70 mts. depth. The inscribed sherds of this site may be dated between 1st century C.E. to 3rd century C.E.

Sl. No.	Trench	Depth/Layer	Script
1.	MGM-1	3.50 mts/8	Va Na. Ta (a) Ma a Ma a a
2.	MGM-1	3.70 mts/8	Pa a na ya
3.	MGM-2	3.15 mts/5	a da
4.	MGM-3	2.95 mts/6	Ma na

5.	MGM-4	1.35 mts/4	Sa
6.	MGM-4	2.05 mts/4	Na Vi
7.	MGM-4	3.20 mts/6	Ta Ya
8.	MGM-4	3.20 mts/6	Sa
9.	MGM-4	3.20 mts/6	Ma di na kaa raa ya

A ROMAN AMPHORA:

Recent finds from the site of Maligaimedu include a portion of a base sherd from a Roman Amphora of the Dressel 2-4 type. When complete it would have had a carinated shoulder, peg base and double-rod handles. The type was produced throughout the Roman Empire and used as a transport container for wine.

The clay of the sherd, dark red-brown with a cream surface outside, and containing common inclusions of what appears to be black sand, indicate that the sherd was produced in the region of the Bay of Naples. The black sand comprises minerals and rocks of volcanic origin. The floret of production of this type was from the late first century C.E. It was used as a carrier for companian wine.

Although the first Roman sherd from this site, the type has also been identified from neighbouring sites on the Coromandal Coast, including Arikamedu and Alagankulam. On the Malabar Coast it is present a Pattanam (shajam et al. 2004). The type is thus regularly associated with trade ports involved in Indo-Roman contact and has important implications for the site at Maligaimedu.

[Roberta Tomber - Visiting Fellow, Department of Conservation, Documentation and Science, The British Museum, London.]

PICTO-GRAFFITO:

The yield of picto-graffito potteries is an asset to the Archaeologist to know about the environment, in particular the fauna and flora that had flourished in that region. They clearly reflect the interaction of man and environment. Generally, the figures of birds, animals and plants are found depicted on the potteries in graffiti form. The occurrences of this kind of ware had been encountered in various excavations.

In Maligaimedu excavation only one picto-graffito sherd was unearthed from MGM-1 at 90 cm. depth. It is a red slipped ware representing a figure of a bird. On the basis of characteristic features the bird figure is identified as peacock which might have been one of the common fauna of this region in the earlier period.

GRAFFITI SHERDS:

Graffiti marked sherds collected from excavation conducted at Maligaimedu mostly red slipped ware. Besides this, two graffitti sherds of black ware were also collected in the course of excavation. Of which one of them was found with ladder design in graffiti form.

As far as the Black and Red Ware is concerned two sherds were unearthed from MGM-1. Among them, one sherd was found bearing graffiti mark in the inner side of the pottery. Most of the graffiti marks are found to appear on the outer portion of the pottery, probably a dish, was also recovered in the excavation.

The total number of graffiti sherds found at Maligaimedu excavation are seventy-one. The Trench-4 records the major contribution of thirty-one sherds while MGM-2 has yielded nineteen.

The collection of graffiti sherds from MGM-3 and MGM-1 are sixteen and five sherds respectively.

Displays of parallel lines, concentric lines, tree design, fish symbol and ladder pattern are the common graffiti marks noticed among the collection. The remarkable finding is a sherd with sun symbol from MGM-4 at 2.85 mts. depth.

Bowl, Lid, Small Pot, Dish, Storage Jar, were the pottery fond commenly in this site.



ANTIQUITIES

HIP-HOPS:

Hip-Hops, also known as *Hopscotch* (*Sillu* in Tamil) is a small disc shaped pottery used by young girls in the village for a game called Pandi. Occasionally, boys also join the game. It is exclusively made out of broken potsherds in round, square or any other desired shapes.

The Hip-Hops collected in the excavation at Maligaimedu were fifty four hip-hops from four trenches were found. Forty-six are made up of coarse red pottery. While, *Hop scotches* black, brown, coarse black and rouletted variety were also found. The diameter of the hip-hop varies between 6.5 and 1.7 cm. Likewise, the thickness ranges from 0.3 cm. to 1.6 cm.

EAR LOBES:

Ear lobes, made of terracotta, collected from excavation at Maligaimedu accounts to five. The one recovered from MGM-1 at the depth of 95 cm. is found so designed to appear as two Plano convex terracotta objects (1 cm. apart) fastened centrally, leaving channel like depression with moderate depth in between. Diameter is measured to be 3.5 cm. The largest and smallest ear lobes were also recovered from MGM-4 at 2.90 mt. and MGM-2 at 1.15 mt respectively. Unlike the previous one, these two ear lobes appear to be bulged cone on one side, while the other side is flat. Diameter of the ear lobes are 4.5 cm. and 2.00 cm. respectively.

Ear lobe obtained at 1.80 mt. depth from MGM-4 is more or less short cylindrical in shape. It is 2.00 cm. in height with 3.5 cm. diameter. At the depth of 1.00 mt. from the second trench a small ear lobe shaped like pulley was also collected. Diameter and height of the ear lobe is measured to be 2.3 and 1.2 cm. The depressisn along the circumference is moderate. Likewise, another ear lobe, measuring diameter of 3.3 cm. and height 2.2 cm. was recovered from MGM-3 at 2.9 mt. depth. The shape of this ear lobe also looks like pulley.

The shapes of the earlobes more or less coincide with the shape of a pulley. Since, these were identified and widely accepted as ear ornaments, despite its resemblance to wheel or pulley, presumably there should have been some supporting ornament to hang it from ears. The occurrences of terracotta ear lobes of same type had been reported from various excavations conducted at different parts of Tamil Nadu.

DICE:

Generally, the occurrences of dices are found to have been made out of materials viz., ivory, bone or metal. Interestingly, this excavation yielded a terracotta dice at the depth 0.75 cm. from the trench-1. The shape of the dice is cuboid with six faces. The number of dots noticed on the flat rolling faces is one, three, four and five.

The length and breadth of faces having one dot is found to be 3 cm. and 1.5 cm. respectively. The faces having three dots and four faces have the same breadth 1.6 cm. but the measurement of the length is 3.4 cm. and 3.2 cm. Likewise, the face with five dots is

3.3 cm. in length and 1.7 cm. in breadth. Due to frequent usage of the dice the different in the measurement of length is possible. Altogether, dimension of the terracotta dice is 3.25 x 1.6 x 1.5 cm.

Excavation conducted by the Tamilnadu State Department of Archaeology at Padavedu, Tiruvannamalai District and Sendamangalam, Villupuram District has also yielded dices but they were found to have been made of ivory. Alagankulam Excavation has also yielded a Black and Red Rouletted sherd dice with some symbols resembling the symbol of tree in railing found at Harappa. Likewise, a terracotta dice was also unearthed from Uraiyur Excavation by the Department of Ancient History and Archaeology, University of Madras.

TERRACOTTA LAMP:

Broken terracotta lamps, totaling ten, were collected from four trenches. Besides Terracotta, Iron lamp (broken) was also unearthed at the depth of 1.00 mt. from MGM-2. Among the colleted terracotta lamps, one recorded from the trench-4 at 1.05 mt. depth is a coarse red variety. While the other pieces are all black variety. Terracotta lamp unearthed from MGM-1 is found with one wick of 4.5 cm. in length. Having flat bottom, the outer and inner height of the lamp is measured to be 2.3 cm. and 1.5 cm. respectively. Rim is decorated with concentric lines. It is ascertained from the nature of the fragment that the above lamp might be with one wick.

In the MGM-4 at the depth of 1.60 mt. two broken terracotta lamps were collected. Measurement of the outer and inner height of one of the lamps is 2.5 cm. and 1.9 cm. respectively. Bottom is flat

and the rim is decorated with indentation (deep nail marks). Bulbous projection is also seen near the wick. The other lamp is noticed with a wick which is 4 cm. in length. The outer and inner height of the lamp is known to be 2.4 cm. and 1.8 cm. A small piece of lamp collected from MGM-2 at 1.00 mt. depth seems to be multifaceted (more wicks). The length of the wick of the broken lamp recovered from MGM-4 at 2.40 mt. is 3.00 cm.

The only coarse red variety yielded at 1.05 mt. (MGM-4) is round shaped without wick. No prominent rim is present. The outer and inner diameter is 7 and 6 cm. The depth portion of the iron lamp (MGM-2, 1.00 mt.) for pouring oil is moderate. Diameter is approximately 4.8 cm. All the black variety lamps may be assigned to chola period *i.e.,* 12th century C.E. This kind of terracotta. lamp has been collected from the excavation conducted at Thirukoilur, Padavedu, Sendamangalam and Palayarai by this Department. The date of the coarse red variety terracotta and iron lamp may be tentatively fixed between 13th and 14th century C.E.

COIN:

Coins, which instantly play a significant role in demarcating cultural variances, recovered in this excavation conducted at Maligaimedu are mostly made of metal copper. Round and square are the common shapes exhibited by the coins collected from trenches. Of the unearthed three coins, one collected at 2 mt. depth was in highly corroded state. On account of the poor state of preservation it was very difficult to decipher the period of the coin whose features were completely obliterated. Besides excavation, exploration performed by the excavators in and around the trenches has also led to discovery of a copper coin near MGM-1.

The remarkable finding of this excavation is a square coin obtained at 65 cm. from MGM-3. It reveals embossed elephant figure in obverse side. The period of the coin is attributed to 1st century C.E.

Coin 1

An important coin round in shape but half broken was found in the Trench 1 at the depth of 2.80 (2.25 mt. x 1.40 mt. - 2.80 mt.) meters in Layer 7.

Metal:	Copper
Weight:	3.5 gm.
Dia:	2 mm.
Obverse:	Ujjain Symbol
Reverse:	Elephant

Ujjain Symbol and elephant in the reverse is commonly found in the coins of Satavahana dynasty and the period can be assigned to 1st century C.E.

Coin 2

Another important finding of this excavation is a square copper coin. It was collected at the depth of 65 cm (2.00 mt. x 1.00 mt.-0.65 mt.) in Layer 2 Trench MGM-3.

Metal:	Copper
Shape:	Square
Weight:	5.7 gms.
Size:	2.5 x 2.5 cm.

Obverse: Elephant standing facing right, in front of the elephant there is a sword; above the elephant from left to right there are four symbols 1. Conch (Sangu) 2. Pot with Crescent Symbol above that 3. Wheel (Chakra) 4. The Symbol portion is broken.

Reverse: Defaced. 2

According to the scholars the date assigned to this type of coins are First century CE.

Coin 3

Round Copper Coin with some legend was collected in the exploration.

Metal:	Copper
Shape:	Round
Weight:	3.1 gms.
Dia:	1.5 mm.
Obverse:	Humped bull with beaded border
Reverse:	Two lines in Kannada legend
	Sri.. De..Raya..

This coin belongs to the Vijayanagara dynasty. Sri Devaraya II (1406-1422 CE.) might have issued this coin .The further study of these coins with other excavated artifacts helps us to fix the chronology of this site accurately.

The coins collected here were chemically treated and preserved by the Archaeological Chemical Laboratory, Chennai. Since all the coins are made of copper, they were intially treated with Sodium

Pottassium Tatrate and then washed with distilled water. After, they were socked in the 1% dilute Sulphuric acid and cleaned with distilled water. Finally, Poly Vinyl Acetate (PVA) coating was applied as preservative.

BEAD:

Beads obtained at this excavation are mostly of glass. However, a few semi-precious stone beads namely carnelian and chalcedony were also encountered in the MGM-4. The long tubular shaped bead made of chalcedony, was encountered at 2.30 mt. In addition to the glass beads, The excavation has yielded beads in considerable number and the accounts of glass beads occupy first position.

The common shapes exhibited by the collection are Barrel, Spherical, Biconical, Globular, Cylindrical, Tubular and Disc. Besides, Collared bead and tiny copper bead were also recovered from MGM-1 at 2.15 and 2.45 mt. respectively.

GLASS BEAD:

The collection of glass beads contributes the major yielding, of beads in the excavation. Totaly, Eighty four glass beads were recovered. On observation, the shape of the glass beads recovered from the trenches are identified as short cylindrical, barrel, biconical, spherical, short spherical with truncated end. The colour of the, glass ranges from black to brown. However, few green, blue beads were also encountered. It is understood that the glass beads are made up of impure glass sand. On account of this, almost all the unearthed glass beads are opaque in nature rather than transparent. The identification of some glass beads which has thin white patination,

was possible through the examination of broken surface and scratching of thin layer.

SEMI-PRECIOUS STONE AND TERRACOTTA BEAD:

Two Semi-precious beads namely Carnelian and Chalcedony were collected from MGM-4 at the depth of 1.60 and 2.30 mt. Carnelian bead recovered in this excavation is in a broken state and exhibits spherical where as the Chalcedony bead is long tubular in shape.

The terracotta beads are mostly globula in shapes but shape is not perfectly made. The beads collected are also not hard. Totaly, nine beads were collected.

BRICKS:

Bricks in varying sizes were encountered from the trenches. In particular trench-2, 3 and 4 exposed brick structure made of bricks of various sizes. Trench-2 exposed a structure with bricks of 40 x 25 x 9 cm. dimension. The measurement of bricks noticed in the trench-3 is 43 x 22 x 7 cm. and 23 x 19 x 8 cm. Besides, brick of 60 x 25 x 5 cm. size was found in the trench-4. Bricks were well fired with perfect shape.

SMOKING PIPES:

Smoking pipes were found in broken state. The collected pieces of smoking pipes display various shapes. Most of them decorated variety. Almost all the four trenches yielded pieces of smoking pipes in conisiderable number.

IRON OBJECTS:

Iron nails were collected in considerable number. And pieces of knife portion were also collected. Since most of there are fragmentary, the shape of some iron objects could not be ascertained.

CONCLUSION

The archaeological excavation at Maligaimedu has not revealed any major structure to throw light on the existed Palace as the name implies. However, the occurrence of brick structure and other archaeological antiquities indicates that the inhabitation of human settlement may be continued from 1st century C.E. to 13th century C.E. Despite absence of literary and inscriptional evidences, the collection of pottery Black and Red ware and inscribed (Brahmi Script) sherds reveal that human activity mights have existed in the beginning of 1st century C.E. Besides this, a scientific method namely magnetic study study of antiquities fixes the occupation at Maligaimedu from 1st century C.E. onwards.

The exposed brick structure and collection of Smoking pipes, Spindle whorls of medieval period attest that the occupation of the area was continued till 13th century C.E. Coins found in the excavation and exploration exposes the influences of Satavahanas, Vijayanagara dynasties in this region.

It is ascertained that Maligaimedu might have been a flourishing town with an activity of masons, weaver, potter and other trade communities and they lived in harmony. The people lived in a well-planned building places made of strong bricks. The alignment of brick structures in due north direction exhibit their engineering skill in the construction of big or small masonry buildings. The youngsters and elderly persons spent their leisure time by engaging, themselves

in the games like Pandi and dice which is well attested by the finding of Hip-Hops and dice in the excavation. People might have used utensils like Bowl, Dish, Carinated Pot, Pot and Plates for their domestic purposes.

On the basis of antiquities and structural it is assumed that the human habitation at Maligaimedu began during Sangam period and continued upto 13th century C.E. This is ascertaines from the relate dating and the magneting studies of antiquities that were recovered from the trenches of Maligaimedu.

Excavation Head : Mr. A. Abdul Majeed
Then Director of Archaeology

Participants :
Mrs. N. Marxia Gandhi
Mrs. S. Vasanthi
Mr. G. Arjunan
Mr. S. Krishnamurthy
Mr. S. Sreekumar
Mr. T. Thangavelu
Mr. M. Arun
Mr. M.T. Sridharan
Mr. N. Balakrishnan



Annexure

FTIR and FT- Raman Spectroscopic Studies of Fired Clay Artifacts recently excavated in Tamilnadu, India

R. Palanivel & Velraj*
Department of Physics, Annamalai University, Annamalai Nagar
Chidambaram 608 002
*Department of Physics, Periyar University,
Salem 636 011

Abstract

The Spectroscopic techniques represent one of the most powerful tools to investigate the structure of all the materials and chemical composition of the cultural objects like potteries, tiles and ceramics. The spectroscopic techniques that have been used in the present study are FTIR absorption and Raman scattering spectroscopy. The potteries maintain aesthetic characteristics so that this type of artifacts can be considered very specific trace of every civilization. Therefore, it is of great importance to acquire knowledge about the chemical composition and the manufacturing techniques of an artifact, From the behaviour of the absorption bands and their corresponding Raman shifts in specific regions and their and intensity showing the presence of minerals, traces of elements in the clay, the knowledge if the artisans and the conditions of the temperature control to make qualitatively good materials of archaeological artifacts. The temperature of firing and the vitrification stage are also being established in the case of potteries from the recent excavations at Maligaimedu, Thiruverkadu and Palur in Tamilnadu, India.

1. Introduction

Archaeological materials[1] that lie buried in the womb of the earth for centuries also form an interesting aspect of the heritage. The scientific method helps us to unearth and study buried past in a sequential and chronological order[2]. Potteries have been made of baked clay minerals. The pottery artifacts were selected for the present study owing to their resistance to time and their maintenance of aesthetic characteristics with respect to time. These types of artifacts can be considered as a very specifictrace of every civilization. The clay minerals commonly found in the samples and their phase transformations during firing process have been studied by using a number of techniques. In the present study, the minerals compositions present were identified in the potteries artifacts made by the ancient artisans using FTIR and FT-Raman spectrosecopy. From the FTIR spectrosecopy, the structural composition of the clay in the normal and its transformed state were identified from the changes observed in the characteristic absorptions.

To compliment the results of the absorptions exhibited by the pottery artifact samples and confirm the information, FT-Raman spectral data were also used to establish one-to-one correspondence.

2. Experimental Details

FT-Raman and FTIR spectra were recorded for the pottery shreds excavated from the archaeological sites namely Maligaimedu, Thiruverkadu and Palur in Tamilnadu state, India. The samples are named as MM1, MM2, MM3, TK1, TK2, TK3, PL1, PL2, PL3 respectively.

3. Results and Discussion

In the map of India, Tamilnadu is known for its cultural heritage and civilization for the past 1400 years. The archaeological excavation sites where the pottery artifacts collected are Maligaimedu, Thiruverkadu and Palur. Maligaimedu is the location identified by the State Department of Archaeology, Government of Tamilnadu and the other two sites Thiruverkadu and Palur in Tamilnadu are the identified Archaeological sites by the Department of Ancient History and Archaeology, University of Madras, Tamilnadu. The clay minerals present in the pottery shreds can be characterised by the general formula of the type.[3,4]

The Maligaimedu, samples show medium to strong intensity band around 785 and 795 $cm.^{-1}$ This band is assigned to Si-O-Si group of silicates.[5,6] Alia *et al*[5]. have stated in their studies on application of FT-Raman spectroscopy to study the quality control in brick clay firing process, that the Raman band at 776 cm^{-1} can be assigned to Si-O-Si group in the tetrahedral layer of the phyllosilicates. The presence of band in the region 770-790 cm^{-1} with weak to medium intensity correspondingly in the infraed spectra all the Maligaimedu samples, are assigned to Si-O group. Further, a weak band at 293.5 cm^{-1} MM2 assigned to Si-O of silicates.

All the from Maligaimedu, Thiruverkadu and Palur have quartz as secondary mineral, whereas the samples excavated from Palur have quartz and feldspar as secondary mineral. This indicates the artisans of Palur site were of the use of both artisans of Palur site were aware of the use of both feldspar and quartz as secondary minerals to make good quality, good appearance and good strength potteries for their living purposes. The pottery shreds excavated from the three sites have been found to contain the magnetite and

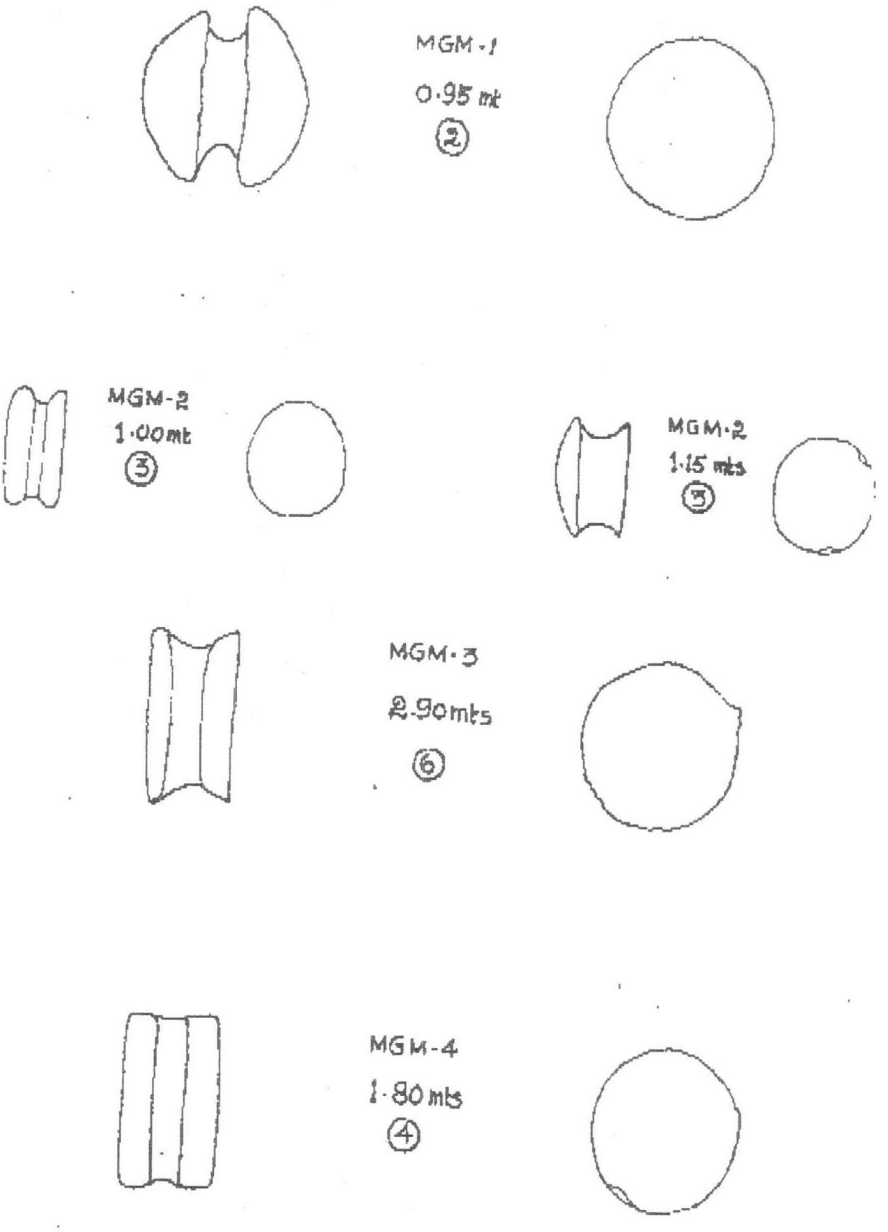
hematite as accessory minerals in them. From the amount of these minerals, one can able to understand the colour, the type of potteries and the atmospheric condition of firing process adopted by the artisans at that time. The range of firing temperature and the supposed method of firing technique are also inferred from the colour and visual appearance of vitrification of the excavated samples, respectively.

Acknowledgement

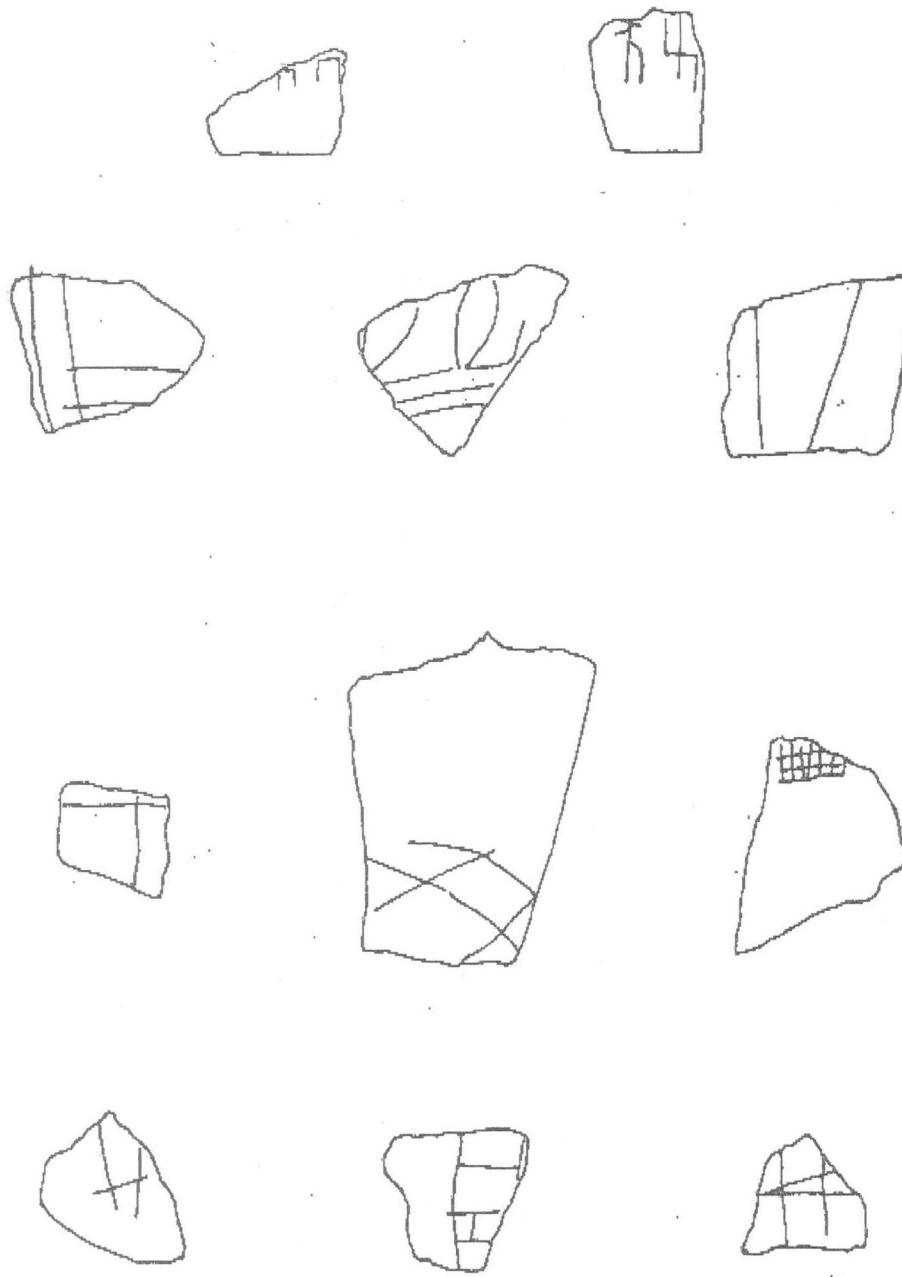
The authors are grateful to The Director, The State Department of Archaeology, and also the Head of the Department of Ancient History and Archaeology, University of Madras, Chennai, Tamil Nadu, for providing the archaeological samples for this research work.

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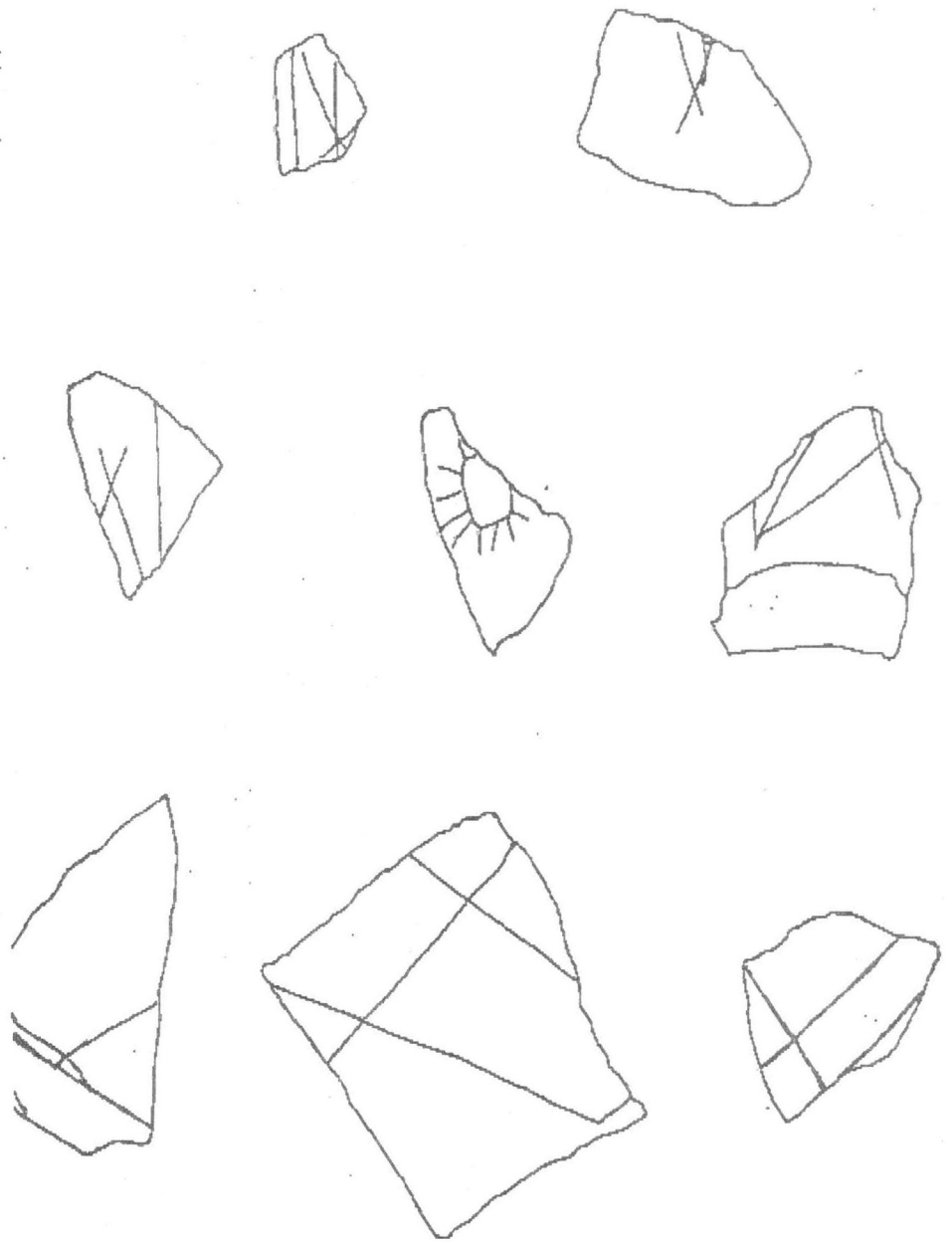
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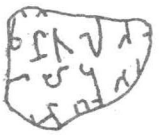
Drawings of Ear Lobes



Drawings of Graffiti Potsherds

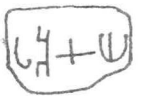


Drawings of Graffiti Potsherds



MGM-1
3.50Mt
⑧

1. வணா தல [அ]
• மா அ •
ம
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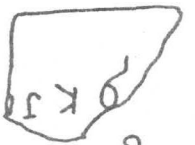
MGM-1
3.70Mt
⑧

2. ப அ ன ய



MGM-3
2.95Mt
⑥

3. ம ன



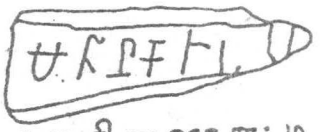
MGM-4
2.05 mt
④

4 : ன அவி



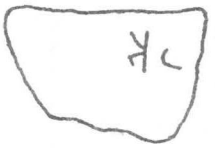
MGM-4
2.95 mt
⑤

5. தா ய

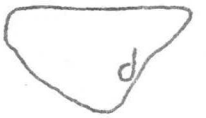


MGM-4
3.20 mt
⑤

6. ம தி ன வகா ரா : ம



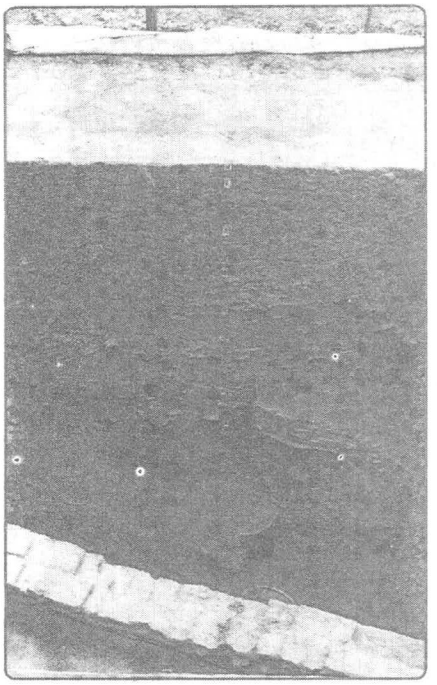
MGM-2
3.15 mt
⑤



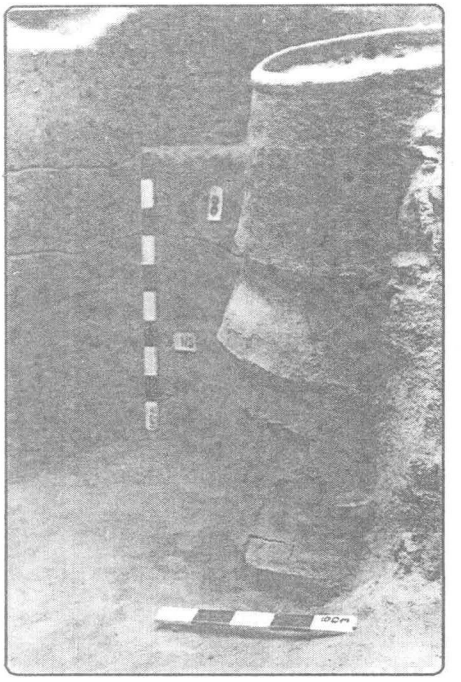
MGM-4
1.35 mt
④

8 ச

Drawing of Inscribed Sherds



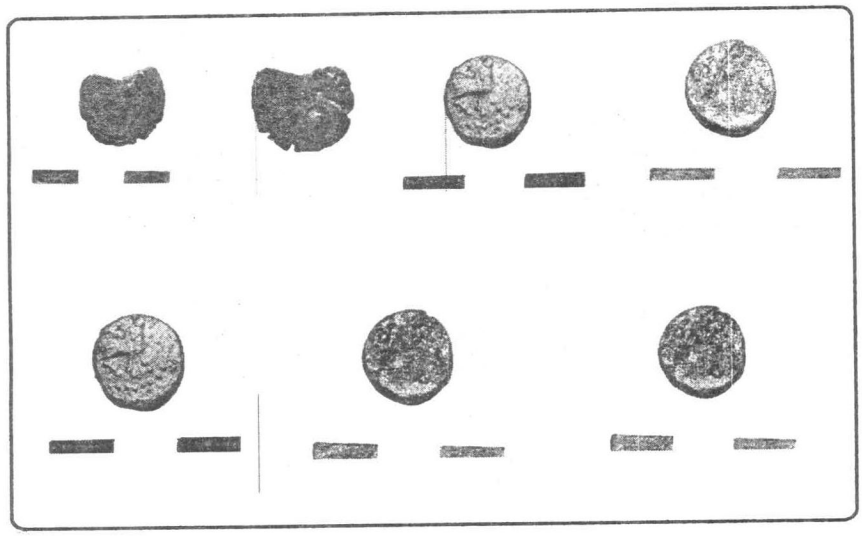
Terracotta Ring Well



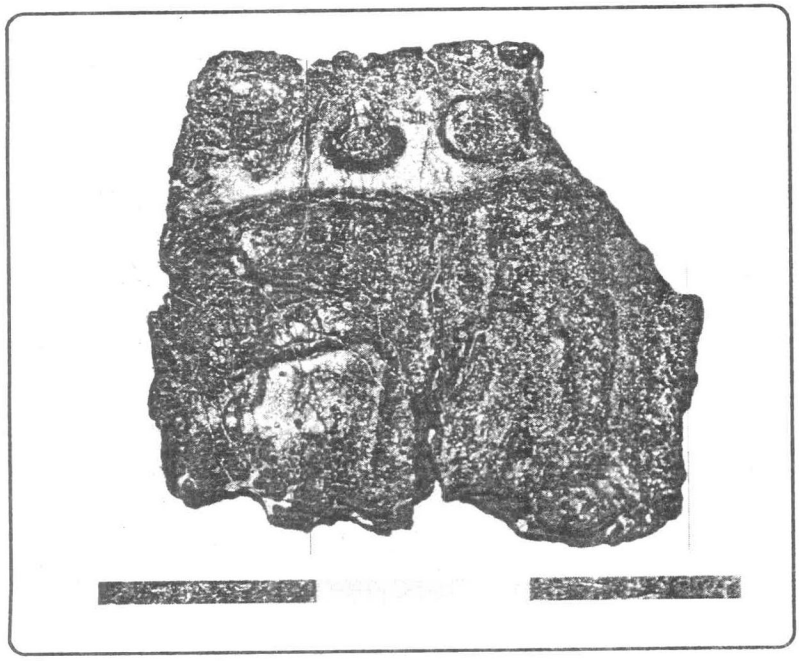
Exposed Brick Structure



Excavated Trench

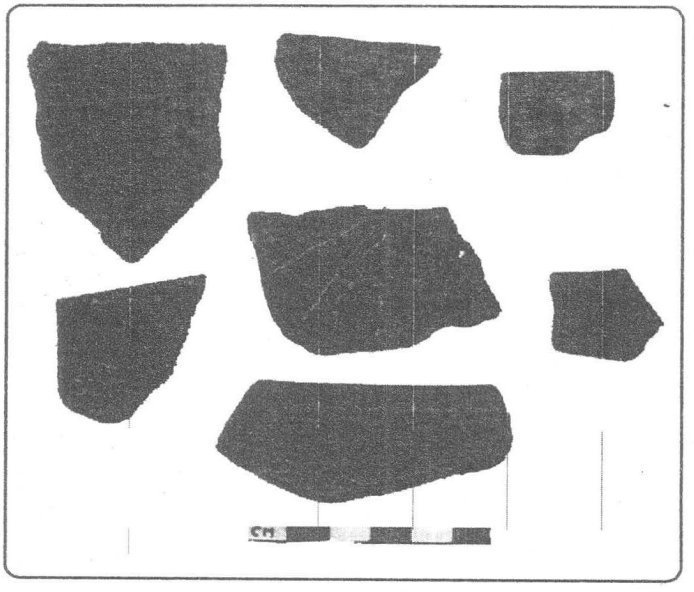


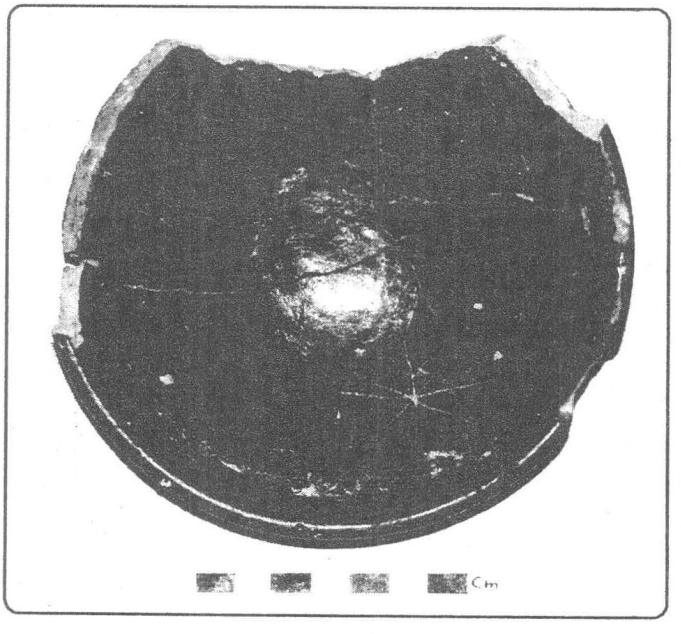
Copper Coins

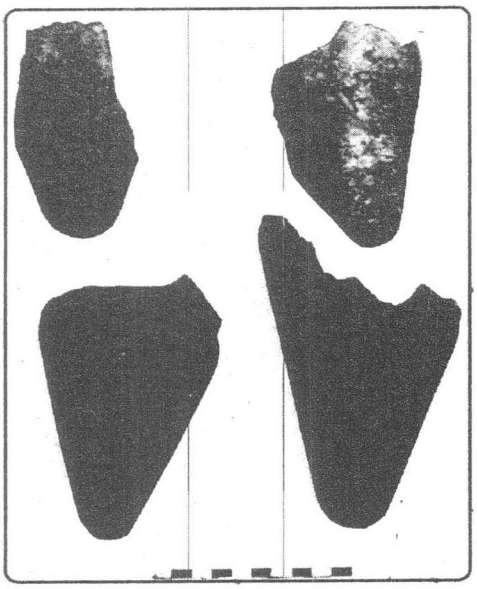


Satavahana Dynasty Square Coin

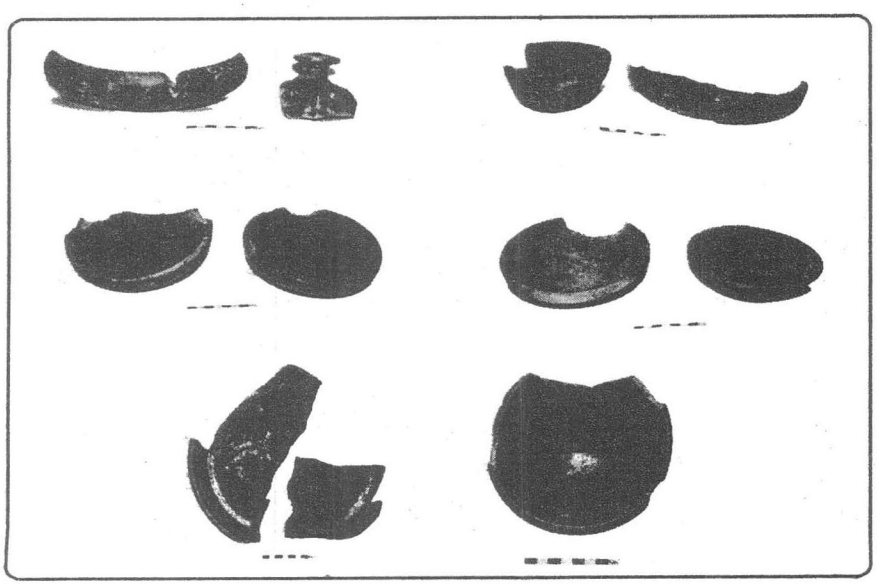
Graffiti and Pictographic Pot Sherds



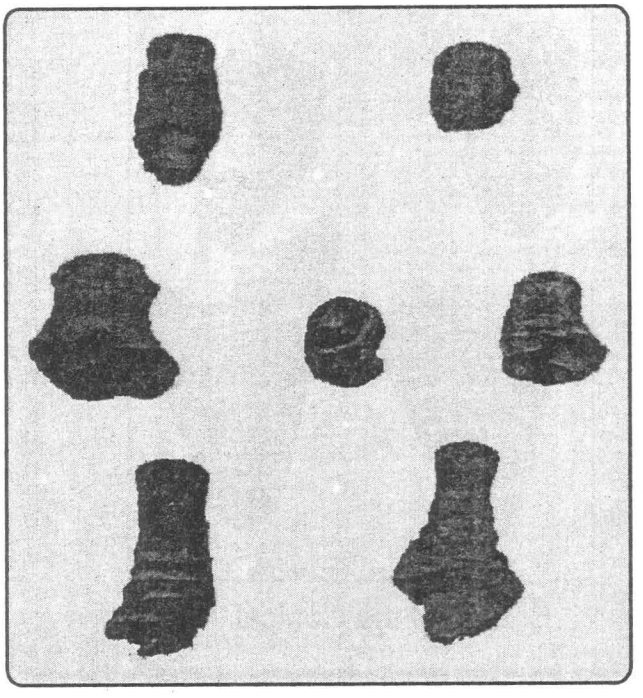




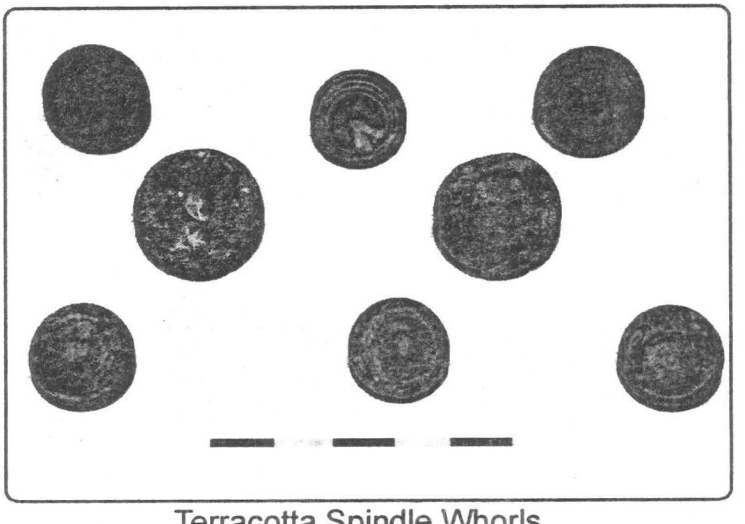
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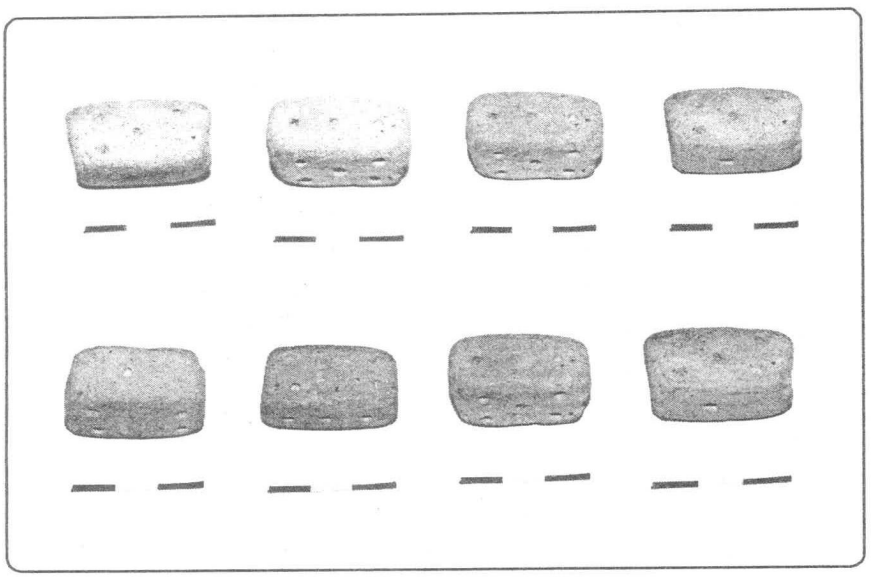
Excavated Potteries



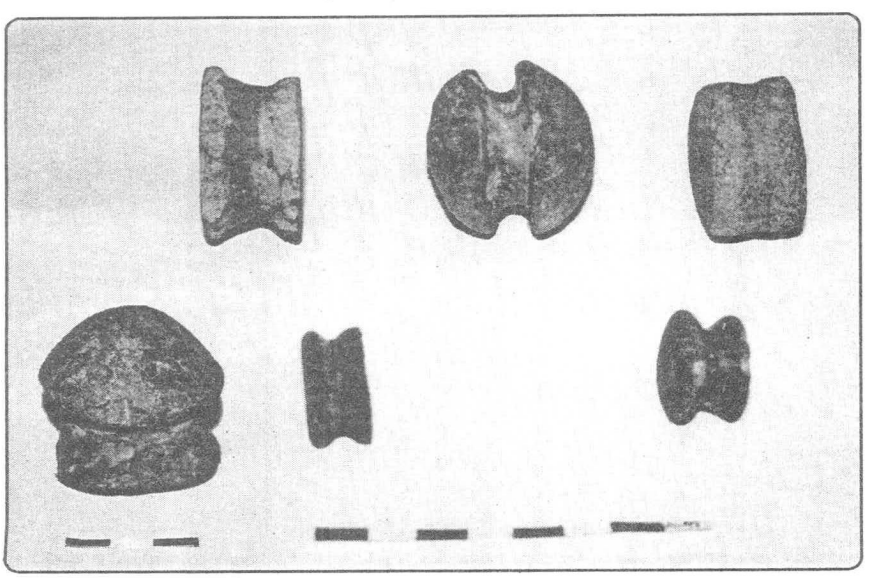
Terracotta Spouts



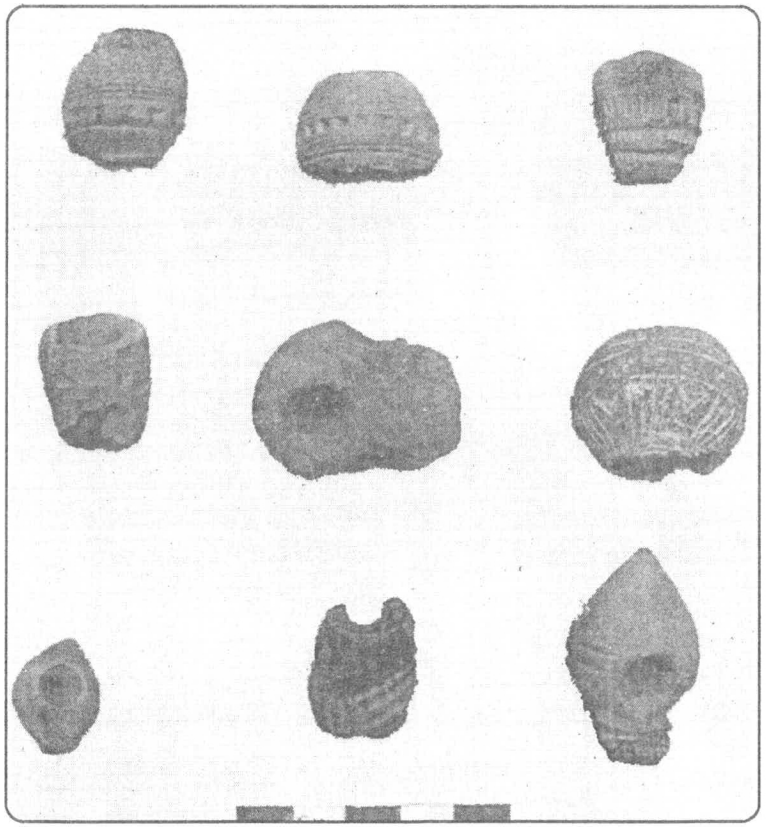
Terracotta Spindle Whorls



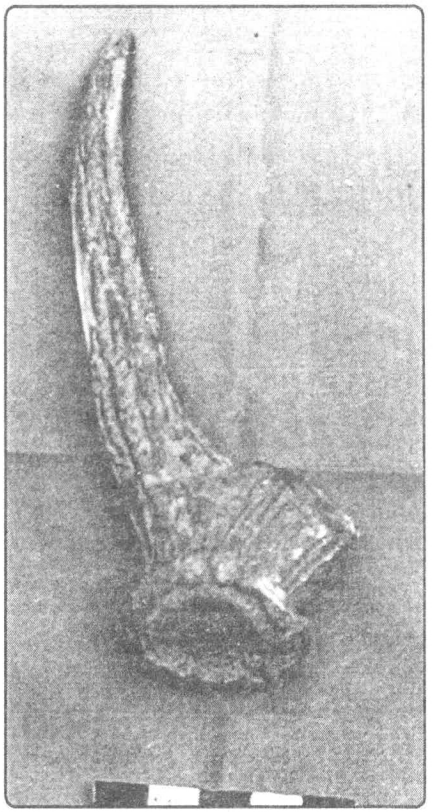
Terracotta Dice in various Positions



Terracotta Ear Lobes



Terracotta Smoking Pipes



Deer Horn

EXCAVATION AT TERIRUVELI
1999 - 2000

CONTENTS

INTRODUCTION

1. HISTORICAL BACKGROUND
2. CUTTINGS AND CHRONOLOGY
3. TRENCHES
4. POTTERY
5. ANTIQUITIES
6. CONCLUSION

INTRODUCTION

The village Teriruveli is located at 33 kms from Ramanathapuram Town, Ramanathapuram District. It is easily accessible by road from Ramanathapuram via Uttharakosaimangai. Terirruveli lies in the latitude of 90^0 .19' N and longitude of 78^0. 38'E. Teriruveli literally means stop-page of temple car. No ancient temples are located in this village. Geographically, it is a flat land surface with few perennial dry tanks at close proximity. The river Gundar Channel, running East-West direction, is at 2kms north of this village.

The historicity of this place is not known as no inscriptional, literary and other evidences are available. However, the yielding of antiquities like megalithic potteries and microlithic flakes reveal the archaeological importance of this site.

In the course of exploration valuable artifacts viz potteries which include Rouletted shards, Black & Red Shards, Coarse Red Ware, Black Slipped ware, Beads and microlithic flakes and Cores were collected from the two mounds namely "Kazhanithidal" and "Colonythidal".



HISTORICAL BACKGROUND

Ramanathapuram district has yielded some sporadic prehistoric evidences. Palaeolithic stone tools collected at Aviyur near Kariyapatti situated in the present Virudunagar district. Microlithic evidneces are noticed on the bank of Virisuli river near Devakottai. One Neolithic stone tool (mace Head) was discovered from Manamadurai. Large number of Megalithic urn burials were unearthed at Aruppukkotai region. Thus, the (old) Ramanathapuram district has the continuous occupation of the human race since prehistoric times.

Places in and around Teriruveli

On the eastern side of Teriruveli, one commercial town Paramakudi is situated at a distance of 20 kms. Some of the later Pandya inscriptions found in Melur mentions about Parampunadu, which was later on divided in to Parampunadu, and paramakkudi during the pandya times. Paramakkudi might have gained importance during the Pandya period.

Iyamanisvaram

A village kanamar Iyamanisvaram lies at a distance of 3 km from Paramakkudi. An inscription from Thiruphuvanam (S.I.I / 8/395) refers that this place Iyamanisvaram was situated in Vadathalal Sembinadu and was donated as a Thiruvidaiyattam village to Tiruppullani temple during 1515 C.E. by one Sundara Tholudaiya Mahavali Vanadhiraya. Some records from Uthithirakosamangai, it is found that this area was

named as Sembinadu. Teriruveli village also might have been formed part of Sembinadu. But, unfortunately no historical records are found at Teriruveli.

Uththirakosamangai

Uththirakosamangai another important center sung by Manickavasakar during 9-10 century C.E. is situated just 12 km south of Teriruveli. This temple was patronized by later Pandya rulers and then by Sethupathis of Ramnad. Some inscriptions dated 15-16 century C.E. are found engraved on the walls of this temple. One of these inscriptions mentions that Uththirakosamangai was a Brhmadeyam in Sembinadu. Some other nearby villages were donated to meet out the expenses for the celebrations of Sivaraththiri festival. But, no refernce is found about Teriruveli village in any of those temple record. This temple was later on taken over by the Sethupathis of Ramnad and still under their maintenance. The Arudhara dharsan of emerald Nataraj image is very famous festival celebrated every year in the month of Margali (December - January), which attracts thousands of devotees.

Although such famous saivite centers are situated near Teriruveli, it does not benefited this village in any way. But, the name itself induces some interesting connections with the temple. In olden days it is believed that the temple car from Uththirakosamangai was taken in procession to Teriruveli, once the axis of the car was broken and it sunk in the irrigation tank of this village. Hence this village was named as Teriruveli (Ther-car, iru-breakage, veli-land). The village people till have a belief that a golden chariot of the temple is under the earth beneath the irrigation tank.

One more different version is also said for the name of the village. On the north western side of the village a big irrigation tank is dug out and

named as Iruveli kanmay. Gundaru flows though the village Iruveli and watered the tank and then confluence with the Bay of Bengal. But it can be assumed that two veli extent of land might have been donated for the Uththirakosamangai car festival and hence the village was knwon as Teriruveli.

Inspite of the absence of any inscriptions, ancient temple and sculptural remains this village has yielded number of antiquities during explorations. On the basis of which excavations were carried out at Teriruveli.



CULTTINGS AND CHRONOLOGY

Large number of varied potteries were found in all the seven trenches that were laid at the Kazhanithidal and Colonythidal of Teriruveli. The yielding of Black and Red ware was comparatively higher in number. The rouletted and Northern Black Polished sherds were fewer in number. Based on the occurrences of Potteries and antiquities, the habitation of this site may be divided into two periods.

Period I: 300 B.C. E.– 100C. E Period II: 100C. E. – 300 C. E.

Period I:

It is characteristic of yielded potteries viz. Graffiti Sherd, Northern Black Polished and Microlithic tools. The antiquities of this period were collected from the stratigraphical layers four and the thickness of total depth of the period was 100 cms. The collection of notable antiquities includes lid with handle in dove form (Black Polished Ware) and Deer horn. Similar kind of lids was also encountered in the excavation trench (Cairn circle) at Kodumanal, Erode District.

Period II:

Antiquities namely Inscribed sherds (Brahmi), Spouts, Lids, Beads, Shell, bangle pieces and a few Iron objects were collected from the stratigraphical layers of period II. The finding of Rouletted ware was found

in association with Black and Red Ware. This kind of pottery assemblage was also encountered in the excavations conducted at Azhagarai, Tirukampuliyur, Arikamedu and Uraiyur. Totally seven Inscribed sherds were collected from the excavation at Teriruveli.



TRENCHES

On the basis of rich yielding of antiquities, systematic excavation was conducted by the State Department of Archaeology at Teriruveli in the year 1999-2000. After proper exploration two sites namely "Colonythidal" and "Kazhanithidal" were selected for laying trenches. Out of seven trenches, five trenches were laid on the highest point of Kazhanithidal which is on the northern side of Ramanathapuram-Mudukulathur Metal road. The other two trenches were laid in the Colonythidal.

Hereafter Teriruveli is mentioned as TIV.

Trench 1:

TIV-1 laid in the Colonythidal with an extent of 4 x 4 mts. But actual cutting area, of the excavation is 4 x 3 mts. Excavation work was continued up to 287 cms depth where virgin soil was met and stratigraphical layers were noticed in this level. In the southern corner of the trench a pit, cutting across the Layer - 2 through layer 4 and upto natural soil was noticed. The collection of antiquities includes Sangam period grooved tiles with potsherds grooves, Graffiti, lids, shell bangle pieces, bones, Hopscotches and Megalithic urn pieces.

Trench 2:

TIV-2 trench was laid at a distance of 5 feet south of TVI-1. The area of this trench was 5 x 5mts. But actual cutting area of the trench is

5x4 mts. During the excavation, bottom portion of urn, smaller copper rod, Grinding stone, Terracotta pipes probably used for carrying waters, nscribed potsherd and rouletted sherd were collected. Besides this, Hopscotches, broken terracotta lamps, terracotta bead, per forated potsherd and Deer horn were also found in this trench. Natural soil was noticed at the depth of 275 cms. Four stratigrahical layers were exposed.

Trench 3:

It was dug adjacent to TIV-2 in east west orientation. The dimension of the excavated area measured go 5 x 4. With 4 stratigraphical layers, this trench was dug up to a depth of 256 cm. In this trench, Graffiti, potsherds terracotta Lids, five terracotta Stand, Iron Knife, two paste beads, Sawed Conches, fourteen Shell bangle pieces and a well preserved full shaped pot were recovered from this trench. The occurrences of graffiti potsherds were encountered throughout the depth.

Trench 4:

It was laid in the centre place of Panankadu, which is 200mts away from TIV-1. Excavation in this trench, which is 5 x 5mts in dimension, was continued up to 230cms depth. The yielding of twenty two Graffiti sherds inscribed potsherd, Andhra ware, Beads, Lids, Spouts and Deer horn were found in the course of excavation. Three stratigraphical layers were exposed.

Trench 5:

This trench, with an extent of 5 x 5mts, was laid 5mts northeast of fourth trench TIV-4. It revealed three stratigraphical layers. The

antiquities that were collected from this trench include 3 Graffiti potsherds, Lids, Spouts, Stands and broken handles. The trench was dug upto 159cms.

Trench 6:

It was laid close to TVI – 4 . With an extent of 5 x 5mts digging was continued up to a depth of 154cms. Graffiti pot sherds, Beads, Spindle Whorls, Lids, Stands and Spouts were collected from this trench. Totally four stratigraphical layers were exposed in TVI-6.

Trench 7:

Seventh Trench, with three stratigraphical layers, was dug up to a depth of 179cms. The area of excavation was 5 x 5 mts. Antiquities namely Inscribed pot sherds. Graffiti marked sherds, Beads, Microlithic tools, Spouts, terracotta dove shaped Lid and potStands were found during the excavation.

POTTERY

In so for as Ceramics are concerned following pottery types were collected from the excavation conducted at Teriruveli. The collected potteries were classified on the basis of texture, colour and glaze.

1. Polished Black and Red ware
2. Coarse Black and Red ware
3. Polished Black ware
4. Coarse Red ware
5. Andhra ware
6. Polished Black ware
7. Rouletted ware
8. Amphora

The above said potteries were in usage between the period 300 BCE. to 800 ACE. All the seven trenches yielded good number of potteries.

Black and Red Ware

It is characteristic of having red colorations on the outer surface and black hue in the inner surface. Most of the unearthed inscribed potteries are Black and Red ware variety. The shapes exhibited by this kind of pottery include bowls, deep bowls, long necked jars and conical shaped

vessels. Vessels with flat, concave and convex bottoms were collected from this site. Out of the seven, three inscribed potteries are Black and Red ware. Out of 67 Graffiti marked pot sherds, twenty six are of black and red Variety. In TIV 3 and 4 full shaped block and red pot was collected.

Red Ware

The occurrences of Red ware occupy the second place next to Black and Red ware. Red wares are found to have red colour in both sides with or without slip. Bowls, Dish, Conical Jar were some of the shapes displayed by this kind of ware. In the course of excavation at Teriruveli, Red ware was also collected with graffiti marks. Two inscribed pot sherds, storage Pots and Russet coated sherds were also found in the excavation

Andhra Ware

There were two types of Andhra ware encountered during excavation. One of the variety was found completely with Red hue both outer and inner surface while the other type was noticed with red colour in the outer and black colour in the inner surface. Potteries with slip appearance on both inner and outer surface are usually encountered. However,coarse red inner surface and slip in outer surface also noticed. These types of potteries are seen decorated with white lines, parallel lines, wavy lines and cross lines. Mostly Andhra wares are found thin and thick polished with thick rim. During excavation at Teriruveli these potteries are found in fewer number with script and graffiti marks. Various shapes also identified among the collections. Bowls, Pots, Deep bowl are the shapes found in the excavation.

Black Ware

Black wares are usually shiny black colour in outer surface. However, sometimes there are dull without slip. These potteries are generally associated with megalithic burials. In the excavation conducted at Teriruveli, only few black potteries were collected.

Roman Pottery

Roman potteries namely Rouletted and amphorae sherds were collected in lesser quantity during excavation at Teriruveli. This excavation yielded both black as well as red colour rouletted potteries. They are thin with rouletted design at the bottom surface. It is identified that the clay used to make this kind of potteries are very fine and free from impurities like quartz particles and other mineral particles. Red variety rouletted potteries are also reported from the excavation at Alagankulam in Ramanathapuram District.

Graffiti Potsherds

Excavation at Teriruveli yielded sixty-five graffiti marked potsherds. Almost all type of pottery displayed graffiti marks. Among trenches, Trench -4 yielded twenty two number of graffiti potsherds. However, graffiti potsherds were absent in the trench-1.

In the Trench-7, forms of body and head of fish, symbol sun, turtle, symbol showing the lightning are noticed in the potsherds. Graffiti marks of Arrow, Trisul were noticed in the potsherds collected in the trench-3. Trench-6 yielded potsherds with graffiti marks of *Udukai*, Tree, Arrow, Bow and ancient fish form. The practice of using graffiti marks existed well before the advent of script writing. During excavation at Vallam, the occurrences of graffiti marked sherds were noticed in lesser number on

emergence of inscribed sherds from the trenches. Excavation at Teriruveli is not exceptional to this, it exposed lesser number of graffiti potsherds at the level where the occurrences of inscribed sherds began. Of the total gaffiti marked potsherds, twenty-five graffiti marked potsherds are black and red ware and seven graffiti marks are seen on Red ware. Graffiti marks noticed on the coarse red ware are seven. Potsherds with graffiti marks belonging to Period-1 (300 BCE to 100 BCE) are sixty-five in numbers. Graffiti marks of Period II (100 CE to 300 CE) account to twenty six. Most of the graffiti mark of this period are Black and Red ware (coarse variety). The collection includes three graffiti marked coarse red ware and one red slipped.

No conclusion has been arrived on the meaning of graffiti marks on potsherds collected from various excavation conducted in India as well as in Teriruveli of Tamilnadu. However, eminent scholars like Pran bill, E. S. Hande, G. Ujdani, P. K. Thapur and B. B. Lal have identified and classified the graffiti marked potsherds. At the present knowledge, it is identified that graffiti marks are potters' mark or name of a clan.

Inscribed Potsherds

The inscriptions are the major sources in studying the political and cultural history of the ancient societies. The inscriptions are written in stone slabs, metal objects, Terracotta objects, potsherds, etc.

The epigraphical study has been found useful even in the study of potsherds bearing inscriptions. The inscribed sherds are exclusively found in Tamilnadu. They were collected both from exploration and the excavated trenches. Most of the sherds bearing inscriptions were fragmentary, and mostly bear the personal names in ancient Tamil Scripts. During the recent excavations (1999-2000) at Maligaimedu (Cuddalore District), Terriruveli inscribed potsherds were found.

The inscription in the potsherds were written in Archaic Tamil Script. There are six potsherds with early Tamil Scripts. The two potsherds with the names *Korra* and *Nedunkili*, are the important findings of this site. The former refer the general name of the king as Korra and the latter refer the proper name Nedunkili belonging to the Chola dynasty.

So far, the inscription of archaic Tamil Script bearing the personal names of the Pandya and Chera Kings of Sangam Age were found in the Tamil Country. Interestingly, it is the firstime a potsherd bearing the name of a chola king is found in the Pandya region.

The inscription found at Mangulam (Madurai) refers the Pandya king Neduncheliyan dated from 2nd to 1st century BCE and the Irumporai's at Pugalur dated to 1st to 2nd centrury CE. The inscription at Jambai of Atiyaman is contemporaneous with the Tamil Brahmi period and the Sangam Age. Apart from the cave inscription of sangam kings, there were coins with ancient Tamil Scripts discovered at Madurai and Karur region. The Peruvalati (the Pandya King) of 1st century B.C., Irumporai coins of 3rd centrury C.E., Makkotai coins belongs to 3rd century CE coins of Kuttuvan Kottai of 3rd century C.E., all belong to the Chera kings, with their names engraved were collected.

The Sangam literature Purananuru mentions Nedunkili of Chola dynasty. He was ruling the territory around Avur in the then Chola territory. The *Avur* fort was besieged by another Chola ruler Nalankili. It seems that Nedunkilli and Nalankili were brothers and they might have belonged to the collateral branch of the Chola dynasty. In the encounter, Nedunkili had taken shelter inside the fort of Avur when the besiege was prolonged indefinitely the common people obviously suffered. With the undaunted effort of a poet Kovurkilar, the besiege was given up and Nedunkili left

that place. (Puram-44). Similar encounter happened at Uraiyur, both Nalankilli and Nedunkilli had a claim for the city and fought with each other to take possession of this historic city (Puram-45 & 47). In this battle also, the poet Kovurkilar played a very important role. Nedunkilli was known with the title *Kaariyatruthunjina Nedunkilli*, as it refers that he who died at a place called Kaariyarru (Puram-47). This sherd excavated from Teriruveli refer the same name, Nedunkili of the Chola dynasty, or might have been a common name widely used in those days.

The script of these two potsherds are in Tamil language. On palaeographical grounds, the inscribed potsherd with the name *Korra* has dots (Pulli), and was dated to 3rd century to 4th century CE. The types of sherds includes a small megalithic bowl and a dish. On palaeographic grounds the epigraphist suggest the period for these sherds about end of 3rd century BCE to the end of the 4th century CE. According to the excavator of this site, the first phase belongs to 300 BCE to 100 CE. the second phase dates to 100CE. to 300 CE. The inscribed sherds occurred in between the layers and at the depth of 50 cm. Thus, we can assume on palaeographic grounds and on stratigraphic analysis the inscribed sherds from Terriruveli can be dated to 1st century C.E. to 3rd century C.E.

Period-I

Type-1: Dull red ware, featureless in turned rim, medium fabric

Type-2: Black slip ware, flaring and in turned rim, convex body and medium fabric

Type-3: Fine black and red ware, in turned featureless rim, medium fabric, convex body and round bottom, slip found in both sides

Type-4: All black slipware, slip found in both sides, flaring in turned rim, globular shoulder and medium fabric

Type-5: Coarse black and red ware, out turned rim, oval collared rim, convex body and medium fabric

Type-6: All black slip ware, slip found in both sides, slightly out turned rim, convex body, shallow bowl, round bottom and medium fabric

Type-7: Black painted pottery, featureless and in turned rim, small shallow dish, medium fabric and convex body

Type-8: All black slipware, thin pottery, featureless in turned rim, medium fabric and convex body

Type-9: Thick red slip ware, medium fabric, slip found in both sides, oval collared rim and concave body

Type-10: All black slipware, slip found in both sides, thin sherd, slightly out turned, featureless rim, high necked and medium fabric

Type-11: Thick red slipped ware, out turned and oval collared rim, coarse fabric

Type-12: Thick coarse red ware, oval collared and out turned rim, high necked, coarse fabric

Type-13: All black slip ware, featureless rim and in turned rim, medium fabric, shallow bowl

Type-14: All black slipware, in turned featureless rim and medium fabric

Type-15: All coarse red ware, out turned and oval collared rim

Type-16: Coarse black and red ware, ill fired, slightly out turned and flaring rim, high necked and small pot

Type-17: Thick black and red ware, ill fired, in turned and featureless rim, deep bowl

Type-18: ill fired black and red ware, featureless and in turned rim, high necked or pear shaped vase, medium fabric and round bottom

Type-19: Black and red ware, featureless rim, in turned rim and medium fabric

Type-20: All black slip ware, featureless and in turned rim, medium fabric

Type-21: ill fired black and red ware, in turned and medium fabric, round bottom base and deep bowl

Type-22: Fine black and red ware, thin sherd, in turned featureless rim, long neck, medium fabric and deep bowl

Type-23: All black ware, slightly in turned globular pot and medium fabric

Type-24: Fine thin black red ware, small pot, slightly in turned rim, in curved shoulder, series of lines found near neck

Type-25: All black ware, small pot, in turned convex body, medium fabric, deep bowl and round bottom

Type-26: All black slip ware, slightly in turned and convex globular body and medium fabric

Type-27: All black slip ware, in turned and featureless rim, convex body, medium fabric and shallow dish

Type-28: Fine thick ware, oval collared rim, concave body, medium fabric and long necked

Type-29: All coarse black ware, small pot, featureless in turned rim, pear shaped body, medium fabric and conical base

Type-30: Coarse black and red ware, featureless and in turned rim, shallow bowl, medium fabric and round bottom

Type-31: Coarse black and red ware, oval collared out turned rim, high necked concave body, medium fabric and series of lines below neck

Type-32: Coarse black and red ware, featureless and in turned rim, small shallow bowl

Type-33: ill fired black and red ware, featureless rim, convex body, medium fabric and pear shaped pot

Type-34: All black slipped ware, slightly out turned convex body and medium fabric

Type-35: Fine black and red ware, slightly in turned rim, in curved shoulder, convex body and medium fabric

Type-36: All black Slipped ware, featureless slightly out turned rim, convex body and medium fabric

Type-37: Medium ill fired black and red ware, out turned oval collared rim, series of lines are found below the neck, convex body and medium fabric

Type-38: Coarse black and red ware, slightly out turned oval collared rim, convex body, medium fabric and round bottom

Type-39: Fine black and red ware, vertical lines are found in exterior of this pot, featureless in turned rim, small pot and medium fabric

Type-40: Coarse black and red ware, ill fired, slightly thin out turned oval collared rim, small pot, shallow bowl and medium fabric

Type-41: All black slipware, oval collared rim, series of lines are seen below the convex body, deep bowl and medium fabric

Type-42: Black and red ware, ill fired, featureless and in turned rim, shallow small bowl and medium fabric

Type-43: All black-slipped ware, high necked out turned oval collared rim, medium fabric

Type-44: Fine black and red ware, thin out turned oval collared rim, shallow small bowl and medium fabric

Type-45: ill fired and red ware, out turned collared rim. Series of lines found below the neck, big pot and medium fabric

Type-46: All black slipped ware, in turned broad rim, vase type, medium fabric

Type-47: ill fired coarse black and red ware, medium size pot, featureless in turned rim, deep bowl and medium fabric

Type-48: ill fired black and red ware, thin featureless in turned rim, convex body, deep bowl and medium fabric

Type-49: All red slipped ware, broad rim, out turned oval collared rim, vertical sides, vase type, medium fabric

Type-50: ill fired black and red ware, out turned oval collared rim, convex body, and medium fabric

Type-51: ill fired black and red ware, featureless out turned rim, series of lines found below neck and medium fabric

Type-52: Coarse black and red ware, featureless out turned rim, convex body deep bowl and medium fabric

Type-53: All black ware, featureless rim, vase type, series of lines found below neck, and medium fabric

Type-54: All black and red ware, slightly in turned rim, series of lines found below the neck, pear shaped pottery

Type-55: Fine all black slipped ware, medium fabric neck, small shallow bowl and coarse fabric

Type-56: Fine black slipped ware, in turned featureless rim, shallow bowl, and medium fabric

Type-57: Coarse red ware, out turned oval collared rim, series of lines found below the neck, medium fabric

Period-II

Type-58: Coarse black and red ware, ill fired in turned rim, medium fabric

Type-59: Coarse black ware, featureless in turned rim, pear shaped pot, series of lines found below the neck and coarse fabric

Type-60: All black ware, big pot, in turned rim, shallow bowl and coarse fabric

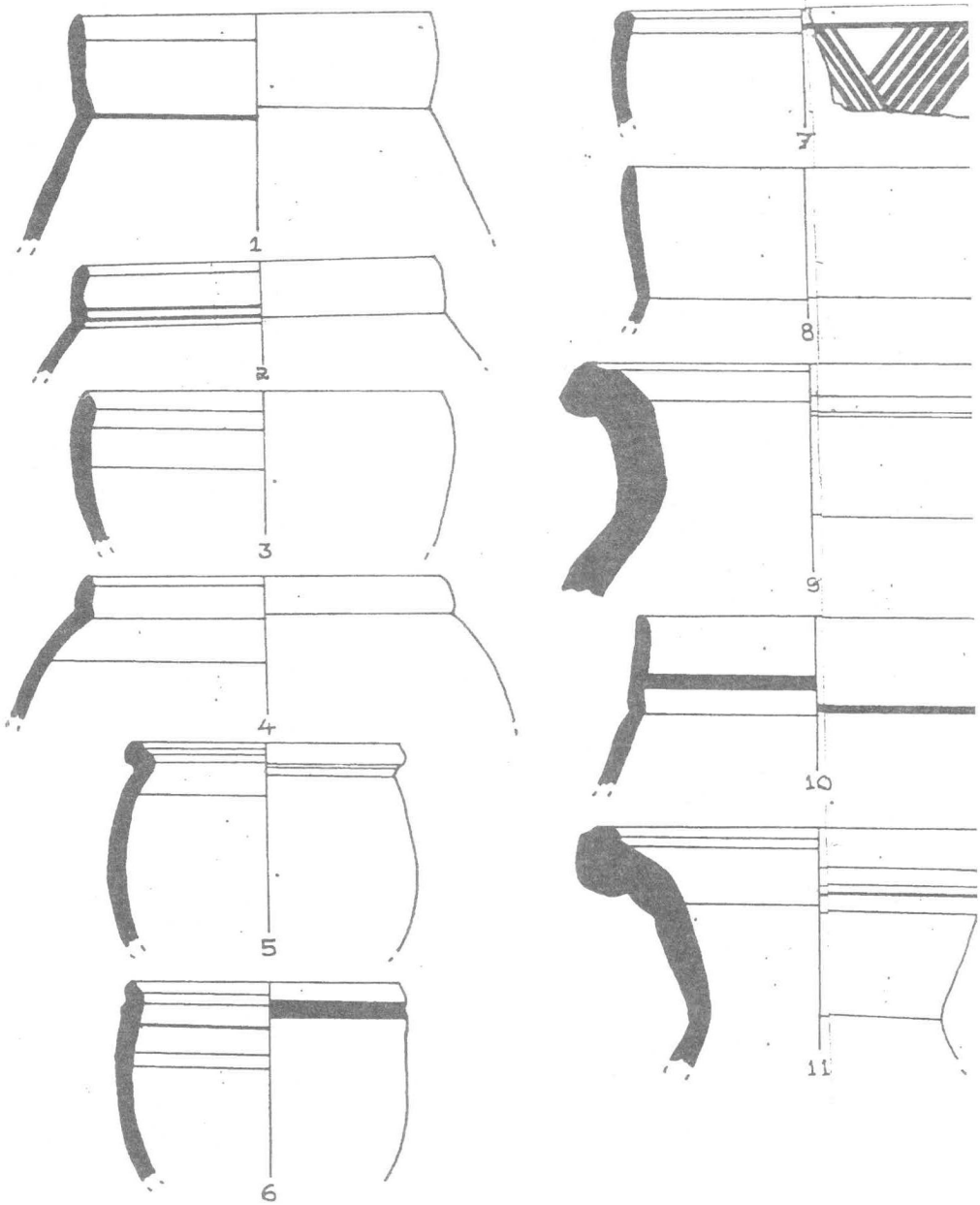
Type-61: Black and red ware, in turned rim, one groove found below the neck and medium fabric

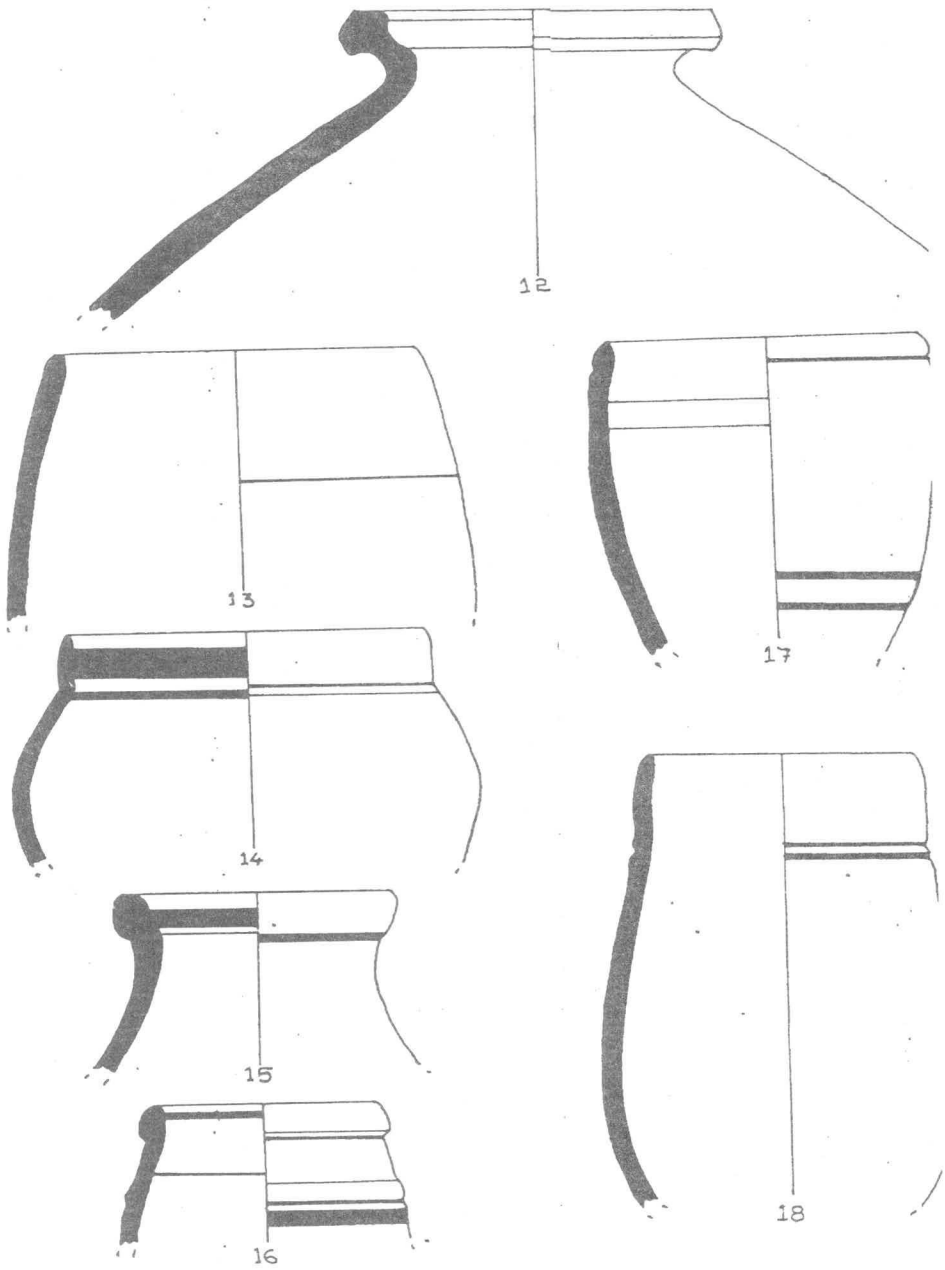
Type-62: Coarse ware, out turned rim, vase type pot, coarse fabric

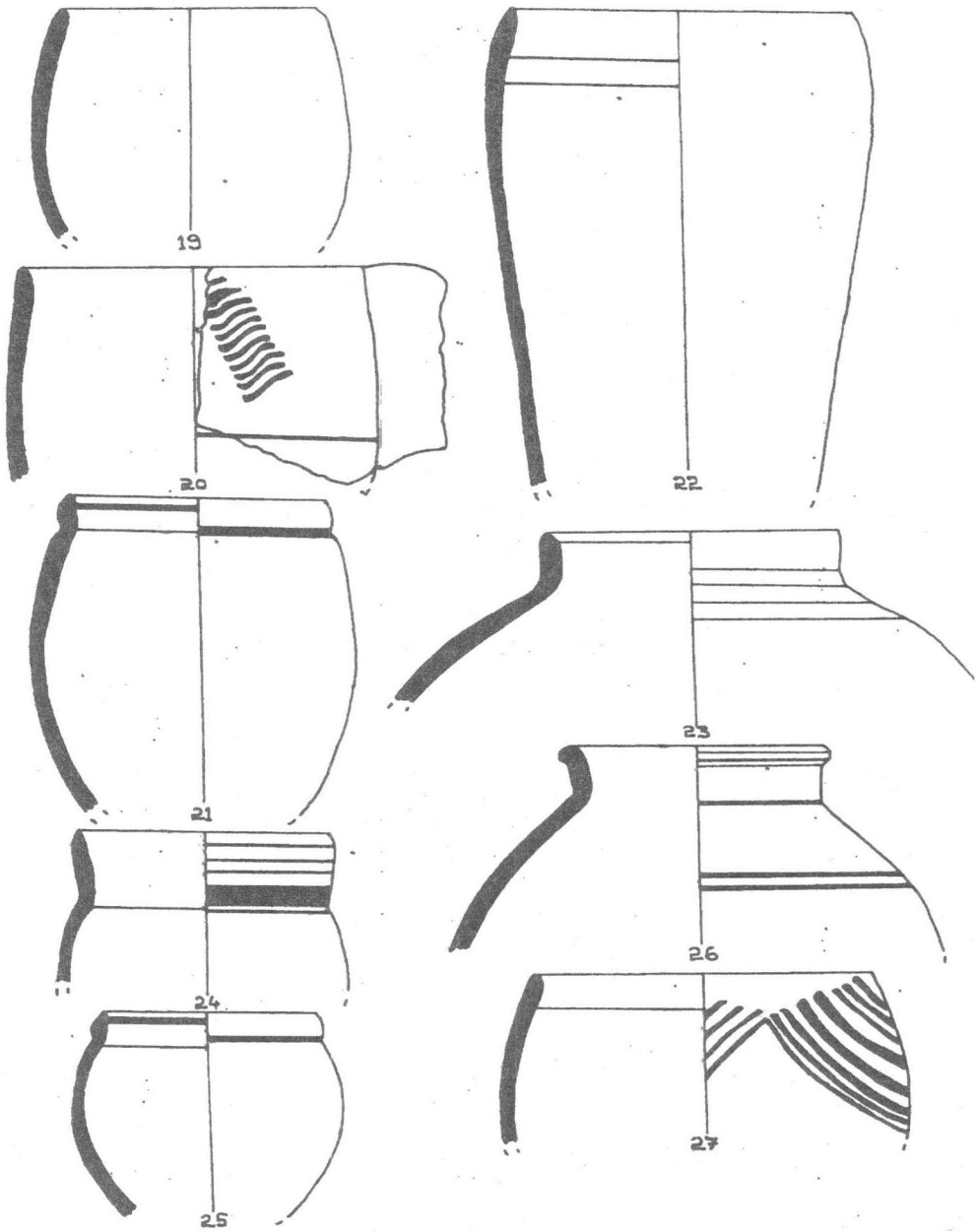
Type-63: Fine black and red ware, featureless in turned rim, deep bowl and medium fabric

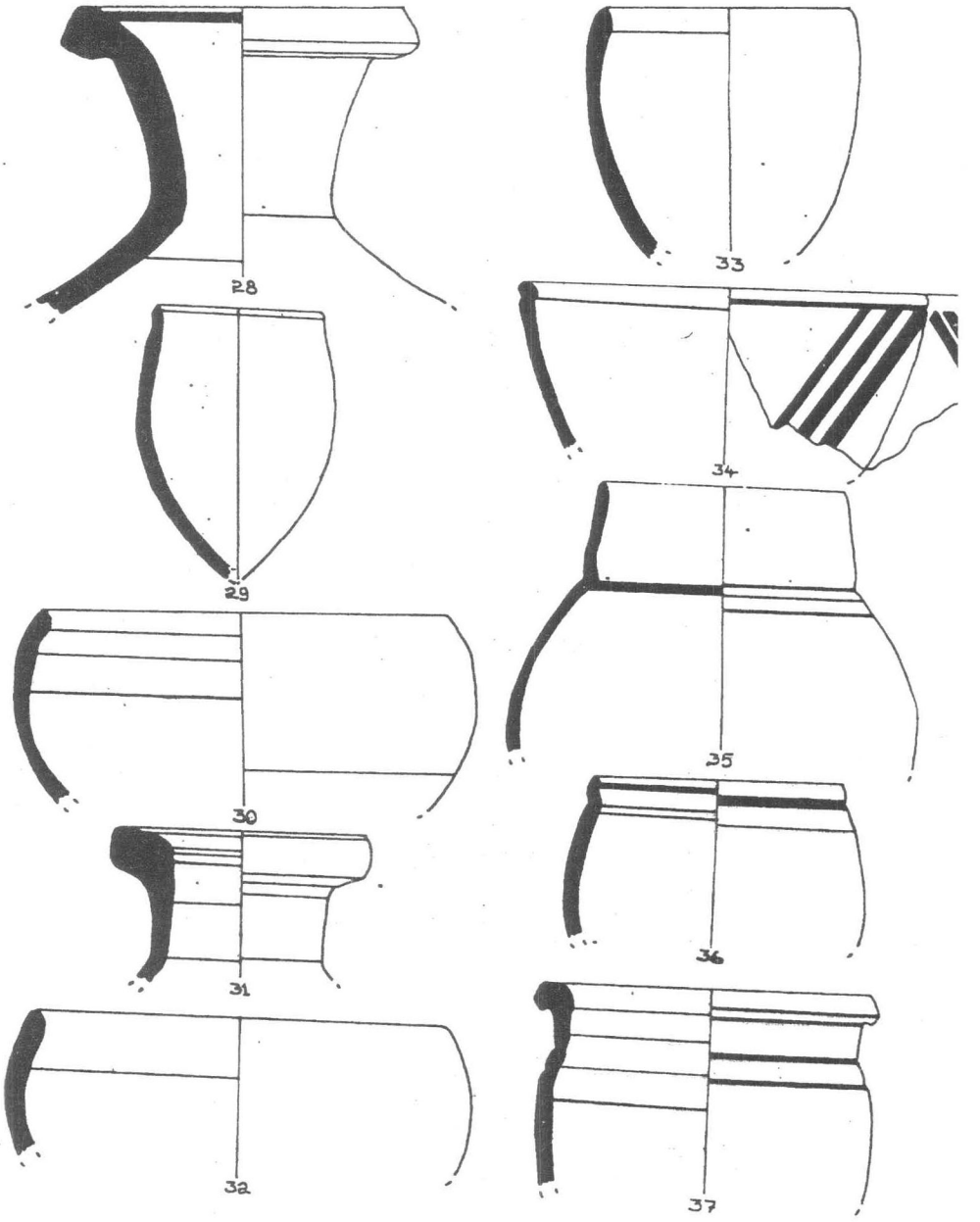
Type-64: Fine red slipped ware, in turned thick rim portion, series of lines found below the neck and fine fabric

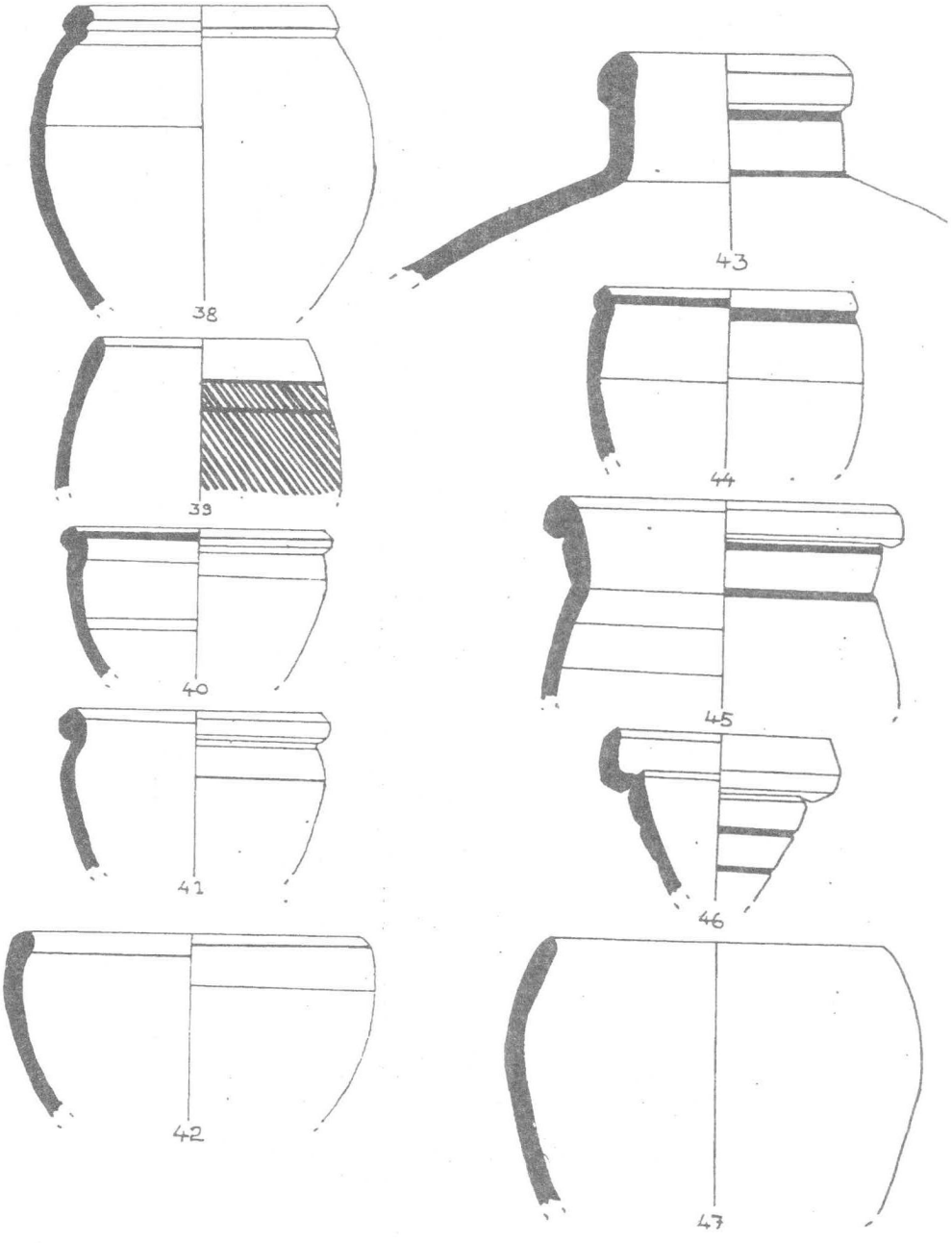


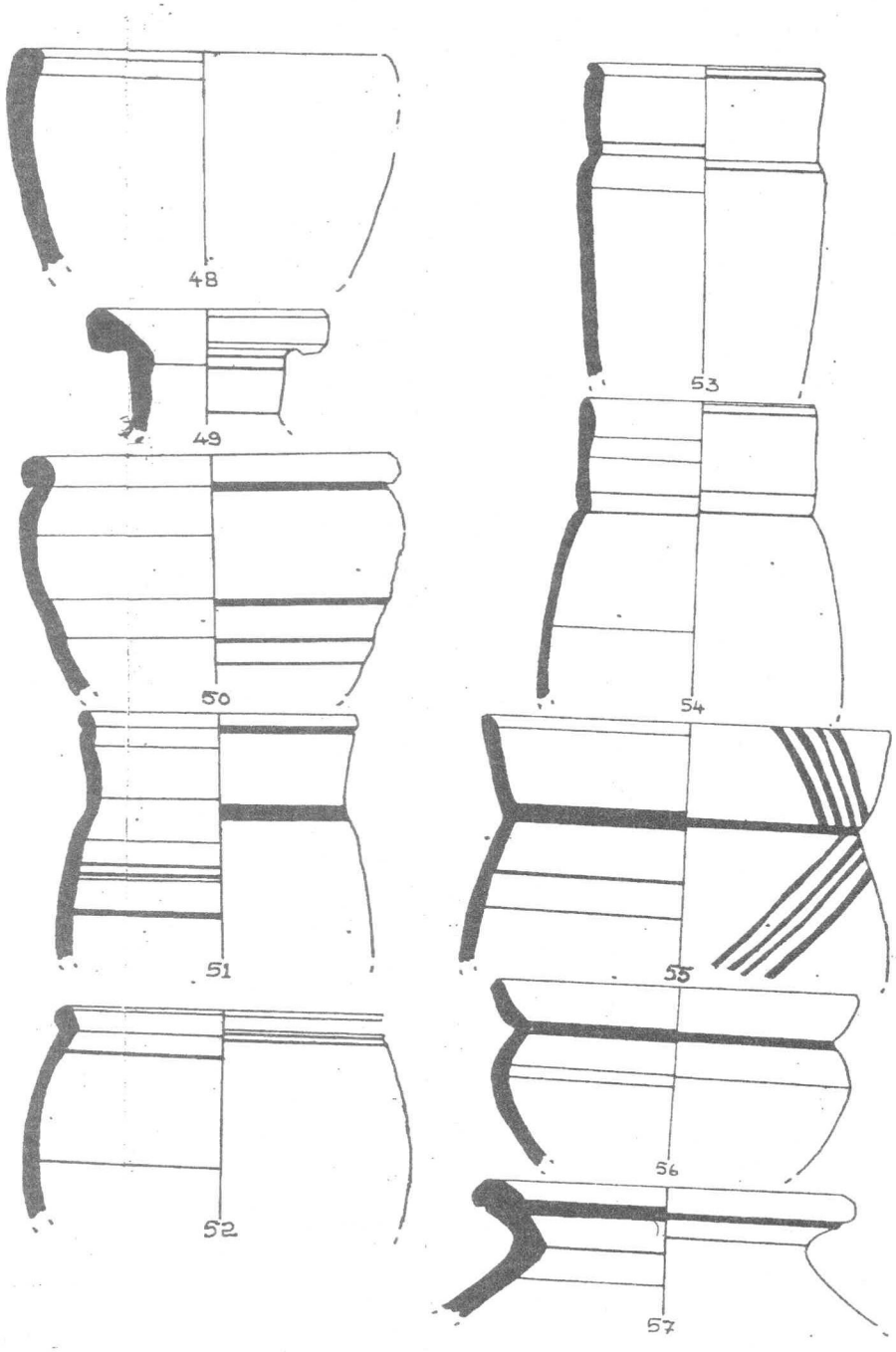

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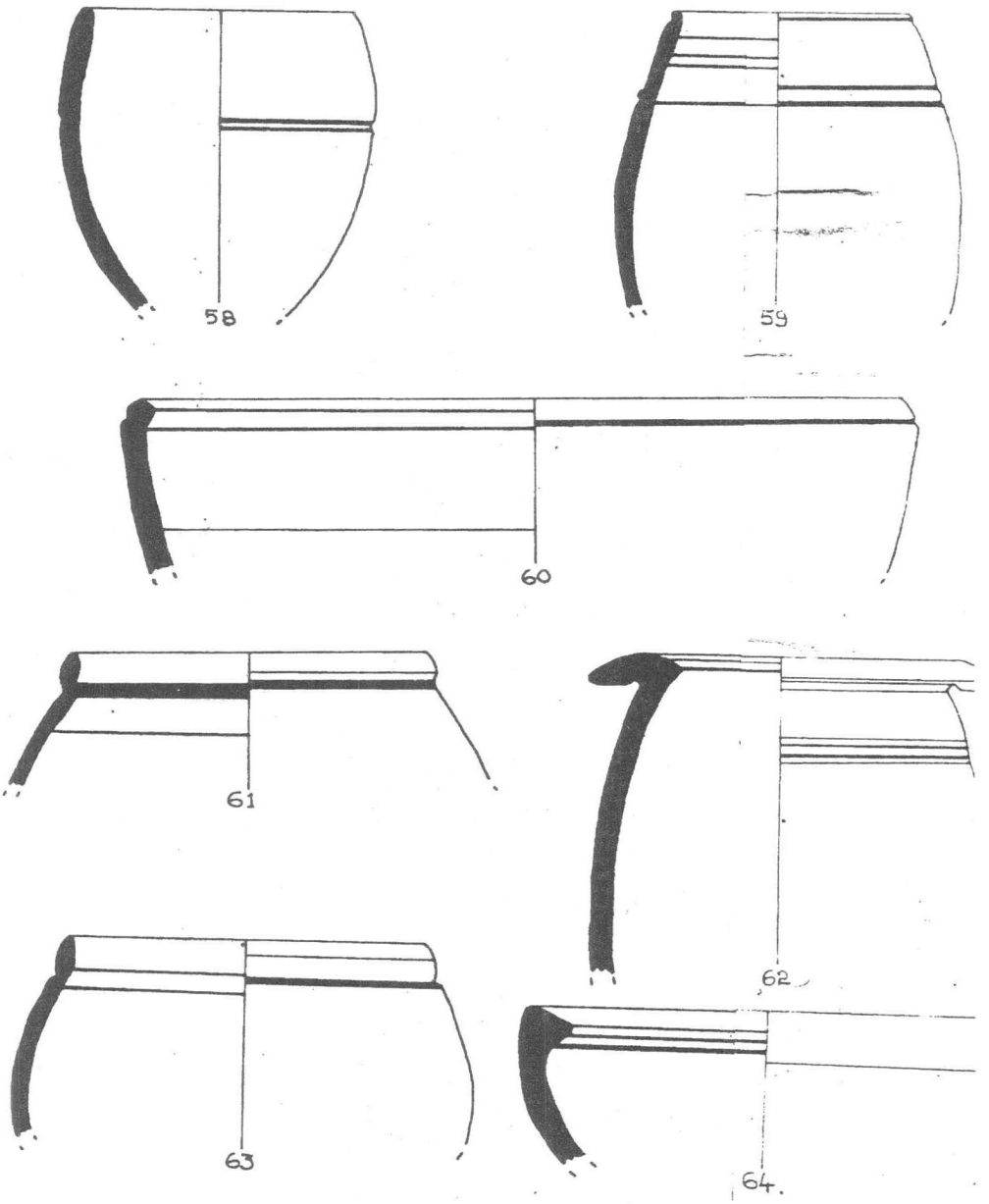

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ANTIQUITIES

Inscribed Potsherds

In the course of excavation at Teriruveli, seven inscribed sherds were recovered. Of these, four sherds belong to Period – II whereas one belongs to Period -1. One sherd was found on surface. The details of the inscribed sherds are as follows:

1. 'Kotrran' – This script is found written on the polished Black and Red ware, which is thick variety. It was collected in the trench-7 at the depth of 12 cm in the stratigraphical layer 1.
2. 'Nedunkil' – It is found on the black ware. It was collected from the trench-7 at 38 cm depth.
3. 'Illan' – Potsherd with this script was found in the trench-4 at 37 cm. The variety of pottery on which the script executed is black and red ware.
4. 'Ma na ha' – It was collected at the depth of 30 cm in the trench-5. The variety of pottery is polished thick red ware. It was collected from the layer -1.
5. 'Ku ra; - It was found in the trench-2 at 34 cm from layer-2. Script is noticed on coarse red ware.
6. 'Tharaye' – It was obtained in the trench-4 from the layer 3 at 100 cm depth.
7. 'Sadan' – It was collected during exploration in 'Colony thidal'

Iron Objects

The occurrence of iron objects in large quantity have been recovered from various excavations conducted in Tamilnadu. Mostly iron objects collected from the trenches are fragmentary and found to be corroded in state. Sometimes fully preserved iron objects are also encountered during excavation. In Teriruveli, excavation iron objects were in highly corroded. Iron slags were also collected from trenches-2, 4 and 5. The finding of iron objects from this excavation is small knife (broken) and a nail.

Deer Horns

The finding of deer horns are mostly come across in all the excavations conducted in Tamilnadu. Especially, Excavations at Uraiyur, Thirukampuliyur, Boluvampatti and Karur have yielded good number deer horns. It is interesting to note that Sangam literature has thrown light on the trade of valuable deer horns to foreign countries. In Kodumanal excavation, deer horns are collected in the urn burials. It is assumed that the deer might be sacrificed for the dead one. Totally five deer horns were found in Teriruveli excavation. The lengths of the deer horn collection are measured to be 6 and 5.5 cm.

Shell Bangle

Excavation at Teriruveli yielded thirteen bangle pieces and three sawed shell pieces. Trench-3 alone yielded ten bangle pieces while in the trench-2 one shell piece was collected. With varying sizes they are thick and thin in cross section. Most of them are not decorated but few are found with thin lines on the upper flat surface. The occurrences of shell bangle pieces are encountered between 100 cm and 230 cm depth.

All the thirteen pieces belong to Period – I. The finding of shell bangle pieces along with sawed conch p ieces have been reported from excavations conducted at various places in Tamilnadu viz. Kodumanal, Karur, Alagankulam and Thirukampuliur. The sites yielded decorated shell pieces in plenty. The Sangam literature highlights the practice of recovering conches from seas. In those period unmarried damsels used to wear ornaments made of shell and the possession of such material was recognized as fertility of life, it states.

Beads

The collection of beads from Teriruveli excavation accounts to sixteen, which includes carnelian beads, glass green beads, paste beads and terracotta beads. The shapes exhibited by the Carnelian beads are spherical, Cylindrical, Gooseberry and barrel. Both two periods yielded eight beads each. The source mineral carnelian for making beads might be brought from Gujarat State through sea route or land route. Six Carnelian beads and one were collected from the trench-6 and 3 respectively. Trenches 1, 2 and 4 yielded one terracotta beads each. Generally beads were collected between 30 m and 189 cm depth. Carnelian beads belong to Period – I and terracotta beads belong to period – II.

Terracotta Objects:

a. Terracotta Lids

The terracotta lids of Teriruveli excavation are mostly polished black ware variety. Besides, few red slipped variety as well as coarse red ware variety lids were also encountered during excavation. Some red ware variety lids were also encountered during excavation. Some lids decoration on the surface and other looks plain. Totally, thirty-two terracotta lid pieces were found in the trenches. The maximum number of lid pieces

was collected from trench-7 and 3 i.e. seven in each trench. It might be used to close the terracotta utensils a meant to store cooked food and drinking water. In between 27 cm and 246 cm depth lid pieces were found to occur. Of the thirty-two terracotta lids, nineteen and thirteen belong to Period-I and Period-II respectively.

b. Spindle Whorl

Only one spindle whorl was found in the trench-6 of Teriruveli. On account of this we are not in a position to visualize the weaving activity in this region. The occurrences of spindle whorls have been reported from excavations conducted at Arikamedu, Alagankulam, Uraiyur, Alagarai, Kodumanal, Karur and Boluvampatti.

c. Spouts

The spouts of Teriruveli are little lengthier in shape than spouts collected from various excavations viz Kodumanal, Alagankulam and Thirukampuliyur. They are mostly black and red ware and coarse red ware variety. The occurrences of spouts were noticed between 12 cm and 198 cm. Six of the collected spouts are pertaining to Period-I and four belong to Period-II.

d. Stand

In the course of excavation at Teriruveli, few big and small size terracotta stands were found. Most of them are in broken stage. Such kind of stands has been encountered in various excavations of Tamilnadu. Stands collected at Teriruveli are black ware variety. The excavations of Mohenjondaro and Harappa have yielded terracotta stand of such variety. Trench-5 and 6 yielded five and four terracotta stands respectively. Similarly, trench-3 and 7 yielded one and two stands. The height of the stands ranges from 3.5 cm to 6.5 cm. Diameter of the upper

portion of stands is between 4 cm and 12 cm. The occurrences of stands encountered from the depth of 58 cm up to 130 cm. Of the total collections, ten terracotta stands belong to Period-I and two pertaining to Period-II.

e. Handles

The occurrences of broken handles are noticed at the depth of 119 cm in the trench-5. Totally four terracotta handles were found in this excavation. All the handles are more or less semi-circle in shape. Since they are fragmentary the exact usage is not known.

f. Perforated Pot

In the course of excavation at Teriruveli eight perforated potsherds were collected from trenches. The holes are evenly distributed and varying in sizes. The occurrences of perforated sherds are found to be associated with both Period-I and Period-II. The usage of this pot might be to filter (or drain) water from cooked rice. Otherwise, it might be used for filtering toddy.

g. Hip-Hops

The collection of hip-hops accounts to 67 front all the trenches. They are found to be in smaller and bigger sizes. Of the total collection, trench-2 alone yields 28 hip-hops. It is made out of potsherds and arrived round shape after grounding along the periphery. Most of them are black and red variety and red variety. It was used by the children and girls for playing a game known as *pandi.* Also, it might be used as wheel for toy cart.

h. Terracotta Figurine

The finding of terracotta figurines have been reported almost from all the excavations conducted in Tamilnadu. During excavation at Teriruveli,

a terracotta leg portion of a human figurine was recovered at 105 cm from the trench-6. The length and breadth of the leg part is measured as 65 and 23 cm respectively. The thickness varies uniformly from top to bottom.

i. Terracotta Bird (DOVE)

The occurrences of terracotta bird figures have been reported along with figurines of human, God and bGoddesses in various excavations conducted in Tamilnadu. A terracotta lid portion with a dove at the top of the lid for firm holding was collected at 81 cm in the trench-7 of Teriruveli excavation. It may be a dove. It is noteworthy to mention excavation at Kodumanal where similar kind of terracotta dove figure in lid was collected.

j. Bones

Almost all excavation conducted in Tamilnadu have exposed arrowhead made of bone, other bone artifacts and bones of domesticated animals. Excavation at Teriruveli yielded nine bone pieces, which include jaws with teeth of a animal. The occurrences of bones noticed in between 10 cm and 139 cm depth.m

k. Microlithic Tools

In Tamilnadu microlithic tools are mainly found in and around the sawyerpuram village in Tuticorin district, Meynanapuram, Puddantharuvai and Kudiraimozhiteri are some of the other important sites yielding microlithic flakes and tools. During excavation at Teriruveli, two microlithic tools were collected at 57 cm depth in the trench-7. Also, the core sample for making microlithic tools was collected from other trench. The period of microlithic tools are determined as 30 BCE to 100 BCE. In this excavation a piece of Northern Block Polised ware was also recovered at 45 cm. depth.



CONCLUSION

1. Dwelling

Excavation at Teriruveli has not exposed any kind of dwellings. However, the finding of grooved tiles suggests that the people at Teriruveli lived in dwellings, which as roofs paved with grooved tiles. The hole provided in the tiles might be for fixing it to wooden planks with help of iron nails.

2. Food Habits

In the course of excavation traces of grains were not encountered. But, the occurrences of flat terracotta object, probably to make pan cake *doasi* or *chapatti* ensures that food prepared by flour of grains like Ragi, Millet and Maize was common at Teriruveli. The depiction of animals and its parts on the potsherd in graffiti from makes us to assume that the people who inhabited Teriruveli might have also taken fish and tortoise as food. Otherwise they might have reared fish, dove and tortoise. Tortoise in general depicts the wealth.

3. Amusement

In ancient Tamilnadu sports like Kolattam, Silambattam, Yoilattam, Kummi, Dice and Chess was well familiar and prevalent elsewhere. In the excavation at Teriruveli no evidences, which throw light on these sports, were encountered. However, the collection of hip-hops, numbering fifty indicate that the sport 'Pandi' was one of the favourites here.

4. Religion

The occurrences of religious monuments and antiquities from excavation and exploration are key to know the religion of the area and the worship practice. Excavation at this village had yielded potsherds with symbol of Sun, Trident, Tree and Swastilk in graffiti form. It reveals the existence of worshipping nature was prevalent here in ancient period.

5. Ornaments

Generally, excavation in Tamilnadu had yielded ornaments of various materials, which are very helpful in understanding the type of ornaments used in ancient period. The yielding of terracotta beads, semiprecious stone beads, shell bangle pieces from the excavation at Teriruveli also give some clues on the type and material of ornaments worn by the women in the society.

6. Literacy

Seven potsherds with Brahmi script collected from the excavation reveals the status of education and scholars who lived in this region. On the basis of the inscribed pot sherds found in the excavation, it is understood that Teriruveli flourished as an important trade Centre.

7. Industry

In general, the finding of antiquities from the excavation in Tamilnadu throw light on the industries like weaving, metallurgy, bead making, fishing and pot making flourished in ancient time. The occurrences of deer horn and animal bones in Teriruveli reveals the fact that hunting and fishing were the predominant occupation of this region. In support of these fact potsherds with figure of fish in graffiti form and

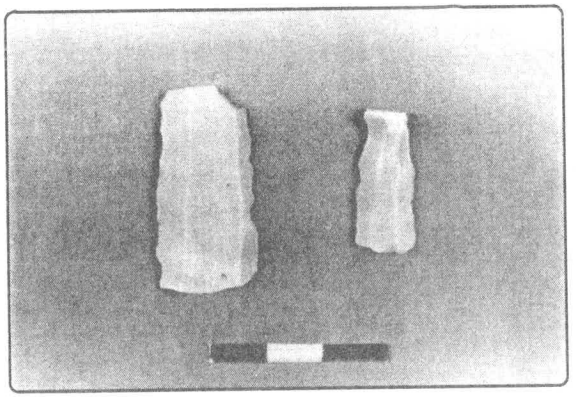
two microlithic tools (TIV-7) were collected. The collection of potteries and terracotta figurines are key to understand the flourished pot making industry while beads of various materials throw light on the bead making industry at Teriruveli. The spindle whorls collected here give us evidences to know about the weaving industry at Teriruveli in early historical period.

8. Trade contact

The unearthed Rouletted sherds, Amphorae sherds from excavation throws light on the trade contact of this region with the Westerners, in particular, Romans. Likewise, finding of N.B.P ware at Teriruveli reveals the trade contact with regions like Gangetic plains in North India. The potsherd with figure of boat in graffiti form suggest that sea route trade might have existed between this region in Tamilnadu and Mediterranean region.

To Conclude, from the excavations at Teriruveli, it is revealed that once it was a flourishing trade centre.

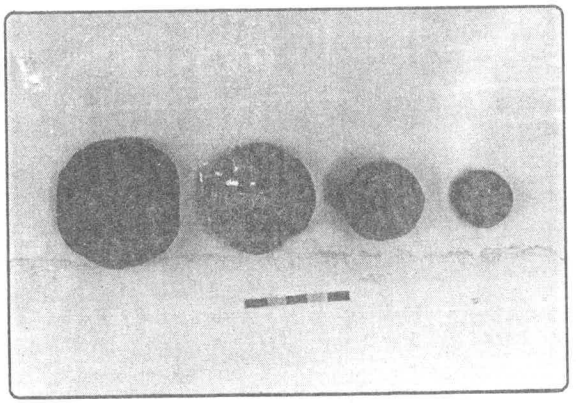
Under the guidance of A. Abdul Majeed, with the assistance of N. Marxia Gandhi, R. Selvaraj, S. Santhalingam and C.Chandravanan.



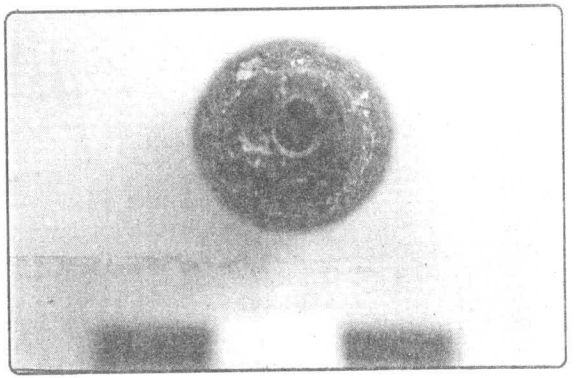
Microlithic Tool



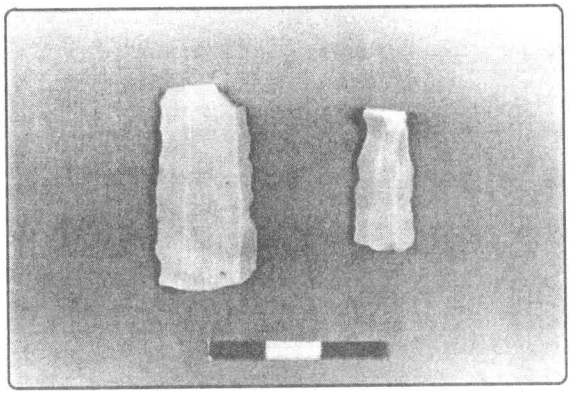
Copper Object



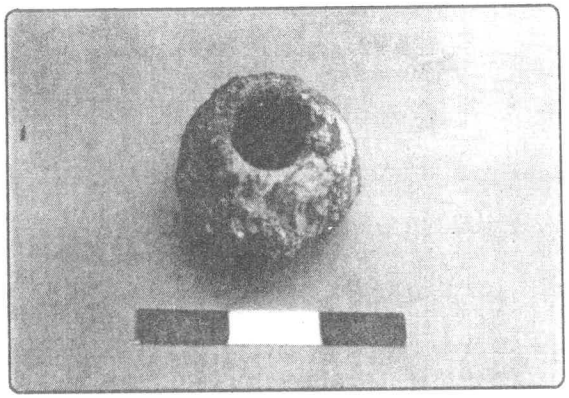
Terracotta Hip-Hop



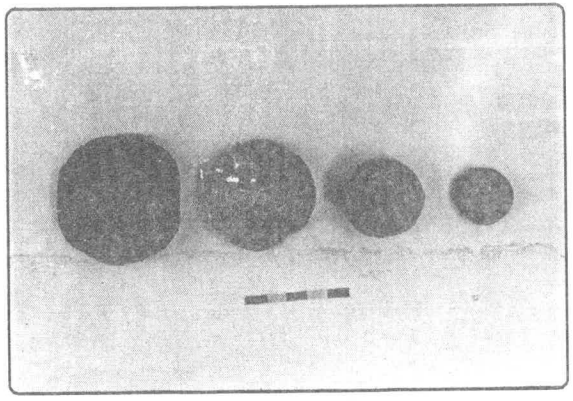
Terracotta Bead



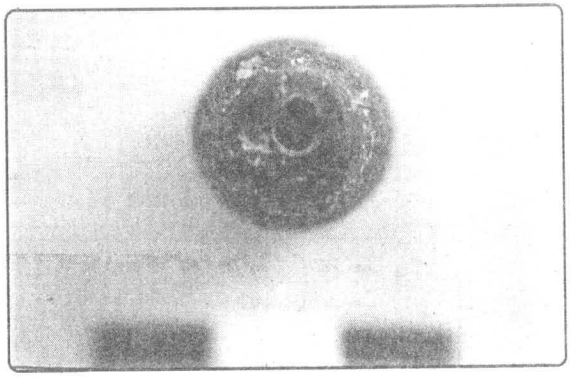
Microlithic Tool



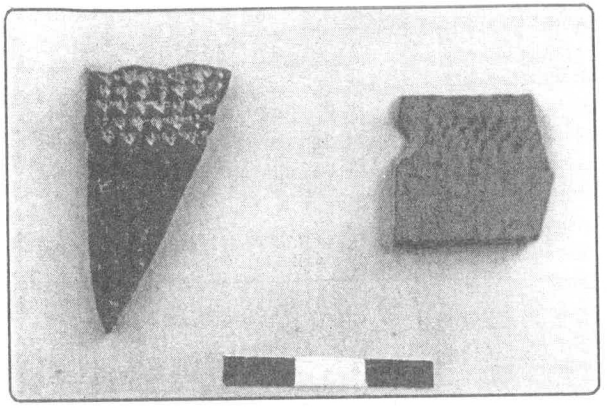
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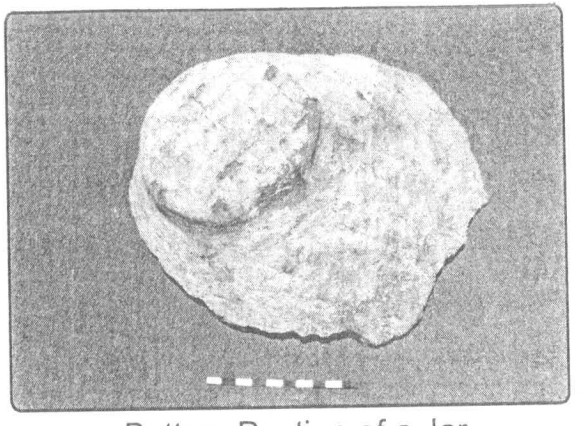
Terracotta Hip-Hop



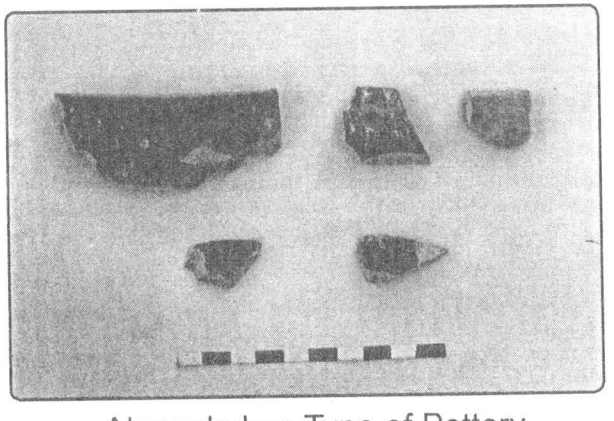
Terracotta Bead



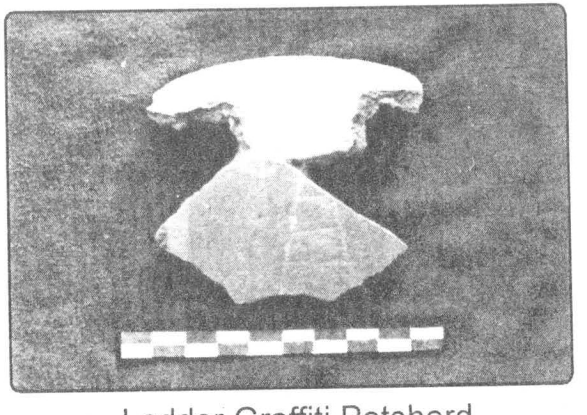
Rouletted Sherds



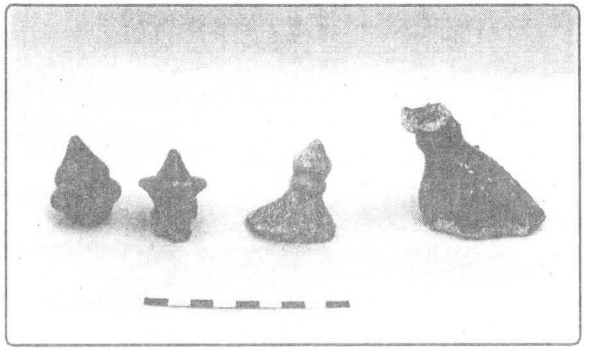
Bottom Postion of a Jar



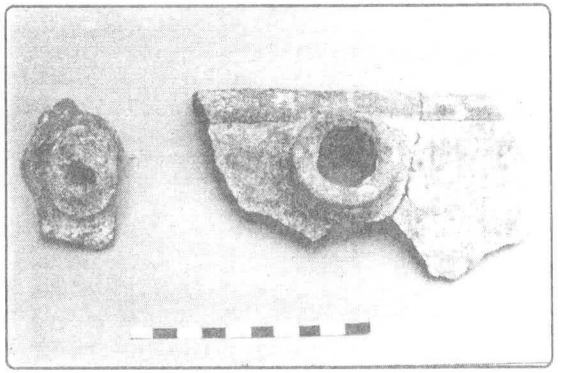
Alagankulam Type of Pottery



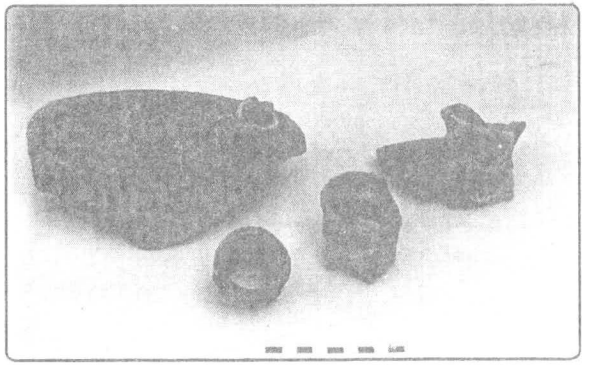
Ladder Graffiti Potsherd



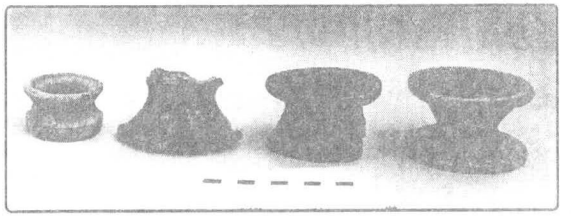
Lids



Spouts

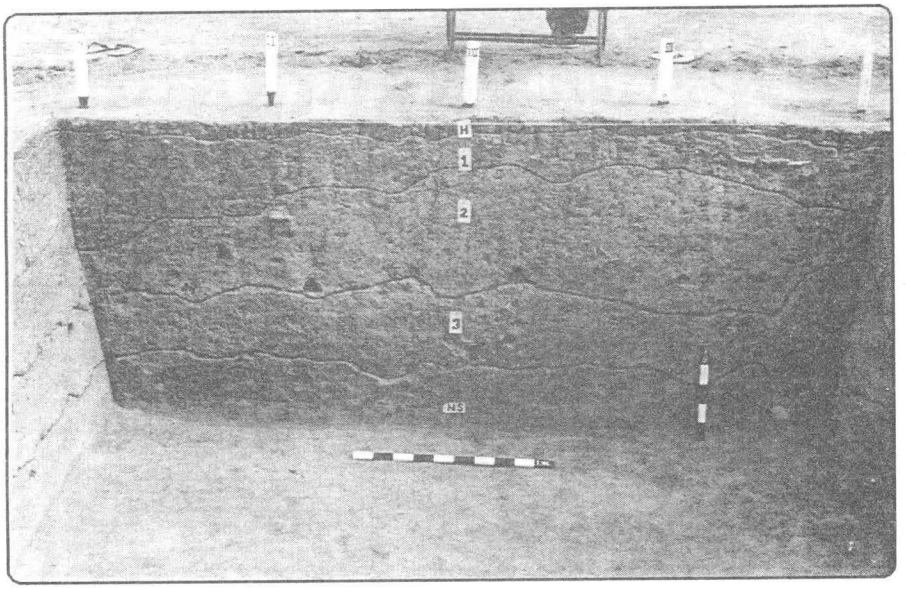


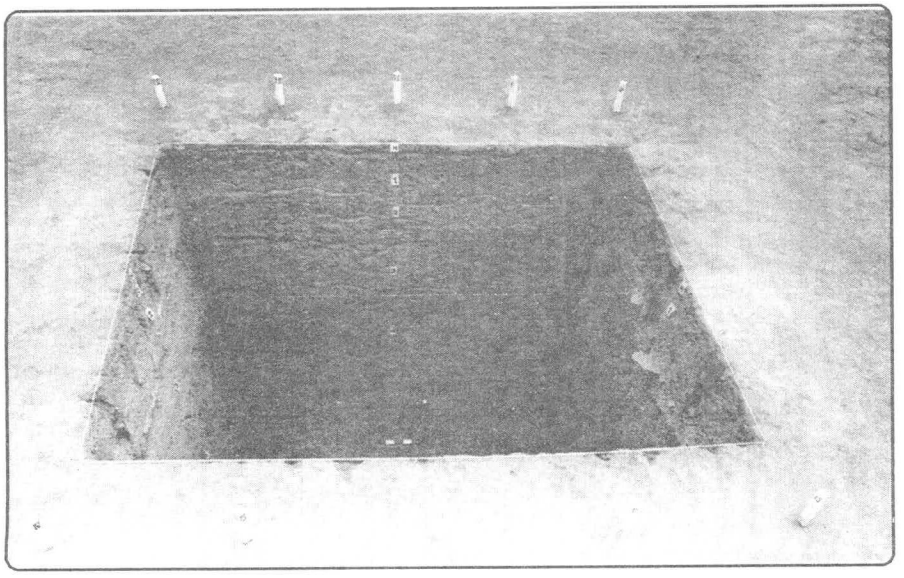
Spouts

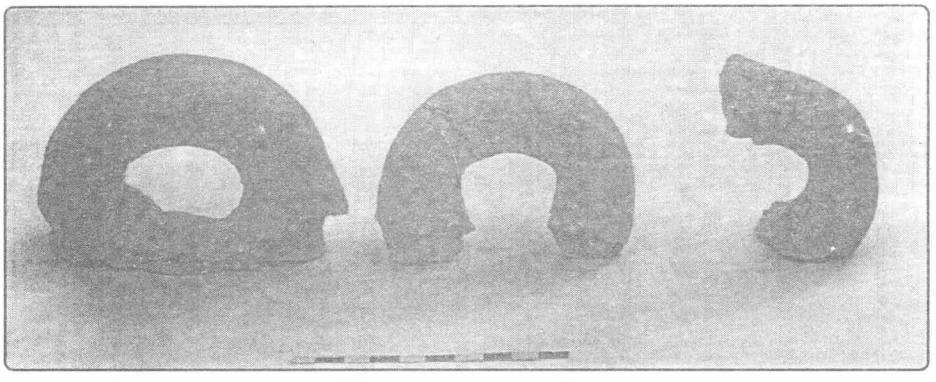


Ring Stands

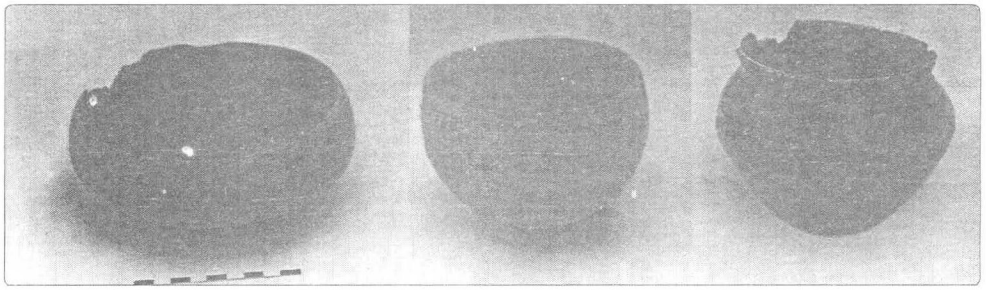
Excavated Trenches



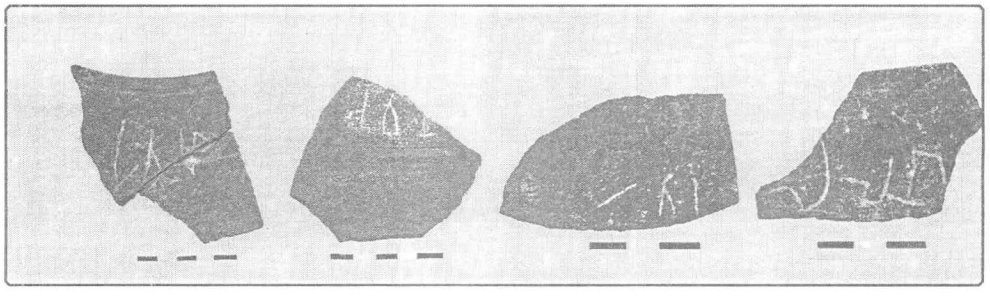




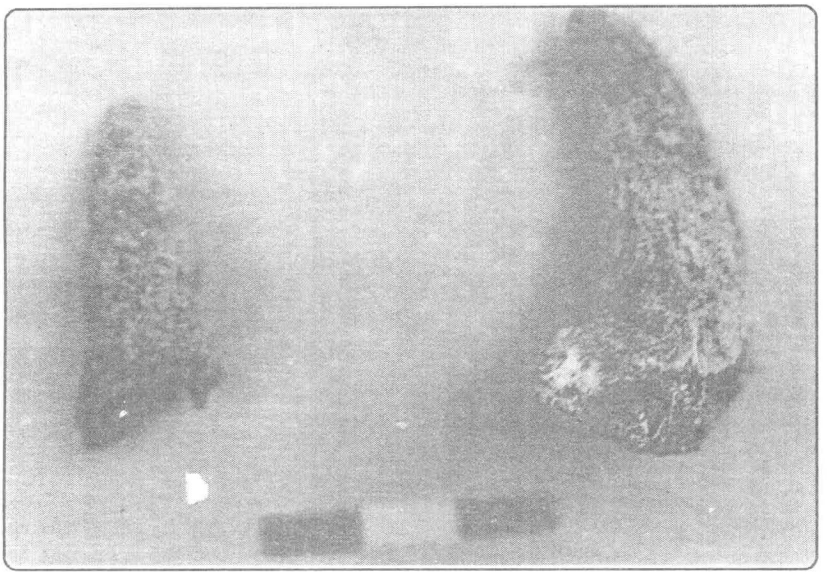
Terracotta handle



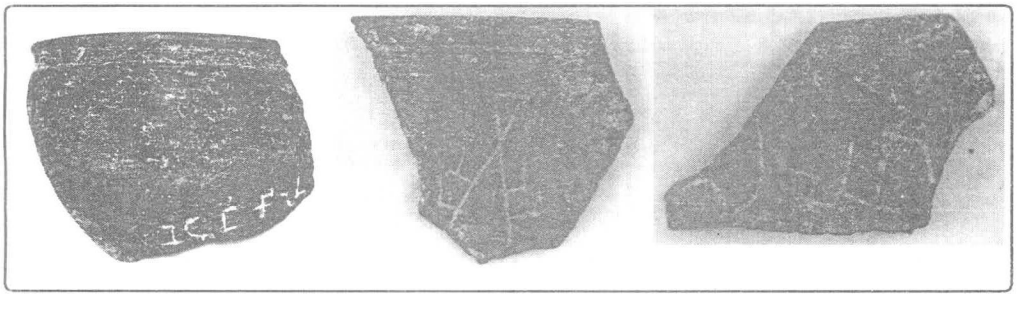
Full Shaped Dish, Bowl and Pot



Inscribed Potsherds

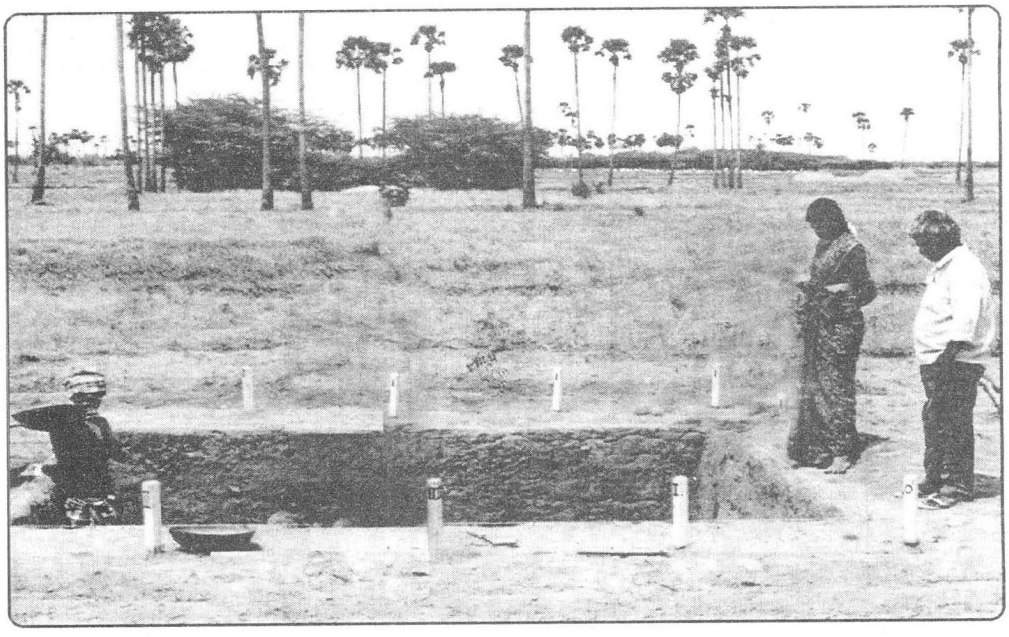


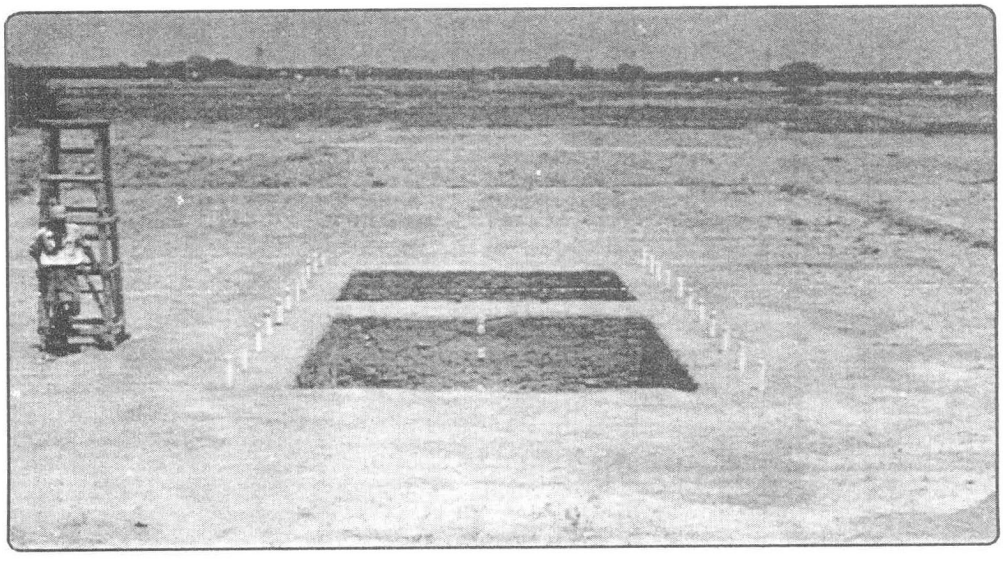
Deer Horns



Inscribed Potsherds and Graffiti Potsherd

Excavated Trenches









GOVERNMENT OF TAMILNADU
DEPARTMENT OF ARCHAEOLOGY
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2011