
Iron Age/Megalithic Remains in Kollam District, Kerala: Fresh Investigations and Inferences on Distribution Pattern

Arun Kumar K. S.¹, Abhayan G. S.¹ and Rajesh S. V.¹

¹. Department of Archaeology, University of Kerala, Kariavattom Campus, Thiruvananthapuram, Kerala – 695 581, India (Email: arunkumarks105@gmail.com; abhayangs@gmail.com; rajeshkeraliyan@yahoo.co.in)

Received: 18 August 2021; Revised: 27 October 2021; Accepted: 29 November 2021

Heritage: Journal of Multidisciplinary Studies in Archaeology 9 (2021-22): 270-287

Abstract: *Megalithism, or huge-stone burial practice, is a significant cultural practice worldwide. Its varied manifestations have been available in different cultural contexts since the late stone age. The Megalithic practice in Kerala is associated with the early Iron Age, which shares many characteristics with their counterparts in the Indian subcontinent. The Megalithic burial monuments and associated materials are the distinctive landmarks of the Iron Age in Kerala, while there is a lack of clear-cut evidence of habitation or settlement. The State of Kerala produces evidence of a wide variety of Megalithic monuments, especially in the north Kerala region. A significant share of Megalithic sites found in southern Kerala has been accidentally discovered. The majority of the southern part of Kerala is unexplored, and a detailed database of sites is not available. Kollam district in south Kerala is one such area where minimal research has been conducted on Megaliths. The present paper attempts to document the Megalithic monuments in this region and identify their typology, distribution and characteristic features with the help of a full-coverage village-to-village survey.*

Keywords: Urn, Cist, Menhir, Iron Age, Excavations, Burial Typology, Distribution

Introduction

The term 'Megaliths' refers to the monuments built of large stones. The term has a restricted usage and is applied only to a particular class of monuments or structures, which are built of large stones and have some grave-like, commemorative or ritualistic association. The Indian Megalithic burials and monuments generally belong to the Iron Age and are largely sepulchral in character. However, the sepulchral aspect of this tradition was not a new feature of the Iron Age, the antiquity of burial practices in India is dated back to the Mesolithic period (Allchin and Allchin 1982), and the marked burials began to appear in the Neolithic period. During the Neolithic and Chalcolithic periods, the tradition of burying the dead continued to exist in different parts of the Indian subcontinent as an antecedent stage of Megalithism (Rajan 1994). This tradition became widely popular during the Iron Age, mostly in the southern part of India and

to some extent in northern India, and it continued to survive even during the historical and up to modern times in a few pockets of central, southern and north-eastern India.

Colonel Colin Mackenzie noticed the Megalithic culture in India and accidentally found some Megalithic remains in Karnataka (Paddayya 2006). In 1823, Babington published for the first time an account of the Megalithic tombs he had excavated in the Malabar region in Kerala. It was followed by a host of explorations and excavations by various agencies and scholars, for which reviews are available (Peter 2002; Darsana 2010; Abhayan 2018). The Megalithic period in Kerala is represented largely by burials, but habitation evidence is almost unavailable. Apart from the burial types found in the other southern Indian States, the northern Kerala region exhibits unique types of laterite-made burial architecture, such as rock-cut chambers, umbrella stones, capstones, and hood stones.

Kollam: Previous Studies

Kollam is one of the southern districts of Kerala State, sharing its boundary with Thiruvananthapuram district in the south, Alappuzha district in the north, Pathanamthitta district in the north-east, Tamil Nadu in the east and the Arabian Sea in the west. The Kollam district is composed of six taluks: Pathanapuram, Punalur, Kottarakkara, Kunnathur, Karunagapally and Kollam.

Despite the presence of Megalithic burials and the strategic location of Kollam, this region has received limited attention from the point of view of Megalithic/Iron Age research. In the Kollam district, 35 Megalithic sites (excavated and explored) were reported previously. Mangadu is one of the important excavated sites in the Kollam district. The cultural assemblage of the urn burial site at Mangadu belongs without any doubt to the Megalithic order of south India, but the monument is different in many respects from its counterparts in other places. The Megalithic monuments at Mangadu consisted of 28 hard, compact and uneven laterite blocks within an area of approximately 10 × 10 metres (Satyamurthy 1992). The radiocarbon determinations from the Megalithic burial of Mangadu, Kollam district of Kerala are cal BC 1299- 902 (100%) (BS-958), and cal BC 1289- 1282 (0.37%) cal BC 1269- 821 (99.63%) (BS-957) (Satyamurthy 1992; Abhayan 2018). This is the earliest date assigned to the Megalithic burials in Kerala so far. Other excavated sites in Kollam are Poredam (Rajendran 1993), Valiyapadam (IAR 1989-1990: 45), Arippa (Rajendran and Badam 1995), Karimpalur (IAR 1991-1992: 126), and Thazhuthala (The Hindu 2009) (Table 1). The reports of the excavations, except Mangadu, are preliminary in nature. Hence, detailed information on contexts, burial architecture, and material remains is not available. The major Megalithic burial type reported from Kollam is urn burials, which are followed by cists, menhirs, dolmens and stone circles. Beads of semiprecious stone and glass, bone pieces, metal objects (iron, copper and gold), and pottery (Black and Red Ware, Red Ware and Black Polished Ware) (Rajendran 1993) were unearthed from these burials (Table 1). Recently, Megalithic cists have been excavated in the Pathanamthitta district, which is a neighbouring district of Kollam (Abhayan et al. 2021; Ambily 2021b).

Table 1: Excavated Megalithic Sites in Kollam District, Kerala

Sl. No	Site	Geo-coordinates	Taluk	Type of Monument	Materials Reported from the Sites	References
1	Mangadu	N 08° 55' 13" E 076° 36' 57"	Kollam	Cairn Circles, Urn burial	Red ware, Carnelian beads, iron wedge, knife, sickles, charred bones and charcoal	Satyamurthy 1992: 25
2	Valiyapadam		Kunnathur	Megalithic Burials	Rock slabs, iron implements like knife, axe, dagger, and pot	IAR 1989-1990: 45
3	Poredam		Kottarakkara	Megalithic Remains	Red ware, Micaceous Gray Ware, Black and Red Ware pots, sickles, iron axes, and child fossil bones from pots	IAR 1989-1990: 45
4	Arippa	N 08° 50' 07" E 077° 01' 35"	Kottarakkara	Cist	Red Ware, Black-and-Red Ware, Black-Slipped Ware, Red-Slipped Ware, Grey Ware, and various iron objects	IAR 1990-1991: 33
5	Karimpalur		Pathanapuram	Urn burial	Large jar, vases, and iron axe	IAR 1991-1992: 126
6	Thazhuthala		Kollam	Cist	Melted iron, granite slab, iron weapons, Black and Red Ware	The Hindu 2009

The reported Megalithic remains from Kollam are mostly discovered accidentally. Hence, limited information is available on their burial monument typology and distribution. The sites are reported in various journals, books, newspapers, *Indian Archaeology – A Review*, etc. In many cases, not only are the geo-coordinates not given but even details such as distance and direction from the nearest village and the name of the district are not provided. As a result of the detailed survey of the published works on the Megalithic remains of Kollam, a total of 35 reported sites were documented (Table 2). These 35 sites include the recent explorations by Vinuraj (2016), which reported 11 new Megalithic sites in the Kollam district (Table 2).

Table 2: Previously Reported Megalithic Sites in Kollam District, Kerala

Sl. No.	Site	Geo-coordinates	Type of Monuments	Materials Reported	Reporter	References
1	Pallavaeer		Cist and Cairn Circles		Department of Archaeology, Government of Kerala	IAR 1960-1961: 58
2	Kollam		Menhir and Topikallu*		T. Sathyamurthy	IAR 1992-1993: 112
3	Kakkottumula		Menhir		P. Rajendran	IAR 1992-93: 113
4	Mangadu		Menhir		P. Rajendran	IAR 1992-1993: 113
5	Trikkadavoor		Menhir		P. Rajendran	IAR 1993-1994: 136
6	Abhayagiri		Menhir and Megalithic Iron-Ore Smelting	Crucibles, Iron slag, Smelting blocks of iron and charcoal	P. Rajendran	IAR 1995-1996: 45
7	Aeram	N 08° 56' 44.2788" E 76° 53' 45.1788"	Cist	Pottery and iron implements.	P. Rajendran	IAR 1996-1997: 189
8	Anjirandil		Menhir	-	Department of Archaeology, Government of Kerala	Satyamurthy 1992: 25
9	Anjirandil		Topikallu*		-Do-	Satyamurthy 1992: 25
10	Chittiyam/Chittayam	N 08° 57' 25.7976" E 76° 36' 39.8772"	Menhir		-Do-	Satyamurthy 1992: 25
11	Kadavoor	N 08° 55' 21.0756" E 076° 35' 45.7908"	Menhir		-Do-	Satyamurthy 1992: 25

12	Panayam		Menhir		-Do-	Satyamurthy 1992: 25
13	Pavitreshwaram		Menhir		-Do-	Satyamurthy 1992: 25
14	Doredam		Menhir		Yashodhar Mathpal	Liju 2006: 49
15	Perinad		Menhir		State Archaeology, Kerala	Satyamurthy 1992: 25
16	Sathyanpara	N 08° 58' 45.4726" E 076° 58' 54.156"	Menhir		P. Rajendran	The Hindu 2005
17	Kuvakkad		Dolmen, Cist		Rajan Gurukkal and M.R.Varier	Liju 2006: 49
18	Anchal		Urn burial		State Archaeology, Kerala	Satyamurthy 1992: 25
19	Maloor	N 09° 05' 29.2524" E 76° 49' 00.2568"	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 83
20	Chithara	N 08° 48' 51" E 76° 58' 14"	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 84
21	Madathara	N 08° 49' 05" E 077° 00' 42"	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 85
22	Kanjiramvila	N 08° 54' 22.2408" E 77° 04' 14.6316"	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 85
23	Ummannur		Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 86
24	Anchal	N 08° 56' 21.85" E 76° 53' 47.46465"	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 87
25	Chinnakkada	N 08° 53' 06.2268" E 76° 35'	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 88

		29.2416''					
26	Villumala	N 09° 03' 44.32'' E 76° 58' 14.43''	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 89	
27	Abhayagiri	N 08° 57' 48'' E 77° 02' 16''	Urn burial	Urn burial	Vinuraj	Vinuraj 2016: 90	
28	Pullupara	N 08° 57' 33'' E 76° 36' 33''	Menhir		Vinuraj	Vinuraj 2016: 91	
29	Verukuzhy	N 09° 03' 52'' E 76° 58' 50''	Cist		Vinuraj	Vinuraj 2016: 92	

*The term 'Topikallu' is used for referring to stone slab in the published sources.

Recent Explorations

In order to document the Megalithic vestiges of the Kollam district, the first author conducted a systematic village-to-village survey in the Kollam district as part of the PhD programme and Kerala Megalithic Gazetteer Project. For the study, 1347 localities (in 64 Grama Panchayath and 6 Municipalities) were subjected to a village-to-village survey. The recent explorations conducted in the study area revealed 58 new Megalithic sites (Figure1). Out of 35 previously reported Megalithic sites, only 16 sites were visited in the present survey. The rest of the previously reported sites were either destroyed or still untraceable due to the lack of geo-coordinates. However, as a result of recent surveys, the number of Megalithic sites in the study area increased from 35 to 93. Most of the burial monuments discovered from the survey are in destroyed condition. Geo-coordinates of previously reported sites are provided only for those that have been revisited (Table 2). Many previously documented sites are destroyed and hence no Megalithic remains were found, or local residents are unaware of the existence of Megaliths.

In this recent exploration, the common type of Megalithic remains encountered in the Kollam district is urn burials (24) and cist burials (24) and is followed by menhirs (8) and stone circles (2). Most of the Megalithic sites were reported from Pathanapuram (29) and are followed by Punalur (12), Kottarakkara (11), and Kollam (6) taluks (Table 3). The Megalithic sites were not discovered in Karunagapally and Kunnathur taluks in the Kollam district (Arun Kumar et al. 2021).

Cist Burials

From the study area, 24 cist burial sites were discovered. Most of the cist burials are reported from Pathanapuram (18) and are followed by Punalur (4) and Kottarakkara

(2). The cist burials of the Kollam district are mostly located in the hilly areas and 78 m to 170 m above the mean sea level. The granite/charnockite formations can be seen in the areas where the cists are located.

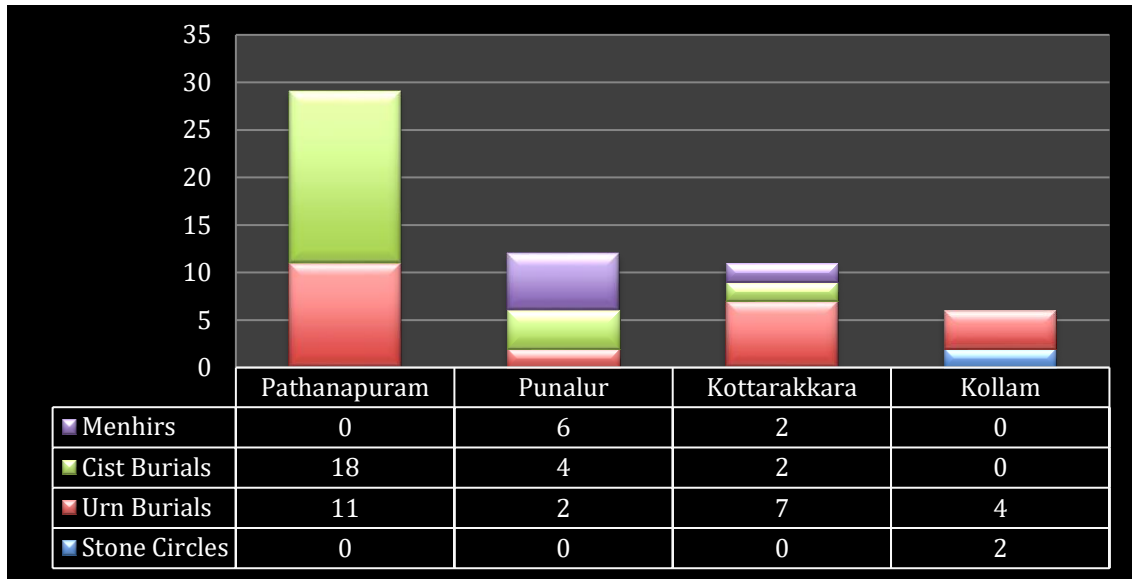


Figure 1: Recently Reported Megalithic Sites in Kollam District, Kerala

Table 3: Recently Reported Megalithic Sites in Kollam District, Kerala

Sl. No.	Site	Geo-coordinates	MSL	Taluk	Type
1	Valiyapadam	N 09° 01' 18.3432" E 076° 37' 55.3188"	30 m	Kollam	Urn Burial
2	Mangadu Loc- 1	N 08° 55' 13" E 76° 36' 57"	10 m	Kollam	Stone Circle
3	Mangadu Loc- 2	N 08° 54' 57" E 076° 37' 15"	10 m	Kollam	Stone Circle
4	Meenambalam	N 08° 48' 43" E 076° 44' 16"	56 m	Kollam	Urn Burial
5	Meenambalam Loc-2	N 08° 48' 41" E 076° 44' 18"	56 m	Kollam	Urn Burial
6	Bharanikkavu	N 09° 03' 32" E 076° 38' 50"	21 m	Kollam	Urn Burial
7	Kottathala Kizhakku	N 09° 01' 28.69" E 076° 45' 28.37"	94 m	Kottarakkara	Menhir
8	Eliyodu	N 08° 58' 21.94" E 076° 44' 17.95"	103 m	Kottarakkara	Menhir
9	Thalachira Loc-1	N 08°52' 57.83 " E 076°45' 53.98 "	76 m	Kottarakkara	Urn Burial
10	Thalachira Loc-2	N 08°52' 57.83 " E 076°45' 53.98 "	74 m	Kottarakkara	Urn Burial
11	Malanada	N 09°01' 26.94 " E 076°41' 49.62 "	85 m	Kottarakkara	Urn Burial
12	Veykal Loc- 1	N 08°52' 13.98"	96 m	Kottarakkara	Cist

			E 076° 51' 52.21"			
13	Veykal Loc- 2		N 08° 51' 14.49" E 076° 55' 25.14"	96 m	Kottarakkara	Urn Burial
14	Vettikavala Loc-1		N 09° 00' 00" E 076° 49' 51"	85 m	Kottarakkara	Urn Burial
15	Vettikavala Loc- 2		N 09° 00' 01" E 076° 49' 50"	85 m	Kottarakkara	Urn Burial
16	Arkkannur Loc-1		N 08° 52' 26.148" E 76° 50' 34.278"	45 m	Kottarakkara	Urn Burial
17	Arkkannur Loc-2		N 08° 52' 56.2296" E 076° 50' 30.228"	45 m	Kottarakkara	Cist
18	Kallara Pacha Loc-1		N09° 03' 38.03" E076° 53' 20.19"	134 m	Punalur	Cist
19	Kallara Pacha Loc-2		N 08° 52' 48.36" E 076° 58' 40.13"	137 m	Punalur	Menhir
20	Kochukulam		N 08° 56' 58.2324" E 076° 59' 36.87"	128 m	Punalur	Cist
21	Sathyanpara		N 08° 58' 45.4726" E 076° 58' 54.156"	186 m	Punalur	Menhir
22	RPL 2F Colony Unit Loc-1		N 08° 57' 20.754" E 077° 03' 06.948"	102 m	Punalur	Menhir
23	RPL 2F Colony Unit Loc- 2		N 08° 57' 20.196" E 077° 03' 07.038"	90 m	Punalur	Menhir
24	Ettam Block		N 08° 58' 34.5648" E 076° 59' 08.5488"	202 m	Punalur	Menhir
25	Anakkulam Loc 1		N 08°51' 01.46" E 076° 58' 54.73"	108 m	Punalur	Cist
26	Anakkulam loc-2		N 08° 53' 02.88" E 076° 58' 54.11"	112 m	Punalur	Cist
27	Ottakkal		N 08° 56' 47" E 077° 02' 20"	203 m	Punalur	Urn
28	Urukunnu		N 08° 59' 17" E 077° 01' 56"	139 m	Punalur	Menhir
29	Panayamchery		N 08° 56' 21.85" E 076° 53' 47.8464"	82 m	Punalur	Urn
30	Karimpalur		N 08° 49' 37.31" E 076° 51' 48.37"	86 m	Pathanapuram	Urn
31	Porunthakuzhy		N 09° 05' 50.02" E 076° 53' 42.68"	87 m	Pathanapuram	Cist
32	Vattakkavu		N 09° 05' 49.53" E 076° 53' 42.04"	82 m	Pathanapuram	Cist
33	Chithelvetty Loc-1		N 09° 06' 37.44" E 076° 52' 56.14"	90 m	Pathanapuram	Cist
34	Chithelvetty Loc- 2		N 09° 06' 37.41" E 076° 52' 56.11"	96 m	Pathanapuram	Cist
35	Chithelvetty Loc-3		N 09° 06' 42.40" E 076° 53' 06.59"	87 m	Pathanapuram	Cist

36	Chithelvetty Loc-4	N 09° 06' 48.12" E 076° 53' 11.13"	79 m	Pathanapuram	Cist
37	Pavumba Loc-1	N 09° 03' 38.44" E 076° 53' 19.89"	66 m	Pathanapuram	Urn
38	Pavumba Loc- 2	N 09° 03' 38.39" E 076° 53' 19.73"	67 m	Pathanapuram	Urn
39	Nidhippara Loc-1	N 09° 03' 38.03" E 076° 53' 20.19"	134 m	Pathanapuram	Cist
40	Chachipunna	N 09° 05' 11.73" E 076° 54' 16.27"	120 m	Pathanapuram	Cist
41	Kottakkayam	N 09° 04' 14.87" E 077° 00' 47.56"	124 m	Pathanapuram	Cist
42	Chethady Loc-1	N 08° 01' 21" E 076° 50' 26"	75 m	Pathanapuram	Urn
43	Chethady Loc-2	N 08° 01' 20" E 076° 50' 27"	75 m	Pathanapuram	Urn
44	Kalloorkonam Loc-1	N 08° 23' 08.97" E 076° 58' 43.21"	55 m	Pathanapuram	Urn
45	Kalloorkonam Loc-2	N 09° 02' 13" N 09° 02' 13"	57 m	Pathanapuram	Urn
46	Puliayyam Loc- 1	N 09° 06' 30" E 076° 52' 37"	170 m	Pathanapuram	Cist
47	Puliayyam Loc- 2	N 09° 06' 27" E 076° 52' 41"	171 m	Pathanapuram	Urn
48	Kottumukku	N 09° 06' 35" E 077° 02' 04"	104 m	Pathanapuram	Cist
49	Vattappara Loc-1	N 09° 03' 37" E 076° 48' 38"	78 m	Pathanapuram	Cist
50	Vattappara Loc- 2	N 09° 03' 31" E 076° 48' 37"	76 m	Pathanapuram	Urn
51	Ambalanirappu	N 09° 03' 36" E 076° 48' 49"	83 m	Pathanapuram	Cist
52	Porunthakuzhy Loc- 2	N 09° 05' 33" E 076° 54' 07"	87 m	Pathanapuram	Cist
53	Mullumurupu Jn	N 09° 06' 35" E 076° 56' 39"	97 m	Pathanapuram	Cist
54	Panayanath	N 09° 04' 10" E 076° 48' 10"	30 m	Pathanapuram	Urn
55	Karyara	N 09° 02' 33" E 07° 652' 53"	72 m	Pathanapuram	Urn
56	Nidhippara Loc- 2	N 09° 03' 34.03" E 076° 50' 26"	130 m	Pathanapuram	Cist
57	Thondiyanmannu	N 09° 06' 38" E 076° 53' 225"	98 m	Pathanapuram	Cist
58	Maloor	N 09° 05' 16.2312" E 076° 48' 58.824"	76 m	Pathanapuram	Cist

In the present explorations, single-chambered cists and double-chambered cists were discovered. The cists are mostly single-chambered. Based on morphology, the cists in the study area are rectangular cists (Figure 2) and swastika-patterned cists (Figure 4). The present survey did not reveal any indication of antechambered cists from the study area. However, it is difficult to assess the presence of antechambers without excavations. The size of the cists varies from 170 cm to 330 cm in length and 100 cm to 250 cm in width. The cists are found in the north-south direction (12 nos.) and east-west direction (6 nos.), and the directions of the rest of the orthostats (4 nos.) are unidentified. Most of the cists were found in a poor state of preservation, with 11 cists in completely destroyed condition, 8 cists in partially destroyed condition, and 3 cists in good condition.



Figure 2: Rectangular Cist from Kottumukku



Figure 3: Swastika Patterned Cist from Porunthakuzhy

Urn Burials

The urns (*Nannangadi*) are the most common type of Megalithic burial in the Kollam district. Urns are usually low-quality Red Wares. Even though they are huge enough to accommodate skeletal remains, they appear to be used for secondary burial purposes. The urns are covered with terracotta lids or stone slabs and sometimes marked with stones and cairn circles.

In recent explorations, 24 new urn burial sites were discovered in the study area. Most of them were reported from Pathanapuram taluk (11) and are followed by Kottarakkara (7), Kollam (4) and Punalur (2). The urn burials from the study area were found in the area of 21 m to 203 m above the mean sea level.

An urn burial from Pavumba Loc-1 (Figure 4) is covered with a terracotta lid, and an urn burial from Kallorkonam Loc-1 (Figure 5) is covered with a stone slab. Six urn burials have a globular base and chain-like applique decorations on the neck portion of the exterior.

The explorations yielded Megalithic ceramics from three urn burial sites, namely Vayakkal (VKL), Pavumba Loc-1 (PVMA-1), and Pavumba Loc-2 (PVMA-2). The Megalithic ceramics from these urn burials include Black Wares and Red Wares in the shape of bowls, pots, lids, and miniature pots. All the urn burial sites in the study area are in an extremely destroyed condition due to modernization and infrastructure development.



Figure 4: Lid Covered Urn from Pavumba Loc-1



Figure 5: Stone Slab Covered Urn from Kalloorkonam Loc-1

Menhirs

Menhirs are erected single stones and are devoid of any grave goods placed beneath them. The menhirs are also known as *Nattukkal/Pullachikkal*. From the study area, 8 menhirs were discovered. Most of the menhirs were reported from Punalur (6) and Kottarakkara (2). The menhirs from the study area were found in an area of 94 m to 186 m above the mean sea level. All the menhirs are made of granite/charnockite stones. Typologically the menhirs are found with the pointed top portion (Figure 6) and with the flat top portions (Figure 7). The menhir at Sathyanpara is comparatively bigger than the other menhirs. It has 230 cm in height and 102 cm in width.

Stone Circles

This type of burial consists of huge dressed or undressed stones arranged in a circle to enclose burials. Generally, stone circles are used to demarcate and mark places with memorials. From the study area, 3 stone circles were reported. In the recent exploration, two stone circle sites were reported from Kollam taluk. The stone circles from the study area were found in an area of 10 m above the mean sea level. Both the stone circles are made of laterite stones. The stone circles at both sites are largely destroyed, so their circumference measurements are not possible. At each site,

presently only single stone of the stone circle can be seen on the surface (Figure 8). The measurements of the stones are 63 cm to 84 cm in height, 50 to 64 cm in width and 33 to 42 cm in thickness.



Figure 6: Menhir with Pointed Top from Kottathala



Figure 7: Menhir with Flat Top from Sathyanpara



Figure 8: Stone of Stone circle from Mangadu Locality 1

Condition of Preservation

In the Kollam district, most of the sites are in a poor state of preservation. The natives do not have adequate awareness of the cultural value of the Megaliths, and factors like urbanization and the development of infrastructure badly affect archaeological remains. Still, a large number of burial structures have been damaged by the local people in search of treasure within them. However, some Megalithic sites have been considered worship places due to local beliefs, which helped to save some of the Megalithic monuments from human interference.

Discussion and Conclusion

The systematic village-to-village survey conducted in the Kollam district yielded 58 new Megalithic sites. The identification of new sites across the study area has resulted in a better understanding of the distribution pattern of Megaliths. The major type of burials from the study area is cists and is followed by urns, menhirs and stone circles. Earlier, only 6 cist burials were reported, and the recent explorations added 24 new cist burial sites, and the total number of cist burial sites increased to 30. Similarly, the discovery of 24 new urn burial sites resulted in a change in the distribution of urn burial sites from 14 to 38 sites. The survey also yielded 8 menhirs, and which changed the distribution of menhirs from 13 to 21 sites. The survey also yielded 2 stone circles, and which changed the distribution of stone circles from 1 to 3 sites. In previous studies, only one dolmen was reported in the study area, but not a single dolmen site was newly found in the recent exploration (Figure 9).

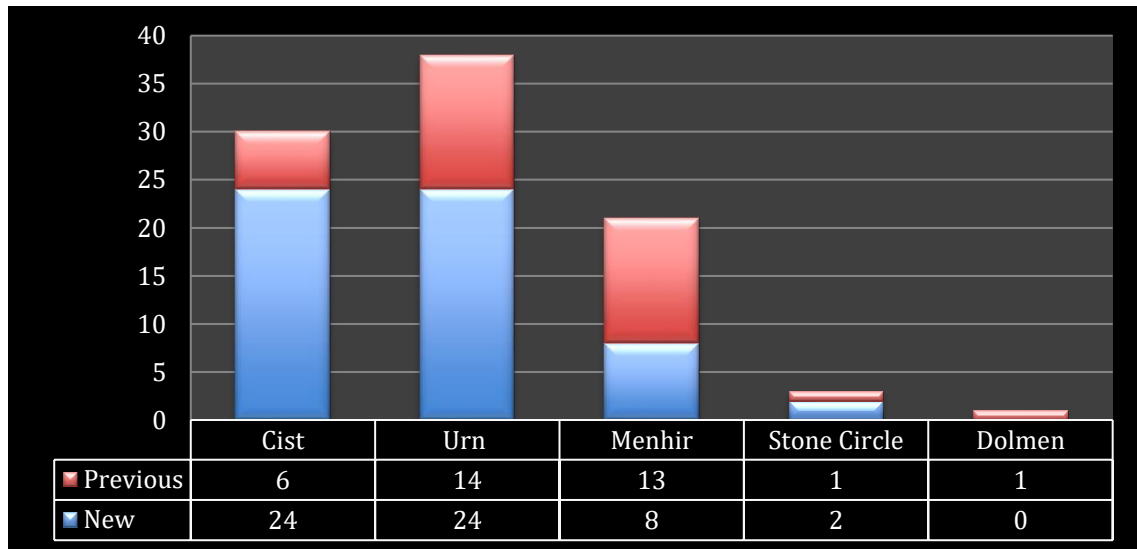


Figure 9: Number of Megalithic Sites in Kollam District, Kerala

35 Megalithic sites were previously reported in the study area. Twenty of these sites were reported between the late 1980s and early 1990s. The geo-coordinates of these sites are not given in the available published sources. Among the previously reported sites, only 16 were revisited with the help of local information, and thus, geo-coordinates were recorded. Many of these are completely destroyed. Hence only 6 of

the previously reported sites such as Mangadu, Chittayam, Kadavoor, Sathyanpara, Verukuzhy and Abhayagiri yielded some remains like potsherds during the revisits.

In the study area, out of the total 30 cists reported, 24 cists were reported in the recent exploration, and all the recently reported cists are located in hilly regions. Depending on the location of the cists, hilly areas can be classified into three categories. The cists are located on hill slopes (18), foothills (4) and hilltops (2). However, the cists located on the hill slopes face a valley or water body, or agricultural areas such as paddy fields. The locations of the 11 cists are in proximity to the streams, 12 cists to the valleys and one cist to the paddy field. These areas are more likely to have habitation deposits of the Iron Age people. Although the present surveys in these regions did not reveal any habitation evidence, there is immense scope for future investigations.

The cists found during the study are located in various locations on hill slopes. The cists are located on the slopes towards the east (8 nos.), west (5 nos.), south (8 nos.) and north (3 nos.) of the hills.

A circular-shaped porthole was noticed on the southern orthostat of a cist at Kottumukku. The porthole has 32 cm in diameter. The presence of portholes in other cists can be detected only through an excavation. However, the porthole might have been used for reopening the monument for annual ceremonies or some other ritualistic purposes (Ambily 2021a).

44 Megalithic sites are located in the eastern hilly region, of which 31 are in Pathanapuram taluk, and the other 13 are in Punalur taluk (Figures 4, 9-12). Most of the Megalithic sites are in Pathanapuram and Punalur taluks. The majority of the reserved forests are also concentrated in these two taluks. Compared to other four taluks, Pathanapuram and Punalur taluks have least population density. As Pathanapuram taluk is a hilly region and due to the presence of reserved forest, the area is less disturbed. This could be a reason for the availability of a large number of sites from this region. Geomorphologically the areas of Punalur and Pathanapuram taluks are similar in nature. The enormous availability of granite and charnockite rocks in these regions favoured the erection of cist burials. In addition to this, the region also produces evidence of urn burials.

Kottarakkara taluk is in the midland region of the Kollam district. Therefore, the agricultural and housing construction activities were responsible for exposing most of the areas. Along with the urn burials, menhirs and cist burials were also identified from Kottarakkara taluk. Kollam taluk has mostly coastal areas, and very few Megalithic sites were found as compared to other taluks. It includes urn burials and menhirs. Previous studies found only one Megalithic site in Kunnathur taluk, but not a single Megalithic site in Karunagapally taluk. In this recent exploration, Kunnathur and Karunagapally taluks did not reveal a single Megalithic vestige (Figures 4 and 12). The reasons for the complete absence of Megalithic remains in this region need to be investigated.

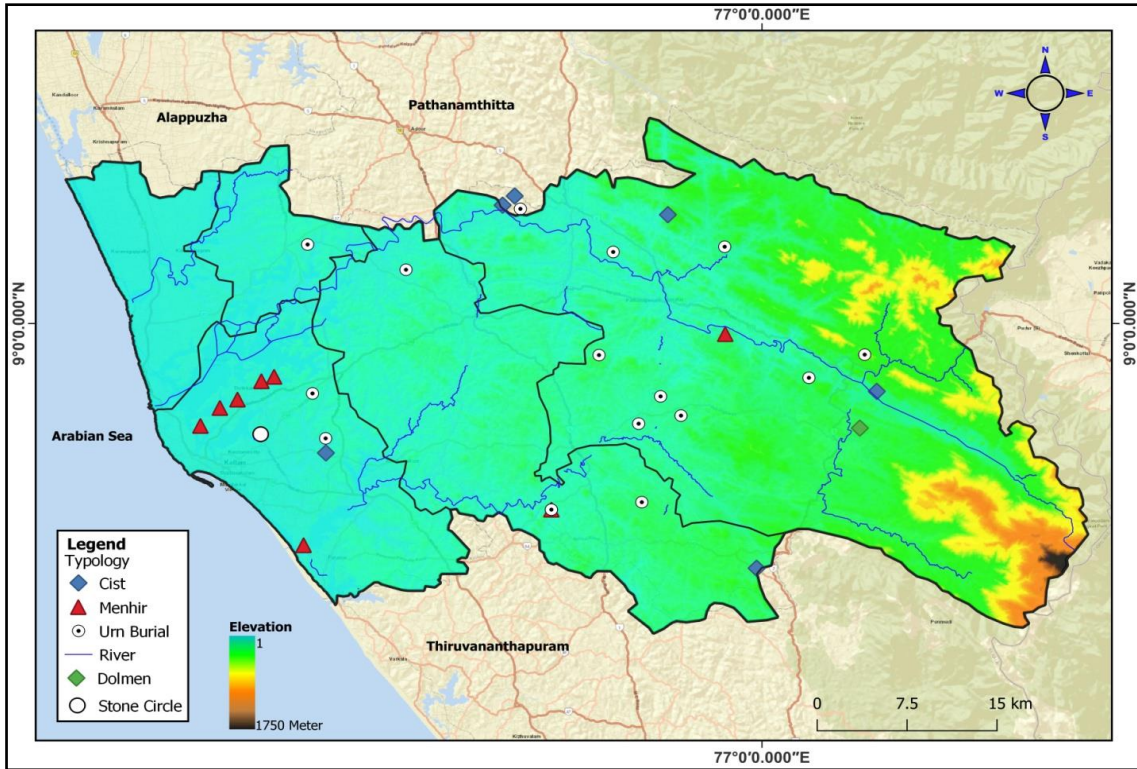


Figure 10: Distribution Pattern of Previously Reported Megalithic Sites (for which geocoordinates are available) in Kollam District

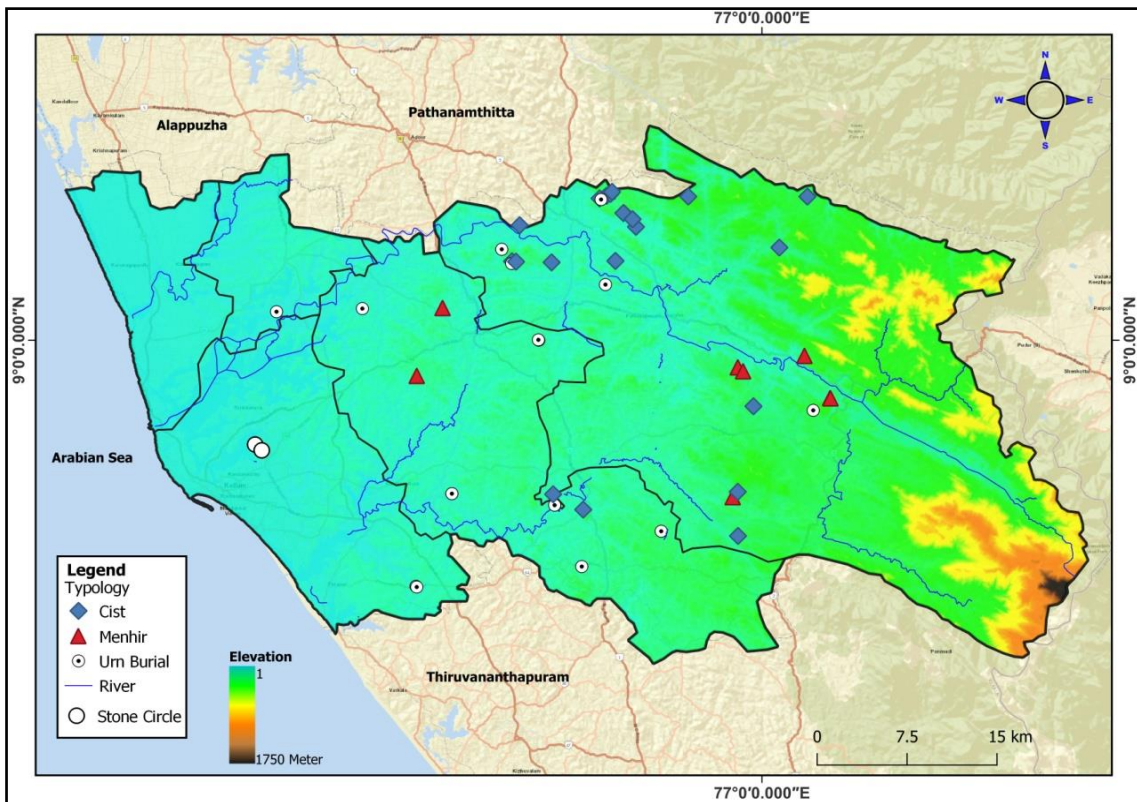


Figure 11: Distribution Pattern of Newly Reported Megalithic Sites in Kollam District

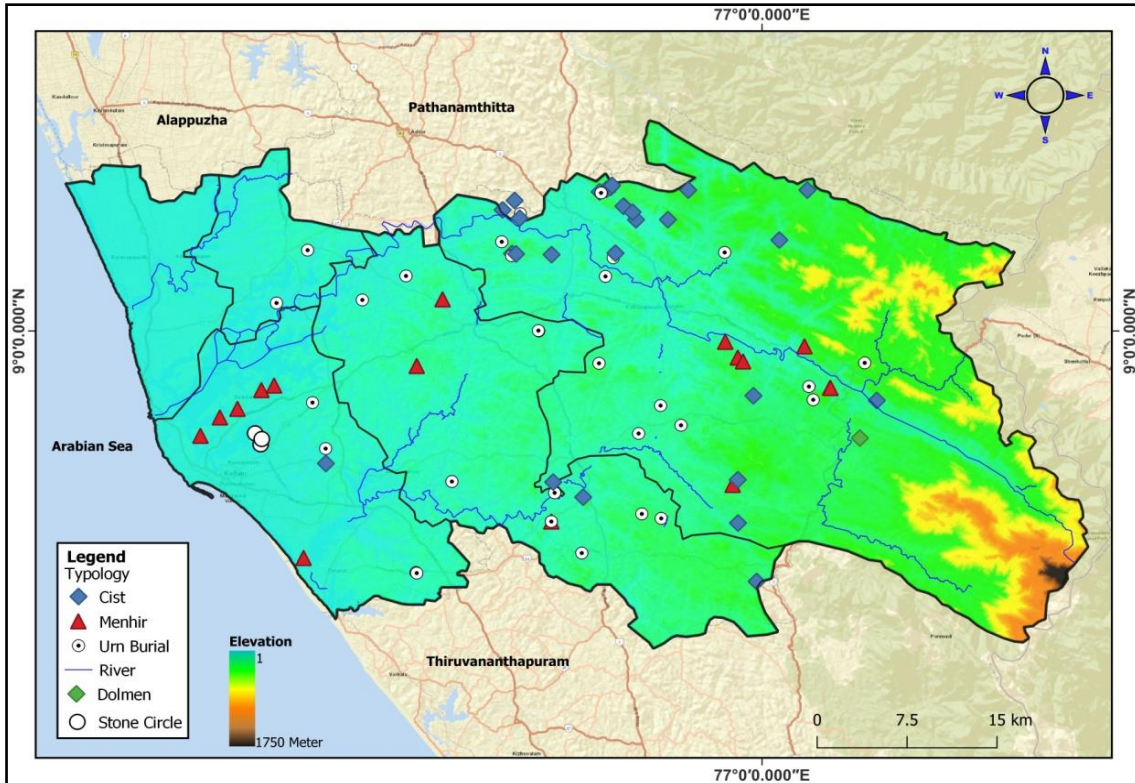


Figure 12: Distribution Pattern of Previously Reported Megalithic Sites (for which Geo-coordinates are available) and Newly Reported Megalithic Sites in Kollam District

The distribution pattern revealed through the present study does not show much difference with regard to the distribution pattern based on the previously reported sites (Figures 9-12). However, this study imparts a detailed list of Megalithic remains from the region, which was systematically gathered with the help of a comprehensive fresh archaeological survey. Importantly, this kind of regional-level database will be available and useable to future researchers for further advancing the knowledge about Megalithic populations of the Kollam region and the Indian subcontinent in general.

Acknowledgements

The authors are thankful to the Department of Archaeology, University of Kerala, for research support. The first author thankfully acknowledges the e-grants scheme of the Government of Kerala for funding his PhD research. Thanks are due to the Kerala Forest and Wildlife Department, and the State Farming Corporation of Kerala for granting permission to survey the areas concerned. Thanks are due to Ananthu V. Dev for preparing maps.

References

- Abhayan, G.S. 2018. Iron Age Culture in Kerala, South India: An Appraisal, in *Iron Age in South Asia, South Asian Archaeology Series 2* (Akinori Uesugi Ed.), pp. 145-188, Osaka: Research Group for South Asian Archaeology, Archaeological Research Institute, Kansai University.

- Abhayan, G.S., S.V. Rajesh, A. Uesugi, P. Nayar, B.S. Mohammed Muhaseen, N.L. Sulal, K.G. Archana, R. Harinarayanan, A.V. Dev, K. Muhammed Fsalu, P. Soorya, K.S. Arun Kumar, R. Haseen Raja, S. Kumbodharan, M.S. Sujjanpal and M.S. Sandra 2021. Megalithic Cist Burial Excavation at Enadimangalam in Kerala and its Implication in Cist Burial Architecture and Burial Practices, *Archaeological Research in Asia* 27: 1-15.
- Allchin, B.G. and R. Allchin 1982. *The Rise of Civilization in India and Pakistan*. Cambridge University Press.
- Ambily, C.S. 2021a. An Overview of Iron Age/Megaliths in Pamba River Basin, South Kerala, in *Iron Age in India: Some More Thoughts* (G.S. Abhayan, S.V. Rajesh and P. Nayar Eds.), pp. 35-60. Thiruvananthapuram: Department of Archaeology, University of Kerala.
- Ambily, C.S. 2021b. *Megalithic Culture of Kerala: A Study of Pamba River Basin*. New Delhi: Sharada Publishing House.
- Arun Kumar, K.S., G.S. Abhayan and S.V. Rajesh 2021. Distribution Pattern of Megalithic Remains in Kottarakkara and Pathanapuram Taluks in Kollam District, Kerala, in *Iron Age in India: Some More Thoughts* (G.S. Abhayan, S.V. Rajesh and P. Nayar Eds.), pp. 77-101. Thiruvananthapuram: Department of Archaeology, University of Kerala.
- Darsana, S.B. 2010. Megalithic Burials of Iron Age-Early Historic Kerala: An Overview, *Man and Environment* 35(1): 98-117.
- IAR 1960-61. Ghosh, A. (Ed.) 1964. *Indian Archaeology 1961-62: A Review*. New Delhi: Archaeological Survey of India.
- IAR 1989-90. Mahapatra, S.K. (Ed.) 1994. *Indian Archaeology 1989-90: A Review*. New Delhi: Archaeological Survey of India.
- IAR 1990-91. Mahapatra, S.K. (Ed.) 1995. *Indian Archaeology 1991-92: A Review*. New Delhi: Archaeological Survey of India.
- IAR 1991-92. Singh, B. P. (Ed.) 1996. *Indian Archaeology 1991-92: A Review*. New Delhi: Archaeological Survey of India.
- IAR 1992-93. Shankar, A. (Ed.) 1997. *Indian Archaeology 1992-93: A Review*. New Delhi: Archaeological Survey of India.
- IAR 1993-94. Bisht, R. S., C. Dorje and A. Banerji (Ed.) 2000. *Indian Archaeology 1993-94: A Review*. New Delhi: Archaeological Survey of India.
- IAR 1996-97. Menon, K. G. (Ed.) 2002. *Indian Archaeology 1996-97: A Review*. New Delhi: Archaeological Survey of India.
- Liju, A. 2006. *Distribution Pattern of Megalithic Sites in Kerala*. Unpublished MA Dissertation. Thiruvananthapuram: Department of Archaeology, University of Kerala.
- Paddayya, K. 2006. *Recent Studies in Indian Archaeology* (Indian Council of Historical Research Monograph). New Delhi: Munshiram Manoharlal Publishers.
- Peter, Jenee 2002. *Dimensions of Megalithic Culture of Kerala in Relation to Peninsular India: An Interdisciplinary Approach*. Unpublished Ph.D. Dissertation. Vadodara: The Maharaja Sayajirao University of Baroda.

- Rajan, K. 1994. *Archaeology of Tamilnadu (Kongu country)*. Noida: Book India Pub. Co.
- Rajendran, P. and A. Kshirsagar 1993. Poredam urn burial - A Chalcolithic culture, *Current Science* 64(3): 148-149.
- Rajendran, P. and C.S.P. Iyer 1997. A preliminary report on the characterization of copper and gold ornaments of the Arippa Megalithic culture in Kollam district, Kerala, South India, *Man and Environment XXII* (2): 61-65.
- Rajendran, P. and G.L. Badam 1995. A note on the Megalithic cultural remains from the cist burials at Arippa in Kollam District of Kerala, South India, *Current Science* 68 (7): 684-686.
- Satyamurthy, T. 1992. *The Iron Age in Kerala - A Report on Mangadu Excavation*. Thiruvananthapuram: Publication Unit, Department of Archaeology, Government of Kerala.
- The Hindu 2005. *Megalithic burial site uncovered*. October 10, 2005.
- The Hindu 2009. *Megalithic age idols unearthed in Kerala* (Hemachandran). September 12, 2009.
- Vinuraj, B. 2016. *Archaeology of Kollam District*. Unpublished M.A. Dissertation. Thiruvananthapuram: Department of Archaeology, University of Kerala.