

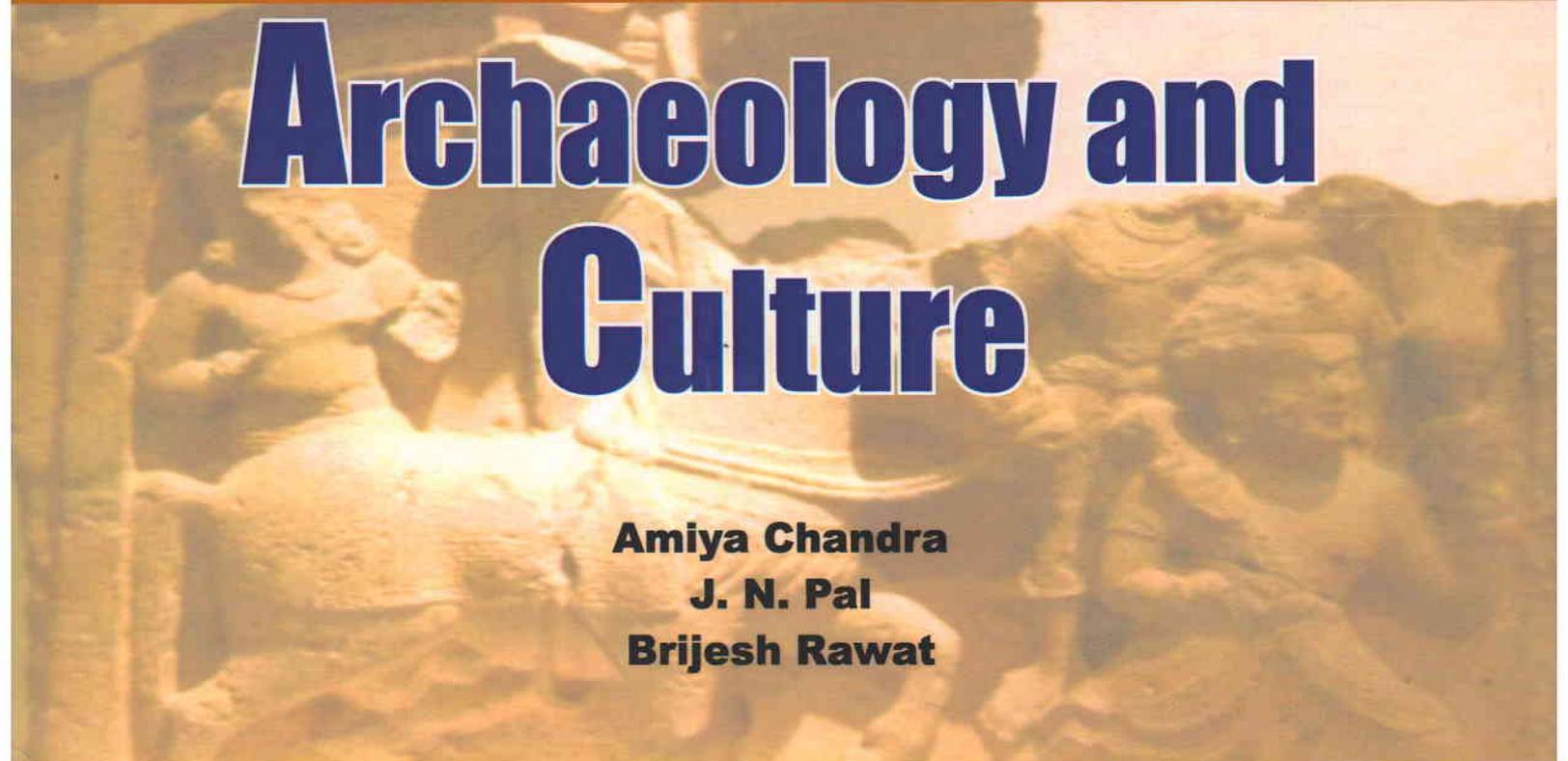
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Iron Age in KERALA: A Short Summary

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INTRODUCTION

Iron transmits a unique position in understanding the major developmental stages of human culture. Iron Age is marked by the extensive use of iron in all spheres of life greatly reflected in tools, weapons and other industrial and house hold or utilitarian objects. Among the iron using cultures of the Indian Sub continent, Megaliths of Central and Peninsular India holds a distinctive place in reconstructing the Iron Age culture. In the above context, Kerala Megaliths stands tall in its variety and richness. Kerala is blessed with Archaeological relics of Iron Age mainly in the form of burial monuments and mortuary goods. The close affinity of iron implements in Megalithic burials and tombs force scholars to use megalith interchangeably for Iron Age vestiges in Kerala.

Megaliths essentially denote sepulchral or commemorative monuments erected in honor of the dead, using large dressed or undressed stones, has a vast distribution all over Kerala. Kerala megaliths are part of the south Indian megalithic cultural complex characterized with specific and unique megalithic monuments like 'Kudakkallu' (umbrella- stone), 'Toppikkallu' (cap- stone) and Rock-cut chambers. Megalithic Culture in South India is dated between 1000 BC and 100 AD. Some excavated sites in South India have revealed that megalithic culture overlaps the last phase of

Neolithic-Chalcolithic Cultures (Kumar 2006: 46). In absence of any defined Neolithic or Chalcolithic settlements in Kerala, Megaliths holds a unique place in bridging the gap between prehistoric and historic periods. Hence, absence or lack of habitation sites mark a bay and holds us back from appreciating the culture holistically.

MEGALITHIC RESEARCHES IN KERALA

History of Megalithic researches in Kerala starts with the discovery and excavation of a few burials at Bangla Motta Paramba in Kannur district by Babington in 1823. His discovery and excavations in the Malabar regions like Puddiangaddy and Neelaparambu stimulate an antiquarian interest on these monuments. Subsequently several British administrators and many other scholars explored and excavated a large number of Megaliths and published their findings. After that the Archaeological Survey of India and the Archaeology Departments of the Travancore and The Cochin states excavated a large number of Megalithic sites. In 1882 Robert Sewell published '*The list of Antiquarian Remains in the Presidency of Madras*' gives a list of megalithic sites in Kerala. In 1887 William Logan published '*Malabar*' in which he gives a detailed description on the explored an excavated megalithic sites of the Malabar region and tried to interpret the megalithic burials in

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connection with religious practices. In 1901 Fawcett explored the Wayanad region and discovered the megalithic burials around the rock engraving site of Edakkal and proposed that the makers of carvings could be the builders of innumerable stone circles near the site. In 1911-12, a rock-cut chamber was accidentally discovered at Chevayur near Calicut by Longhurst and found a sarcophagus and few ceramics in it. In 1927, The Kerala Society was started and published a journal titled *Kerala Society Papers*. It contained many papers dealing with the megalithic burials in Thiruvananthapuram and surroundings.

In 1930 Cammiade did an extensive study on the Urn burial from Wayanad region and explored 16 urn burials and excavated a few around the region of Sultan Batheri. His excavation reports give extensive information regarding the exact location and extent of the sites (Darshana 2006: 39). He also attempted to study the grave goods such as iron implements and beads from the megalithic burial of Malabar and made a comparative study of these Urns with those from Tamilnadu. In the same year Codrington conducted a general survey of Megaliths and grave goods in South India and noticed the architectural similarity between the Megalithic Rock cut chambers and Buddhist Caves. He also used Sangam literatures to explain and understand the Megalithic burials. Plenderlieth (1930) attempted one of the early scientific studies on pottery from the megalithic pottery in which he studied the black polished pottery from Wayanad urn burials.

Systematic investigations of the Megaliths began only in 1940, when Krishnaswami undertook field studies in collaboration with Anujan Achan and classified the Megaliths of the Cochin region (Krishnaswami 1949: 35-45). In mid 1940's Thaper excavated an urn burial at Porkkalam (Thaper 1952: 3-16). Leshnik (1976) and McIntosh (1985) worked towards the chronology and dated Kerala megaliths to the last phase of Iron Age in South India (Peter 2002: 5-10). From the beginnings of 1960's dolmens and other megalithic monuments were widely

reported in Kerala (IAR 1964-65: 74, 1965-66: 80, 1977-78: 30, 1981-82: 94, 1982-83: 36). After Porkalam, several Iron Age sites in Kerala such as Machad and Pazhayannur (Mehta and George 1978: 1-34), Perambra (John 1982: 148-153), Cheramangad (IAR 1990-91: 33-35), Arippa (IAR 1990-91: 33), Mangad (Satyamurthy 1992: 1-36), Poredam (Rajendran and Kshirsagar 1993: 148), Kurumassery (Peter 2002: 110) etc. were excavated that enriched our understanding of the past life ways and culture of the Megalithic builders of Kerala.

TYPOLOGY OF MEGALITHIC BURIAL MONUMENTS

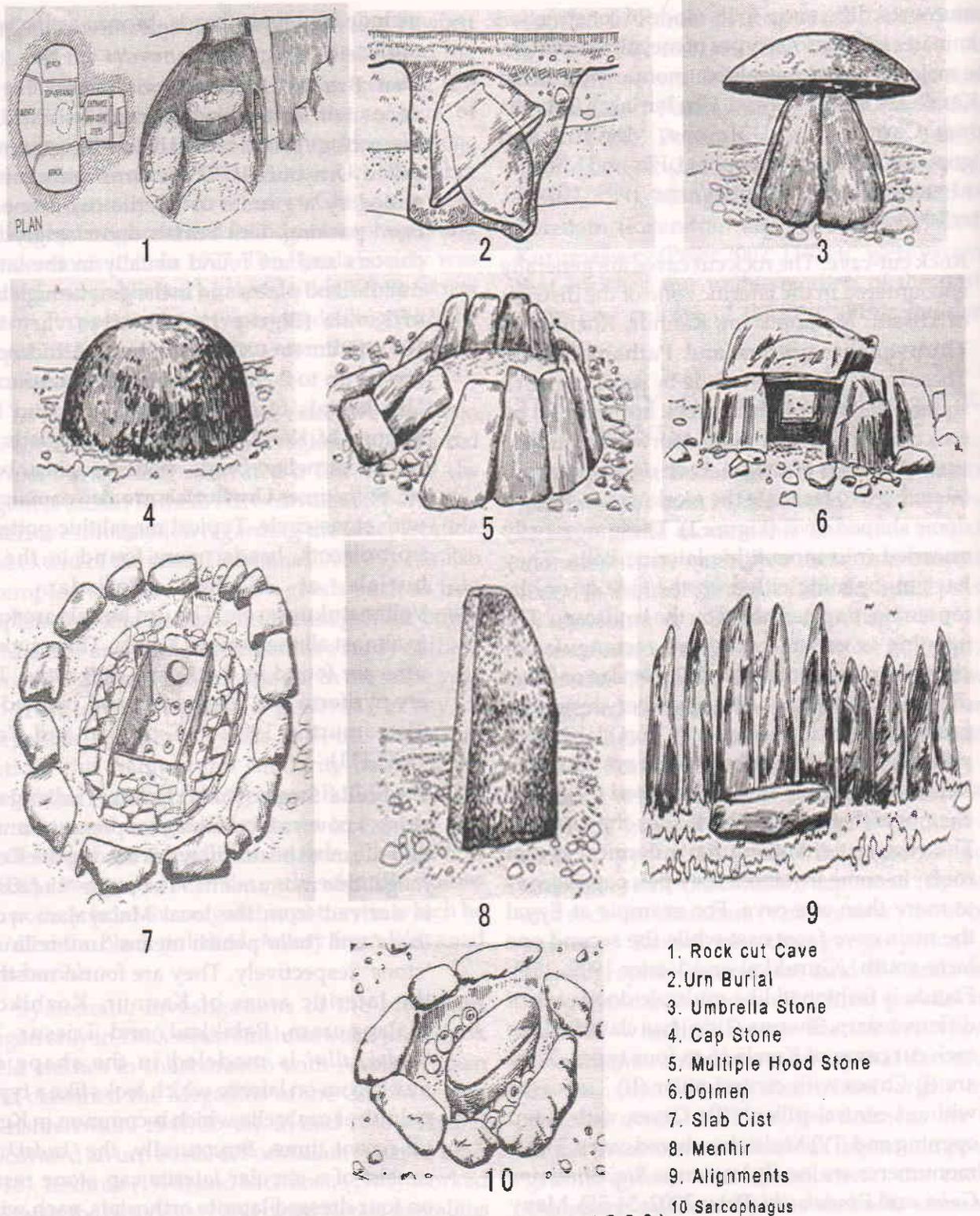
An important feature of the Iron Age culture in Kerala as well as in Peninsular India is the presence of huge burial monuments known as megalithic monuments. A variety of these monuments are found in the Iron Age sites of Kerala. Initial attempts in devising a suitable typology for these monuments were made by Wheeler at Brahmagiri (Wheeler 1948: 253-260). Later several scholars attempted to categorize and study them. Among the studies V.D. Krishnaswami (1949), Leshnik (1974), Sundara (1979), McIntosh (1985), and Moorthi (1994) deserves special mention. Apart from the general types, Kerala is credited with distinct type of Megalithic monuments such as umbrella stone (*kudakkallu*), cap stone (*topikkallu* and rock-cut chambers ('*rsiashramam*', the abode of saints.)). Based on the geographical and physiographic features, the land of Kerala can be categorized into three well defined parallel strips, each of which contains distinctive types of monuments, and also we can say that the nature of the monuments being determined largely by the material available. Thus, the dolmens are to be found in eastern mountainous region composed of granite gneiss and charnochite; the rock-cut chambers, menhirs and the umbrella stone series on the lateritic plain; and urn burial with some menhirs on the alluvial sea board. Though there exist uniformity in the burial character of these

monuments, differences in its mode of construction culminates into various types of megalithic burials. The major types of megalithic monuments found in Kerala are Rock cut-cave, Urn burials, Umbrella stone, Cap stones, Dolmens, Menhirs and Alignments, Slab cist, Sarcophagi, Pits and Multiple hood stone (Gurukkal and Varier 1999: 101-150, Peter 2002: 67).

1. **Rock cut-cave:** The rock cut caves are generally encountered in the lateritic zone of the districts of Trissur, Malappuram, Kannur, Kozhikode, Thiruvananthapuram and Pathanamthitta. These caves have been made by scooping out a square stepped pit in the rock approached by rock cut steps. One or more doorways were also cut in the sides of the pit. Each doorway about 60 cm high to facilitate the workman to scoop a dome shaped cave. (Figure 1). These are mostly quarried into monolithic lateritic belts. They have an opening either on the side or on the top surface as determined by the landscape. The opening is generally a small rectangular or circular aperture of about 2x2 feet size or 2 feet diameter, leading to the chamber through a passage, generally sealed by a port slabs. Both pillared and non pillared types are found in Kerala. Monolithic cots are scooped inside the chambers that provide berths for the interred. The rock cut chambers have domical or flat roofs. In some instances the open courts leads to more than one cave. For example at Eyyal the main cave faces east while the second one faces south. (Gurukkal and Varier 1999: 119). Façade is fashioned like multiple doorways of different sizes. Sharma (1956) has classified the rock cut caves of Kerala in to four types. They are (I) Caves with central pillar (II) The caves without central pillar, (III) Caves with a top opening and (IV) Multi chambered caves. These monuments are locally known as *Risyashramam*, *Guha*, and *Pandukuzhi* (Peter 2002: 54-55). Many of these rocks cut chambers are sepulchral in nature as is evidenced from the grave goods found associated to the burial. These mainly

include iron tools, beads, bronze artifacts and muller stones.

2. **Urn Burial:** Earthen pots used for the deposition of the skeletal remains and other assemblage found buried below the ground are called Urn burials. These urns are generally sealed by a granite or laterite cap stone and cairn packing. Urn burials occur singly or in clusters and are found usually in the laterite middle land plains and in the granite high lands of Kerala (Figure 1). Urn sizes vary from 180X100 cm to 60X15 cm and vessel thicknesses can be up to 2 cm in the largest example. The Urn burials of the highland and mid land regions of Kerala yield funerary goods like etched carnelian beads, pottery, ashes, bones etc. Sometimes Urn Burials are also demarcated with stone circle. Typical megalithic potteries, iron objects, beads, were found in the urn burials at Machad, Porkalam, and Vellimatukunnu etc. The urn burials are found in almost all the parts of Kerala. Three types of urns are found in the Kerala megaliths. They are pyriform jars, legged jars and pointed jars (Satyamurthy 1992: 3, Gurukkal and Varier 1999: 111).
3. **Umbrella Stone (*Kudakkallu*):** The umbrella stone, known as '*kudakkallu*', represent a unique and the most beautiful types among the Kerala megalithic monuments. The name '*kudakkallu*' is derived from the local Malayalam words '*kuda*' and '*kallu*' which means 'umbrella' and 'stone' respectively. They are found mostly in the lateritic areas of Kannur, Kozhikode, Malappuram, Palakkad, and Trissur. The '*kudakkallu*' is modeled in the shape of a mushroom on laterite which looks like a typical palm-leaf umbrella which is common in Kerala till recent times. Structurally, the '*kudakkallu*' consist of a circular laterite cap stone resting on four dressed laterite orthostats, each with a convex external surface, a flat interior and generally conical in shape (Figure 1). The centre of the clinostat provides space in which very



- 1. Rock cut Cave
- 2. Urn Burial
- 3. Umbrella Stone
- 4. Cap Stone
- 5. Multiple Hood Stone
- 6. Dolmen
- 7. Slab Cist
- 8. Menhir
- 9. Alignments
- 10. Sarcophagus

(Adapted Ghosh, A. 1989)

Figure 1: Major type of megalithic monuments found in Kerala

rarely, some small artifacts are found. For instance, some bones and pottery have been found at Eyyal, while Perambra provides the evidence of iron objects and bronze vessel (Peter 2002: 50).

4. **Cap Stones:** The Cap stones, locally known as '*toppikkallu*', are hemispherical in shape, and are made out of dressed or undressed granitic stones, which are used as the lids put on burial urns. These are rests directly on the ground. V.D. Krishnaswami called these monuments as 'hood stones', which looks like an umbrella stone without parabolic support (**Figure 1**). The cap stone has a very limited distribution mainly confined to the Trissur district of Kerala (Kishnaswami 1949: 37-42). Cheramangad, Porkkalam, Eyyal, Vandiperiyar, and Thiruvilvamala are the major sites where these monuments are reported. The cap stone looks like a traditional hat used by the farmers of Kerala. Hence the name Toppikkallu is also alternatively used. These monuments carry a large amount of grave goods which mainly includes pottery, bronze vessels, beads etc. (Gurukkal and Varier 1999: 116-117).
5. **Multiple Hood Stone:** The multiple hood stone consists of several five to twelve dressed laterite clinostat or cap stones, which is arranged in a circle without joining the top. This arrangement leaves a circular gap in the middle. Two circles of this type are reported from Cheramangad in Trissur district and one at Cheruvakkadu village of Eranad (Gurukkal and Varier 1999: 116-117, Peter 2002: 50-51).
6. **Dolmens:** Dolmens are the rectangular box like chamber, which is constructed with four slabs forming orthostats and fifth is used as the cap stone (**Figure 1**). Dolmens are mainly reported from the highland areas of the region. The dolmens are reported from Palakkad, Trissur, Idukki, Alappuzha, and Tiruvnandapuram, etc. and they are rich with grave goods such as iron implements, jars, and beads (Krishnaswami 1949: 38, Gurukkal and Varier 1999: 114).
7. **Slab Cist:** They are also like dolmens, and are made out of granitic or lateritic stone slabs. They consist of a port-hole in the upright portion of the orthostat which is generally found on the eastern side. Usually, the port hole has a range between 10 to 50 cm diameters. This type is confined to the granitic high land region and in the middle land lateritic area. The slab cists are the box like burial chamber, mostly found in underground, and sometimes consist of a bench inside. (Peter 2002: 47-48, Gurukkal and Varier 1999: 115).
8. **Menhirs and Alignments:** A menhir is a single huge granitic or lateritic monolith standing upright and set up over or near the burial (**Figure 1**). These huge stones mark the neighboring presence of an urn burial. Menhirs are also known locally by various names such as '*nattukkallu*', '*patakkallu*', and '*pulachikkallu*'. They are found mainly in the district such as Palakkad, Trissur, Ernakulam, and Kollam etc. (Krishnaswami 1949: 39).
9. **Sarcophagus:** A sarcophagus literally means 'legged coffin' made out of terracotta. In Kerala, generally, two types of sarcophagus are found. They are bovine shaped sarcophagus and small legged terracotta sarcophagus (**Figure 1**). The bovine shaped sarcophagus is found from Perungulam and Kattakambal, and the small legged terracotta sarcophagus is reported from Chevayur. These are generally placed inside the rock cut chambers (Gurukkal and Varier 1999: 111-112).
10. **Pits:** These types of burials are rarely found in Kerala. Here, pits are generally sealed by stone slabs and ceramic vessels. In some cases they are marked by stone circles. At Cheramangad, the excavated burial had three pits (Gurukkal and Varier 1999: 111).

NATURE OF BURIALS AND ITS MATERIAL CULTURE

In Kerala, most of the megalithic burials are fractional or secondary in nature. The fractional

burials are the post excarnated in which the dead body was exposed to natural elements first and subsequently the left over bones were collected and buried. From the megalithic monuments, we got fragments of charred or decayed bone remains. Based on the remains of such charcoal fragments and ash, it is believed that they practiced cremation. No complete or inhumation burials are reported so far from the megalithic monuments also strengthens the above assumption.

As far as the associated goods or material evidences of the Megaliths are concerned they are of great utility in explaining the cultural ethos of the megaliths and its authors which consist mainly of Ceramics, beads, iron implements, and gold ornaments.

CERAMICS

The ceramic assemblage of the megalithic people consists of a variety of wares such as Black and Red Ware, Russet coated Ware, Painted Red Ware, Red slipped Ware, Polished Red Ware, Black Ware, etc. Among these wares Black and Red Ware with crackled appearance is considered to be the most prolific and diagonal ceramic type of the Megalithic people. A variety of shapes has been recovered from various excavations. The major shapes include bowls with flat bases, jars, dishes, vases, ring stands, globular pots and different kind of urns such as legged, perforated, pyriform types, pointed ones, and those with variously fashioned rims, shoulders, sides and bases. The variety of bowls include deep bowls with featureless rim, round base in black and red ware, hemispherical bowls, bowls with in-turned rim and flat base in polished red ware, bowls in black ware, bowls with in-turned rim and flat base in polished red ware, bowls in black and red ware, bowls with concave neck, convex body and sagger bases have been found. The dishes are primarily of the Shallow type with round base and leg like pedestrian, and having everted rim and round bottom, with carinated shoulders and tapering sides and pointed base. In vases, globular and the lid-cum-vase type are the

main type. The jar variety includes legged and non-legged type with carinated shoulder, narrow neck and globular base or high neck, everted rim and round base. The legged jars are mostly of four-legged types made mainly of coarse red ware. Red-slipped jar, painted red jar, russet coated jar have also been found at several sites. The small vessels have lustrous, slipped and smooth surface and the larger vessels are poorly finished and handmade. Numerous black as well as red ring stands, used for holding vessels with round bottom, have been recovered from the rock-cut chambers at several sites. As far as the decorations are concerned they mainly include appliqué and incised. Wavy lines, criss crosses patterns, com lines, dotted oblique rows etc are the major patterns or decorations found on the vessels. Post firing graffiti marks are found in them (Gurukkal and Varier 1999: 137-141).

BEADS

Beads of various shape and size have been reported from many sites. Carnelian, jasper, orthoclase, feldspar, glass, bone, horn, and quartz crystal and terracotta have been found from a number of burials (Mehta and George 1978: 23-28, Gurukkal and Varier 1999: 136-137). Among the raw material, feldspar and quartz are locally available. Carnelian beads include both etched as well as unetched variety.

FAUNAL REMAINS

The bone fragments and ashes are the important faunal remains from various Iron Age site in Kerala. Kerala megaliths have yielded charred bones and ashes, which indicates post cremational nature. No complete skeletons were found in any megalithic sites in Kerala. However, in 1997, Rajendran has recovered a child's cranium at Arippa.

The fragments of ulna, radius, and skull etc. have been reported from the sites of Machad and Pazhayannur (Mehta and George 1974: 29). The sites such as Kunnoni (Rajendran 2001: 14-16), and Mangadu (Satyamurthi 1992: 12-15) give valuable

information regarding the bone remains in the megalithic graves.

IRON IMPLEMENTS AND ITS TECHNOLOGY

Iron artifacts or implements are one of the most important cultural remains of the megalithic culture of Kerala. These important remains have been found from most of the Iron Age sites of Kerala. A variety of iron implements recovered from the megalithic excavations reveals that iron technology was greatly practiced by the megalithic people and this had a considerable impact on the socio-economic life of the people. Due to the quantity and quality of the iron implements, the culture has got its name. The culture is characterized mainly by the wide spread use of iron in the form of implements. The variety of iron implements found from the site, we can understand that iron working was the fundamental feature of the Iron Age culture in Kerala. The analysis of a metallic hook from Pazhayannur has revealed that it contained 99.62% of pure iron and it was free of air bubbles, which indicates the contemporary level of metallurgical skill. This study has also revealed that the folding and forging technique were employed in iron working (Mehta and George, 1978: 20-23). The iron ingots found at various sites reveals that iron was locally produced. The remains of terracotta crucibles, use of charcoal and the mode of firing etc were suitable to ensure high quality in the casting of iron (Rajendran and Iyer 2008: 12-17, Gurukkal and Varier 1999: 133-136).

SETTLEMENT PATTERN

No megalithic habitational remains have been reported from Kerala. Hence, it is difficult to create a picture of their settlement pattern. However some assessment of structural parallels can be understood by studying the rock-cut cells. Megalithic people were probably the earliest people to utilize the laterite for constructional purpose. Its property to be soft while moist and harden upon drying made it easily quarriable and also durable. These caves are also possess the features of wooden

architecture. They adopt the structural principles of wooden architecture. (Kumar 2006: 48-53). The rock cut caves are oblong or circular in plan and consist of domical roof, rectangular floor plan invariably have horizontal ceiling with or without pillars inside it. The caves are single or multi-chambered with or without a rock-cut bench in it. All varieties however, invariably have an open forecourt and the caves themselves are generally east facing. The iron remains such as chisels, axes, nails, etc are the indicator of the practice of carpentry at that time. A terracotta model of a round hut with conical roof on a pedestal is reported from the megalithic sites of Tamil Nadu. Kerala has tropical monsoonal climate. Hence such circular houses with a domed roof probably raised on a lateritic basement could have been the norm. A few such huts may have been clustered together around an open courtyard. Rectangular huts with thatched roof and timber construction also appears to have been prevalent (Leshnik 1974: 79-81).

SUBSISTENCE PATTERN

From the analysis of the material evidences can reveal the subsistence strategies of the megalithic people. Large quantity of the pottery suggests that they practiced a settled way of life. A variety of iron implements recovered from the sites throw light into their socio-economic way of life. The introduction of the agricultural implements such as sickles, bill hooks, plough share, cutting knives, etc. could be caused the improvements in the field of agriculture. They are primarily used for harvesting. For example plough share has been reported from the site Arippa (Rajendran and Iyer 1997: 61-66) reveals their systematic way of agriculture. Grinding stone and rollers are recovered from Perungulam (Kumar 2006: 48-53).

From this we can clearly state that they used these implements for daily diet of the people. No grain remains have been conclusively reported from any sites except that of paddy. At Arippa the excavation reveals some unidentifiable grains from a burial pot and from Perumpatally, rice husk from

megalithic pot have been unearthed the megalithic community may have lived a pastoral life. They may be used the meat of hunted and domesticated the animals for their food. Terracotta models of animals such as dog have been discovered from Feroke and Perumpattalam suggest that they domesticated animals. Field agriculture is more common in low lands and coastal plains. In high lands and mid lands, they could have been cleared the forest with the help of iron tools and they might cultivated on forest (Rajendran and Iyer 1997: 61-66).

ARCHITECTURAL FEATURES

The megalithic monuments indicate the level of architectural knowledge. Monuments like rock-cut chamber tombs, dolmens, and multiple hood-stones necessitated a remarkable skill in designing and executing their structures. The architectural skill evident in the inter locking alignment of slabs of the dolmens and slab cists is remarkable. In rock-cut caves, the pillar, doorways, and bench or cot-like berth etc. carved out from the laterite rock represent the level of contemporary household architecture. The use of pillar and door-jamb in the rock-cut caves that are monolithic structures shows the rock-cut architecture to be the proto type of what had been evolved in wooden architecture (Gurukkal and Varier 1999: 141-142).

BELIEF SYSTEM AND EXCHANGE NETWORK

Megalithic monuments are considered to be representing various beliefs related to ancestor worship fear or respect towards the dead and belief in the soul or life after death. The elaborate procedures prescribed for raising the hero stones in the Tamil epic '*Chilappathikaram*' and the burial practices of various contemporary ethnic groups suggest that the megalithic building must have involved a series of complex rituals and fests. They gave various kinds of offerings to the dead in the form of grave goods which indicates that their beliefs in life after death (Gurukkal and Varier 1999: 142-147).

The evidences of non local items from the megalithic grave goods suggest that they obtained these items through an exchange network. The raw materials such as jasper, agate, carnelian, bronze, copper, and gold have no known source in Kerala. Their occurrence in urn burials indicates the existence of exchange and networking system.

DISTRIBUTION OF MEGALITHIC SITES IN KERALA

The megalithic sites in Kerala are distributed over the entire state. If we look into the physiographic division, Kerala is divided into high land, mid land and low land. There are as many 711 megalithic sites (Fig.2) reported from Kerala (IAR 1952-2001). Distribution of a particular megalithic type is determined by the physiography of the region and the nature of the raw material readily available for utilization.

Based on the distribution pattern Kerala can again be grouped into Northern region, Central region and Southern region. The Northern region comprises of districts such as Kasargode, Kannur, Wayanad, Kozhikkode, Malappuram, Palakkad and Trissur. The most predominant types of the megalithic monument found in this region are Rock cut caves, Urn Burials, Umbrella Stones, Dolmens, and Menhirs. This region is credited with maximum number of Iron Age sites among Kerala. The Central region consists of districts such as Ernakulam, Idukki, and Kottayam. Major types of Megalithic monuments found from this region are Menhirs, Dolmens and Urn Burials. The third division, that is, the Southern region comprises of districts like Alappuzha, Pathanamthitta, Kollam and Thiruvananthapuram and the most predominant type of monuments found in this region are Dolmens, Cists, Urn Burials, and Menhirs. However, most of these sites are found distributed throughout in Kerala irrespective of their dominance in certain region. In Kerala, Trissur district is credited with maximum number of the iron monuments, and the low land region in Kerala,

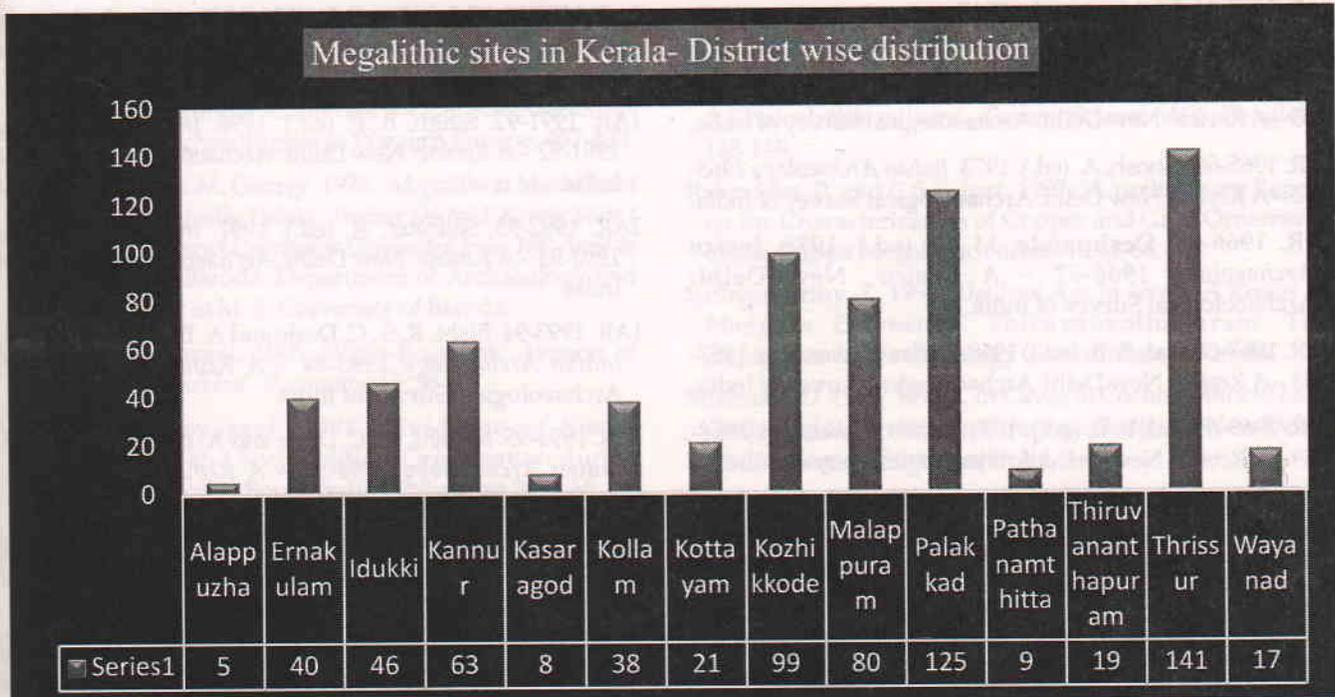


Figure 2: Distribution of Megalithic sites in Kerala

which is Alappuzha district, has the minimum number of megalithic sites. From these, we can understand that they are more close to the lateritic area of the region.

CHRONOLOGY

The chronology of the megalithic culture in South India is a subject of controversy. There is no unanimity of opinion regarding the chronology of megalithic culture. According to Alexander Rea (1911), the dolmens of South India are not more than a thousand year old. Gordon Childe says that the iron using megalithic community might have entered India from the west by a direct maritime route through Arabia between 1400 and 700 B.C. (Peter 2002). B.K. Thapar (1952), McIntosh (1985), suggest a date in between 3rd century B.C to 1st century A.D for the Iron Age in Kerala. Leshnik (1974) has of the view that this culture can be dated back to 3rd century B.C and 2nd century A.D. The available radio carbon dates from Mangad and Kunnoni. is dated back to c.900 B.C. and 1000 A.D (Satyamurthy 1992, Rajendran 2001).

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