

Revisiting Cheramanangadu: A Study on Pottery Assemblage *

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Abstract

Pottery is one of mundane subjects in the archaeology of Kerala. A systematic analysis of pottery constitutes one of the major tools to contextualize the past society. This paper discusses the result of the analysis conducted on the pottery assemblage unearthed from the site Cheramanangadu. The study gives a detailed account of pottery typology. The paper proposes interpretation of the burial pottery by applying fabric analysis and use alteration trace analysis.

Keywords: fabric, typology, use alteration, megalithic, Iron Age- Early Historic period.

Introduction

Iron Age-Early Historic burials or megalithic¹ burials have been a subject of scholarly research since the discovery of such burials from Chattaparamba by Babington in 1819 (Babington, 1823). Thereafter numerous megalithic sites were reported and a few of them were excavated in Kerala. They are valuable in providing general information, but the basic historical understanding of these monuments is confined mostly to monument typology. Studies on the grave goods are very limited; grave goods are considered as a vital indicator to understand

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archaeological record since the 19th century, particularly after wor-saae's Law. Pottery is often considered as a mundane subject in the history of archaeology in Kerala. But a very few articles has been published so far, particularly focusing on burial pottery from Kerala. K. Govinda Menon (1937) and Akinori et.al (2019) have studied about megalithic burial pottery. The primary task of the present study is to understand the nature of pottery deposited as grave goods in the megalithic burials located at the site Cheramanangadu in Trissur district of Kerala.

The site

Cheramanangad is located near Vellarakkad, 8 km away from Kunnumkulam in Talappily taluk of Trissur district in Kerala which can be accessed on the Vellarakkad-Trippalassery route. The plot where the megalithic burial monuments are located is known as Kudakkalparambu, which is 1.8 km north east of Cheramanangadu junction. The site is located in 100 41' 07.38" N and 760 07' 18.2" E in the global positioning system (Figure 1). The site is now under the protection of Archaeological Survey of India and the protected area has a total of 69 monuments consisting of multiple types of megalithic monuments, including umbrella stone, hood stone, hat stone, pit burial and stone circle (Figure 2). Laterite is the raw material used to construct these monuments except in pit burial which is capped by a granite stone.

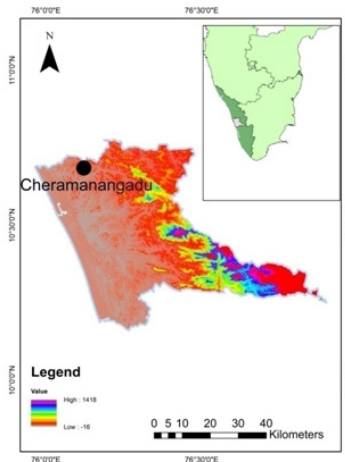


Figure 1:Location of the megalithic burial site at Cheramanangadu (Illustration: Author)

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Figure 2: Multiple Monuments at Cheramanangadu;
a. umbrella stone, b. hood stone, c. hat stone, d. stone circle
(Image: (a,b,c) Rajesh Karthy 2013; (d) Author 2018)

The site was excavated under the leadership of B. Narasimaiah of the Madras circle of the archaeological Survey in 1990-91 (IAR 1990-91) and later on it was re-excavated in 2002-03 (IAR 2002-03). During the first season five monuments were opened up for study. The excavators marked these monuments as megalith I – hood stone² (class IV type 1); megalith II – multiple hood stone (class V type 2); megalith III – granite cap stone; megalith IV –topical/umbrella stone (class IV type 2); and megalith V – stone circle (class 1 type 2). The excavation during the second season opened two monuments marked as megalith I (class IV type 1) and megalith II (class V type 2). The non-standardized terminology in referring the various types of burials in previous archaeological literature has created confusion while comparing these monuments, hence a new set of typological classification has been proposed (Jaseera (in press)) and a code is given in the bracket referring this newly proposed classification.

The excavation of megalith-I has revealed an urn within a pit under a bun-shaped laterite stone. The burial goods inside the urn consisted of a vase (red ware), bowl (rcp), bone fragments and a vase (red ware), three bowls (Black and red ware) and an iron object. The urn was filled with sand up to the middle and then with loose gravelly soil. The urn was sealed with a granite cap stone. No burial goods were unearthed from megalith-II. The monument consisted of eight clinostats arranged in roughly circular pattern. The clinostats were placed in a pit. Megalith-III also was not seen to carry any burial goods. Megalith IV revealed features similar to megalith I. An urn has interned into a pit which had eleven pots and fragments of bones. Megalith V has revealed three pits within the circle. Each pit has been marked with the alphabets A, B and C. An urn sealed with a laterite cap-stone has been unearthed from Pit A. The urn filled with sand was at the bottom and a

copper bowl and iron objects were recovered just above the sand bed. The clayey soil covered the copper and iron objects. Pottery and a triangular granite lid were also unearthed from the urn. A heap of granite rubbles were noticed at the corner of the pit. Pit B also revealed an urn sealed with laterite cap-stone. Iron objects, and a copper bowl were recovered from the urn and three granite slabs were unearthed from the pit. Pit C also yielded similar artefacts as in Pit A and B. Not much data is available on the excavation conducted in 2002-03 except a brief description in IAR (IAR 2002-03)

Pottery assemblage from Cheramanangadu

A techno-morphological typology has developed for the megalithic burial pottery assemblage, out of the materials collected in surveys and excavations (Jaseera, 2020). In this classification the whole pottery assemblage is divided into six classes³ (Table 1), based on the chain operatoire. This classification method is followed because wares tend to be defined very loosely. The methodologies for the megalithic burial pottery have been thoroughly described (Jaseera, 2020) and will not be rehearsed here.

Class	Variants	Description
I	Nil	Unslip red ware
II	Variant 1 Variant 2	Red slip Ware Restricted red slip ware
III	Nil	Black and Red Ware
IV	Nil	Black slip ware
V	Variant 1 Variant 2	Russet coated painted on red slip ware Russet coated painted on black and red ware
VI	Nil	Urn

Table 1: Megalithic burial pottery classes

The pottery assemblage unearthed from the site currently kept in the Interpretation Center of Trissur Circle of Archaeological Survey of India has a total of 32 vessels, including complete and broken, and a few potsherd collected from excavated burials of the site Cheramanangadu. An identification code is assigned to each vessel which is a combination of site code (i.e. CHD) and a number for each vessel of the assemblage. A total of five burials were excavated in 1992-93, but the potteries unearthed during this season of excavation have no context details for understanding the monuments from which the pottery was retrieved. This lacuna restricts us to understand the vessel frequency in each burial. The potteries unearthed from the excavation conducted in

2002-03 season were individually marked with their context. The pottery assemblage of the site, unearthed from two seasons of excavation, belongs to class I, II (variant 1), III, V (variant 1) and class VI. The description given below focuses only on the classes of pottery yielded from Cheramanangadu.

Class

Class I is an unslip ware (Figure 3). Munsell reading for this class is 5YR 8/4 pink. The pottery is hard and irregularity can be felt by touching the surface. A combined production technique might have been used for making these vessels. Traces of secondary modeling have been observed in the vessel (CHD 23) where the ring foot is made separately and attached to the base of the shaped pot. Only one complete specimen was noticed in this category which is from the site Cheramanangadu and other analyzed sherds, including rims are small specimens. Continuous horizontal striation on the exterior surface indicates that the pot was smoothed while it was rotated.



Figure 3 Vessel CHD 23 belonging to class I (Image: Author 2016)

The potteries belonging to class II variant 1 has a red slip on surface of the pottery (Figure 4a and b). This class is referred in archaeological literature as red slip ware. There are many variations noticed in the red slip according to the chronological and regional variations. However, in the literature all of them are included within the umbrella term ‘red slip ware’ which makes the comparison difficult. Very often this group of pottery is also referred to as red ware in archaeological literature. This class belongs to the fabric group 2a. Class II, Variant 1, is medium coarse pottery with application of slip on the exterior, and often in the interior as well. The Munsell readings obtained for this class are 7.5 YR 4/6 red, 10 YR 4/6 red, 7.5 R 4/6 red, 2.5 YR 3/6 dark red. The observation of joining junction in the vessels numbered CHD.18 and 19 shows that the vessel parts were made separately and joined together later on.



Figure 4a: vessels belonging to class I variant; a.CHD.13, b. CHD.25, c. CHD.31, d. CHD.12, e. CHD. 9, f. CHD.15, g. CHD.24 (Image: Author 2016)



Figure 4b: vessels belonging to class I variant 1; a.CHD.14, b. CHD.10, c. CHD.19, d.CHD.11, e. CHD 18 and 19. (Image: Author 2016)

The pottery known as black and red ware forms the class III (Figure 5). BRW is one of the most discussed pottery classes owing to its distinctive double colour. It has a black slipped interior surface and on the exterior black colour is confined to the upper part, mostly in the rim portion. The remaining exterior surface has red slip. All the vessels in this belong to fabric group 2a except one vessel which belongs to fabric group 2 b.



Figure 5: vessels belonging to class III; a.CHD.7, b. CHD.27 c. CHD.20, d.CHD.21, e. CHD.28. f. CHD.29 (Image: Author 2016)

The class V consists of vessels variant 1 is those with painting on Red Slip Ware, commonly known as russet coated painted ware (Figure 6). Among the examined assemblage, the vessels belong to fabric group 2a. The RCPW has white or pale white painted designs on the exterior.



Figure 5: vessels belonging to class V; a.CHD.8, b. CHD.6 c. CHD.1, d.CHD.16, (Image: Author 2016)

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Urns, generally treated as a kind of vessel form, are treated here as class IV (Figure 6) due to the distinct fabric and chain operative. This class includes urns found inside the Iron Age-Early Historic burial monuments. Urn is a large terracotta vessel with a bulbous body. Paddling marks can be seen in the interior. These vessels appear with or without slip. In cases where the urn is treated with slip, red slip is applied to the exterior. The urns yielded from the site belonging to fabric group 1b.



Figure 5: urn sherds belonging to class VI (CHD.29) (Image: Author 2016)

The representation of vessels belonging to these classes is not equally distributed. Among these, class II variant 1 is the dominant one which represents fifty percentages in the total assemblage. Class III and class IV has equal distribution i.e. seventeen percentage and class v variant 1 represents thirteen percentage in the entire assemblage. In the case of class VI, all the urns found in the excavated burials are not preserved in the center and the percentage shown in the chart is based on the number of urns examined. The chart given below gives an idea of distribution pattern of pottery at Cheramanangadu (Figure 6).

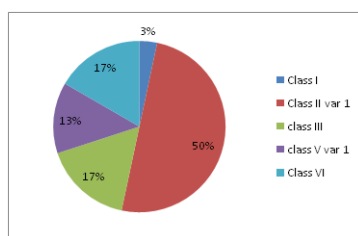


Figure 6: Distribution of pottery classes at the site Cheramanangadu.

Fabric groups

The fabric analysis was conducted on some of the samples to understand the composition of clay. A fresh break was made by snipping off a corner of the sherd with pliers to examine the fabric of each sherd from a freshly cut section. This was not done in the case of whole vessels. The fabrics were studied with the assistance of a 10x hand lens and a portable digital microscope (Micro-Capture, Veho vms004).

The digital microscope was used only for the initial identification of fabrics. A rigorous checking like thin section analysis may bring more fabric groups which is not focused here. The Fabric groups were identified on the basis of variations in the composition of fabrics. Two major fabric groups were identified in the analyzed assemblage. Group I has a high frequency of inclusions, quartz particles are the dominant temper and has a coarse texture. The second group has a slightly more compact texture with tiny inclusions. There are a number of variants in this group.

Fabric group 1a: The texture is very coarse and has a very grainy fracture (Figure 7a and b). It has a few elongated voids. The temper includes high frequency of closely spaced angular elongated quartz grains up to 2mm, a few rounded elongated red, brown and black grits (up to 1mm). The angular quartz particles indicate that quartz was crushed and added to the clay as temper. It has poor pebble sorting. One of the specimens has a single core section and Munsel reading is 5 YR 8 /4 pink. The other one has a section with a thick margin and thin core, margin is 10 YR 2/9 pale orange yellow and the core is 5Y 4/1 dark gray. This group noticed in a few vessels belonging to class I and II variant 1.

Fabric group 1b: This group has a coarse texture with closely distributed sub-rounded quartz particles which measures up to 1mm and organic inclusions (Figure 7c). It has widely spaced black patches. Non-fused organic inclusions are visible in some parts of the section. The voids are elongated and widely spaced. This group has a single core section and the Munsel reading is 7.5 YR 5/6 strong brown. This fabric was noticed in the urn fragments from Cheramanagadu.

Fabric 2a: It has a semi compact texture with a few sand inclusions and irregular fracture (Figure 7d). The voids are elongated. The inclusions consist of white elongated particles below 1 mm size and black elongated particles. Compared to the group 2a, the proportion of sand is high in this group. Tiny specks of mica are visible among the inclusions. It has a single core section with Munsel reading 7.5 YR 4/1 dark gray. This group is the most abundant fabric noticed in the whole assemblage. All the vessels belonging to class V variant 1 and class III except one have made of fabric group 2a.

Fabric 2b: It has a semi compact texture with a few sand inclusions and irregular fracture (Figure 7e). The voids are elongated. The inclusions consist of white elongated particles below 1 mm size and

black elongated particles. Compared to the group 2a, the proportion of sand is high in this group. Tiny specks of mica are visible among the inclusions. It has a single core section with Munsel reading 7.5 YR 4/1 dark gray. This fabric group noticed only on one specimen belonging to class III



Figure 7: a. Fabric 1a ((32X magnifications); b. fabric 1a ((30X magnifications); c. Fabric 1b (32X magnification); d. fabric 2a (30X magnification); e. fabric 2b (32X magnification). (Image: Author 2016)

Vessel form

A complete list of vessel forms for the megalithic ceramics of Kerala has given below (Table 2) (Jaseera, 2020). Among these the vessel forms A, B, C, D, E, F, G, I and O has unearthed from the site Cheramanagadu.

Code	Forms
Form A	Dish
Form B	Bowl
Form C	Deep Bowl
Form D	Bowl with wide orifice
Form E	Lid/ lid cum bowl
Form F	Pot with very short neck
Form G	Pot with short neck
Form H	Pot with high neck
Form I	Bowl with flange at the waist
Form J	Dish/Bowl on stands
Form K	Pot without neck
Form L	Pot with funnel neck
Form M	Pot Stand
Form N	Legged pots
Form o	Urns

Table 2: List of vessel form codes with their respective forms

In the whole assemblage the form B predominates and there is marked difference in the representation of forms in each class. The class I is represented by a single specimen of form D. all the vessel forms available in the site, except form D has a representation in class II variant 1. Class III is represented by only vessel form B. A few sherds of form O were also analysed. The excavation reports mentions

the recovery of a number of urns, but all of them are not preserved. The chart (Figure 8) given below illustrates the form frequency in each class.

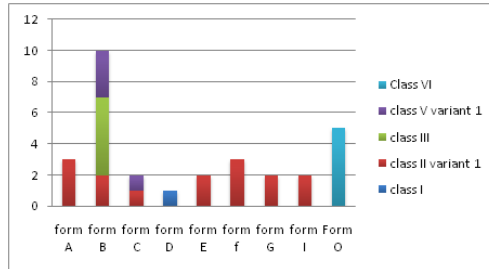


Figure 8: Vessel form frequency in each class

Typology

The morphological typology of vessels unearthed from central Kerala belonging to each class has formulated (Jaseera, 2020), but here only the vessel types yielded from Cheramanagdu is discussed here and The class I represented by only one vessels specimen which belonging to from D- Bowl with wide orifice and type 1. Type 1 (Figure 9) has out-turned, horizontally bent, rounded rim with a groove just below the rim and has a convex sided body. This type has a round base and ring foot.

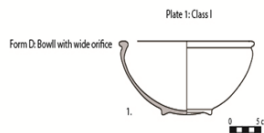


Figure 9: vessel form and typology of class 1; 1. CHD.23, dia ext 21.5cm (Illustration: Author)

Various vessel forms and types are noticed in the class II variant 1 (Figure 9 and 10). Three types of vessel shape have observed in the form A. The type 1 variant1.1 has thickened rim on the exterior leading to a gentle undercut joining to the flared sides and has sagger base. The type 1variant 2 has a gentle beaked rim on exterior and a blunt projection where the body joins with the rim. The sides are flared joining to the round base. Variant 3 has inturned thickened rim with round lip and has gentle projection where the body joins with the rim. It has rounded thickened rim on the interior with undercut leading to the oblique sides

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and sagger base. The vessel form B consists of single vessel type. The type 1 in form b has simple rim with round lip and slightly flared sides. The profile is rounded on exterior at the junction of flat base. Two vessel types are noticed in vessel form C. Type 2 has slightly inverted simple rim with round lip and the interior has slightly thickened round rim. It has a round base with gentle bending towards the obliquely leveled sides and has a sharp bend in the junction of lower and upper body. The upper body is tapering towards the rim. Type 3 has in turned rim with round lip and shallow undercut on the interior. It has straight sides just below the rim which is leading to concave bend, then it forms an oblique profile which gently bends towards the round base. Two distinct vessel types noticed in the form E (Figure 11). Type 1 has short ledge rim with round lip and dome like body with sagger base. The interior has curved rim merged into a deep groove leading to oblique sides. Type 2 has externally splayed out rim with shallow undercut leading to round body and round base.

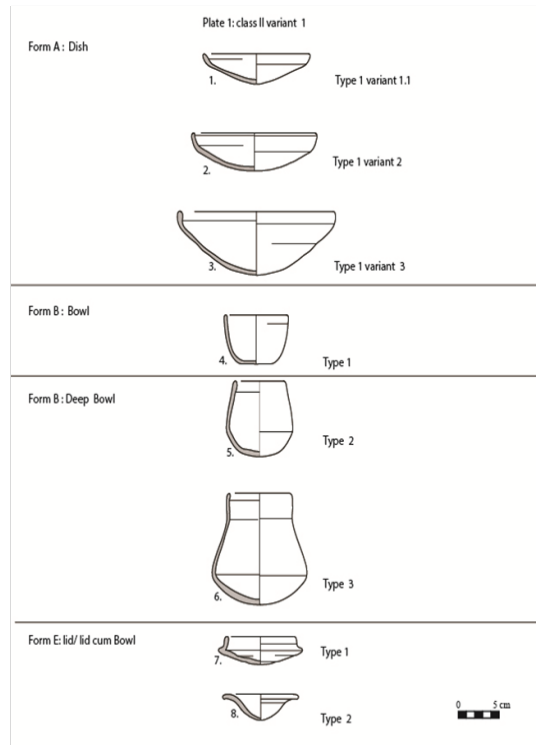


Figure 9: Vessel forms and types of class II variant 1-1. CHD.3 ,Dia ext 13cm, 2. CHD.19, dia ext 15cm, 3. CHD.11,dia ext 19cm, 4. CHD.2 Dia ext 7.5cm,5. CHD.10, dia ext 6cm, 6. CHD.14, 7. CHD.4, dia ext 8.5 cm, 8. CHD.26, dia ext 9cm. (Illustration: Author)

Form F consists of two vessel types. Type 1 variant 2 has out turned rim, bulbous body and round base. It has out turned slightly thickened rim with a round lip and concave neck leading to an oblique shoulder and has bulbous lower body leading to round base. The specimen from Cheramangadu has three grooves on the shoulder. Type 6 has flared rim with out-turned round lip. The neck has concave profile and the shoulder is a splayed shape. It has gentle projection at the junction of shoulder and body. The body forms bulbous profile leads to a gentle bend towards the flat base. The specimen from Cherumanangad has four grooves on the shoulder. Two vessel types included in the vessels form G. Type 2 has two variants. Type 2 variant 1 is characterized by a flared rim and a bulbous body. It has flared rim with out-turned pointed rim. It has a concave shape at the neck. The shoulder is obliquely leveled, then the body forms a bulbous profile leads to the flat base and has projection at the junction of body and base. Type 2 variant 2 has out turned triangulated rim leading to straight neck and shallow concave profile on the junction leading to bulbous body which joins with flat base. It has a prominent projection at the junction of body and base. The interior form a convex profile covering the rim and neck and it gently projects to form concave interior body which sharply bends towards the flat base. Form I has type 1 variant 2. It has a slightly curved upper body deeply bend towards the flange and the flange has rounded upper and lower sides which join to the oblique lower body and round base. The interior is obliquely leveled both on the upper and lower body and the groove at the junction of upper and lower body is not deep. Two broken rim less pots belonging to this class not included in typological classification because a complete analogue of such vessels so far noticed from any other site.

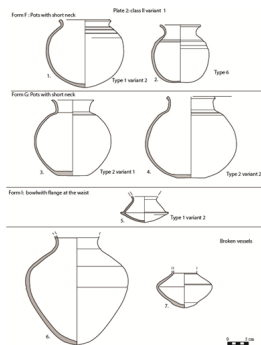


Figure 10: Vessel forms and types of class II variant 1- 1. CHD.15, dia ext 12 cm, 2. CHD.9, dia ext 9.5cm,3. CHD.13,dia ext 11 cm, 4. CHD.12, dia ext10cm
5. CHD.17, dia neck ext 6.5cm6. CHD.25, dia ext neck 10.5cm,
7. CHD.24, dia ext neck 6cm (Illustration: Author)

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Figure 11: Form E; a. CHD 26, b. CHD 4 (Image: Author, 2016)

Class III has represented only in vessel form B and a number of vessel types noticed within this form (Figure 12). The variant 1 has slightly interned simple rim and convex upper body gently bent towards oblique lower body has a gentle projection leading to the flat base. The rim of the specimen unearthed from Cheramanangadu has broken away. However complete specimen was unearthed from other sites. The type 4 variant 1.1 has collar rim with slightly out turned lip and obliquely leveled interior. It has bulbous body and round base. The type 4 variant 1.1 has collar rim with slightly out turned lip and obliquely leveled interior. It has bulbous body and round base. The type 4 variant 1.2 has slight variation on the interior rim which is slightly thickened and round in profile. Type 8 variant 1 has out-turned round lip leading a round upper body which gently merges to obliquely shape lower body. It has projection where the lower body joins with a flat base.

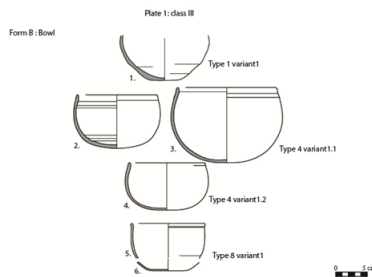


Figure 12 Vessel forms and types of class III-

1. CHD.7, dia base ext 5cm
2. CHD.20, dia ext 12.5cm,
3. CHD.22, dia ext 15.5cm
4. CHD.21, dia ext 12cm,
5. CHD.27, dia ext 12cm,
6. CHD.28 dia ext 6cm. (5 and 6 could be parts of the same vessel)

(Illustration: Author)

The class V variant 1 consists of vessel form B and C. Two vessel types are noticed in the form B. The type 1 variant 1.2 has slightly incurved rim. The convex profile of the upper body gently bends to join the base. The variant 2 has slightly in turned rim with pointed

lip and the upper body has an ovoid profile which gently merges to the oblique lower body with sharply projected junction leads to flat base. Wavy lines are painted on the exterior surface of the specimen discussed above. The vessel form has represented by only one vessel type. The variant 2 has simple round rim and tapering sides with sharp carination at the lower end leading to a round base. The painting on the surface depicts wavy lines.

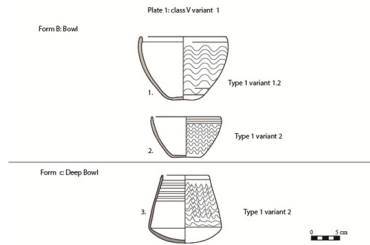


Figure13: Vessel forms and types of class III- 1. CHD.6, dia ext 15cm, 2. CHD.1 dia ext 12cm, 3. CHD.16, dia ext 8cm (Illustration: Author)

A number of urns were recorded in the excavation report, however only a few sherds are available in which a rim sherd and base sherd noticed. The rim is belonging to type 2 variant 12. It has nodule like thickened rim on the exterior. The rim offset from the body with shallow bend at neck. The interior rim has a convex shape and it offset from the body with a bend. The specimen has finger impressed chain design on the neck. The base of urn noticed in the collection belonging to base type 3. It has a truncated base and the lower body is splayed out.

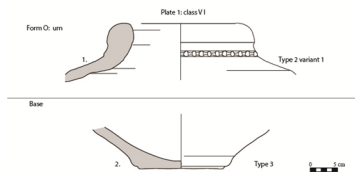


Figure 14: Vessel forms and types of class III- 1.CHD.29, dia unknown, here 20cm, 2. CHD.30 (Illustration: Author)

Discussion

The diverse fabric groups noticed among the potteries unearthed from the site Cheramanangaduu give some insights to understand the nature of this pottery assemblage. The lack of contextual details of some of the samples and poorly defined internal chronology of the monuments limited to make a comprehensive analysis. However, the

fabric analysis and use alteration analysis give some clue to understand the nature of the pottery assemblage.

The variability in fabric can be taken as an indicative to propose that potteries had not been made by following a uniform production process. It is possible that the function of vessel may have decisive role in the clay preparation. For example, the clay paste for making the cooking vessel is not always same as the clay paste of non-cooking vessel. The ethnographic parallel⁴ noted in the pottery workshop at Kottayil kovilakam, located near Paravur in Ernakulam district gives some insight in this regard. Omana, the potter who owns the workshop stated that they are producing only non-cooking vessels currently due to the non availability of the clay suited for the production of cooking vessels. The clay used to make the non-cooking vessels has no thermal shock resistivity. This confirms that the function of the vessel has prime role in the preparation of clay paste. The potter may add temper to the clay or remove certain particles from the clay in relation to the functional efficacy demanded for the vessel. The variability in the function may be one of the reasons for the presence of diverse fabric group in the pottery assemblage unearthed from the site Cheramanangadu.

Two bowls belong to same class, form and type noted for its fabric variance. It is not clear that these two vessels unearthed from a single monument due to the lack of contextual data. One of the vessels comes under the most abundant fabric group noticed in the site i.e. fabric group 2a and the other one belong to fabric group 2a. These samples belong to the class III, form B, and type 1 variant 2, thus the intended function of these bowls may be more or less same. If these bowls intended for the same function; fabric variability noticed in these bowls were not due to the functional reason. These phenomena can be best explained with the help of ethnographic data. The ethnographic documentation of pottery workshops in Ernakulam district (Jaseera, 2017) suggests that most of the potters collect the clay from nearby sources. The potter collect the clay from the shortly accessible sources in most cases. If we take a wider region as the unit on analysis, potters in various localities may have accessed different clay sources for the collection of clay. The petrological composition of the clay collected from each point may have variation. The ethnographic parallels allow us to infer some possible explanations for fabric variability. The fabric variability in these bowls may indicate the presence of two distinct potter groups and they have collected clay from two different sources

or they had followed different chain opetoire in the pottery production. The collection of clay from multiple sources may create fabric variability in the vessels produced from the single workshop.

If the potteries unearthed from the burials intended to perform a single function; i.e. as grave good; the frequency of fabric variability must have been very less. The diverse fabric group noticed in this relatively small assemblage, I argue that the fabric variability can be seen as an evidence to suggest that the pottery assemblage interned in the graves produced not merely to deposit as a grave good; it had some functional dimensions before being part of the grave goods.

The use alteration traces noticed in all the examined vessels is a corroborating evidence to propose that the pottery had a functional value before it interned into the burial as grave good. Most of the pottery in the assemblage has surface attrited traces including both attritional mark and patch. The most common surface attrition is the patch formed on the brim of the vessel (Figure 15). An experimental study has conducted to understand the surface attrition trace formation. In the experimental study two pots were taken, one was filled with drinking water and the other one was used to store tamarind. The water pot accessed very frequently and the tamarind pot accessed often. Both the pots has been using for two years. The frequently used water pot has a very prominent surface attrition patch on the brim which is as same as the patch noticed on the vessel (figure 16) from Cheramanangadu and the tamarind pot has relatively less prominent traces. The study reveals that such traces have been forming while covering and uncovering the lid. It is also important to note that the frequency of use also matters in the formation of use alteration traces. Similar patches noticed on the base of a few bowls. This mark is due to the abrasion while keeping the bowl on some surface which suggests the bowls were in use before depositing into the grave. Scratch marks in different directions were noticed on the surface of some of the vessels, which indicate that the abrasion may be a result of the striking action while washing the vessel with some abradar or unintentionally created while in use.



Figure 15: Use alteration trace on the brim of the vessel (Image: Author, 2016)

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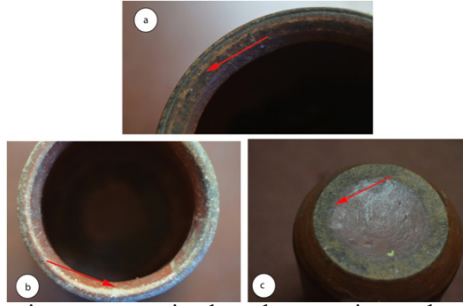


Figure 16: Use alteration traces noticed on the experimental analysis on the brim of the vessel; a. use alteration trace on a tamarind stored vessel, b. use alteration trace on the brim of drinking water storage vessel, c. use alteration trace on the base of drinking water storage vessel (Image: Rajesh Karthy, 2018)

There are a few vessels (CHD 9, 14) which have highly corroded surfaces (Figure 17). The post depositional process can contribute to the corrosion of the surface, but in this case only a few vessels have highly corroded surfaces in the whole assemblage which suggest that the corrosion noticed on the surface is not a result of post depositional alteration. It is possible that these vessels might have been used to carry or store something which has water or moisture content which may have resulted in salt erosion, that ultimately led to the corrosion of the surface.



Figure 17: Highly corroded vessel surface. (Image: Author, 2016)

Chipped surface is a use alteration trace, noticed in a few vessels. These chipping marks commonly noticed on the rim and the brim of the ring foot (Figure 18). The observation of the vessels currently using in the households revealed that such kind of chipping marks very commonly found on the vessels which are in frequent movement. For example the movement of the storage jar relatively less compared to cooking vessel. The striking of the vessels on a surface or some object may cause chipping of the vessels.

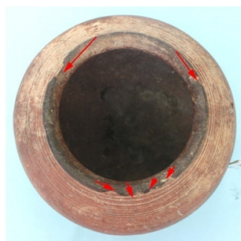


Figure 18: (Image: Author, 2016)

The formation of pits (figure 19) noticed on the external base of the vessel is an indicator to understand the used alteration of the pottery. Skibo (115) observed that such kind of pits created on the vessel surface due to the forceful contact with a small abrader that is harder than the ceramic.



Figure 19: Formation of pits on the base (Image: Author, 2016)

The deposition of soot on the vessel surface is a use alteration trace which contributes to the surface attrition of the vessel. Three vessels noticed with soot deposition on the external surface (figure 20) suggest that these vessels came into contact with fire. However there is marked (Babington, 1823) bowl with wide orifice and it has a very thin layer of soot spread in the base part in an irregular shape. The morphology of this bowl is quite interesting in this context. The ring footed bowls are generally not intended to be placed on fire. This sample is a perfect example to show the intended function of the vessel may not be the same in actual use. The density of the soot on this vessel suggests that the bowl had not been kept on fire repeatedly and the pot might have been positioned at a distance from the fire. The bowl may have been kept on fire one or two times. The second pot (CHD15) has soot deposit spread almost on the lower part of the vessel. The soot density is relatively thick compared to the first vessel. The soot has spread on the entire external surface of the third pot (CHD 22) and the density of soot deposition is relatively high. These two later mentioned vessels

might have kept on fire frequently. The soot deposit on the vessels indicates that these were in use before interred as a grave good. The soot on the vessel surface have deposited as result of firing as part of cooking process or some industrial activity. The very less representation of soot deposited vessel in the entire assemblage can be seen as evidence to support the possibility of industrial activity, but this argument has to be tested by conducting more scientific analysis.



Figure 20: Soot deposited vessel; a. CHD.23, b, CHD.15, c. CHD.22
(Image: Author, 2016)

All the pottery unearthed from the site has use alteration traces which indicate each vessel has in use before interring into the grave. The results of fabric analysis and use alteration analysis form the basis to argue that the potteries deposited in the graves have not bought as kiln fresh, instead selected the vessels which have use value in their contemporary time. Most probably the vessels selected from the used articles of the deceased and this may represent the individual's professional or (and) household items.

It is important to note that the use alteration traces may not be available in the pottery assemblage unearthed from various other sites. Each assemblage unearthed from various sites or even various burials within a site may have distinct nature. Multiple variables might have influenced the cultural formation process and it cannot be identifiable with a linear perspective. The article presents results of a primary analysis and a comprehensive analysis has to be undertaken to understand the complexities of megalithic burials of Kerala.

Notes

1. The term megalith is used in this paper to denote the burial practice prevailed in the Iron Age – Early Historic period; not as a chronological and cultural label.

2. The excavator used the term hood stone to refer the monument which is commonly called as hat stone.
3. This classification is based on the analysis of pottery assemblage unearthed from a few sites in Kerala, particularly in Central Kerala. There is a possibility to find out more classes /forms/types, while analyzing more pottery assemblages.
4. For more details see C.M., Jaseera, 2017. “An Ethnographical Study of Pottery Workshops in Central Kerala, South India.” *Heritage: Journal of Multidisciplinary Studies in Archaeology* 5: 445–60.

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