

NEOLITHIC CULTURE OF TAMIL NADU: AN OVERVIEW

P.C. Venkatasubbaiah*

ABSTRACT

Tamil Nadu lies in the south, south-eastern part of Indian Peninsula, between 8° 5'-13° 35" North Latitudes and 76°15'-80°27' East Longitudes. Tamil Nadu has human occupation extending from the Palaeolithic period. This paper presents an overview of the Neolithic remains of Tamil Nadu.

Keywords: Tamil Nadu, Neolithic, South India, Archaeology, Iron Age

Tamil Nadu lies in the south, south-eastern part of Indian Peninsula, between 8° 5'-13° 35" North Latitudes and 76°15'-80°27' East Longitudes, bordered by the Union Territory of Puducherry and the states of Kerala, Karnataka and Andhra Pradesh. It is bounded by the Nilgiris, the Anamalai Hills and Palakkad on the west, by the Bay of Bengal in the east, the Gulf of Mannar, the Palk Strait in the south-east and by the Indian Ocean in the south (Fig. 1). It covers an area of 1,30,058 sq km, and the western, southern and the north-western regions are the hilly parts, rich in vegetation and the Western Ghats and Eastern Ghats that both meet at the Nilagiri Hills run along its eastern and western boundaries. The Western Ghats dominate the entire western border with Kerala, effectively blocking much of the rain bearing clouds of the South-West Monsoon from entering the state. The eastern part consists of fertile coastal plains whereas the northern part's physiographic composition is a mix of hills and plains.

The central and the south-central regions are arid plains that receive less rainfall than the other regions. It falls mostly in a region of low seismic hazard with the exception of western border. Its normal annual rainfall is about 945 mm (37.2 inches), of which 48% is through North-East monsoon and 32% through the South-West monsoon, but monsoon failures lead to acute water scarcity and severe drought. It is classified into seven agro-climatic zones: north-east, north-west, west, southern with high rainfall and high altitude hilly and Cauvery Delta (the most fertile agricultural zone). The land can be divided into five major physical divisions, based on Tamil textual traditions, namely, the *ku^oiðci* or mountainous region, the *mullai* or forest region, the *pālai* or arid region, the *marutam* or the fertile plains and the *neytal* or Coastal region.

The Cauvery (Kaveri) river, originating in the Coorg district of Karnataka, is the lifeline of the state and the lush Kaveri valley is irrigated by it and hence its Thanjavur delta is called, the granary of Tamil Nadu. The other minor rivers that flow in the state are the Palar, the Pennaiar, the Vaigai and the Tamiraparani. The state is divided into 32 districts (Fig. 2).

*Asst. Professor (Senior Grade), Dept of. History, Archaeology and Culture, Dravidian University, Kuppam-517 426, A. P.

also had a liking to settle in the hilly regions, as the pattern is seen in Bellary and Raichur nuclear regions of the Southern Neolithic culture. Another important aspect being the sparse representation of habitation debris at these sites, which indicates the "single cultural occupation" at most of these sites. But, trial excavations conducted at Paiyampalli, North Arcot district³ and other sites in the Dharmapuri district gave a provision to say that certain Neolithic habitations showed an overlap phase of Neolithic-Megalithic culture⁴ (for details of overlap phase of Neolithic-Megalithic period, see details of excavations of Paiyampalli). Habitation sites are not found on hill-tops, unlike Karnataka and in some cases along with neoliths, microliths made of quartz and chalcedony exhibiting typological similarities with later stone age tools, are also found.⁵ Foote, in the later part of 19th century, had already located two habitations and one factory site at Kappalavadi and Bargur in the then Krishnagiri taluk of the then Dharmapuri district.

An interesting aspect of Neolithic culture in Tamil Nadu being the occurrence of polished stone axes in small isolated assemblages in the wooded hill ranges of Shevaroy, Javadi and Tirumalai hill zones with thick forest cover. These occurrences suggest activity loci and considerable functional use of these tools, especially for felling trees and hence these find spots pinpoint the clearance of vegetation cover in the hilly, forested zones for dry farming operations as cereals and pulses are evident from Paiyampalli.

However, the detailed study of the Neolithic culture in Tamil Nadu is known only from the excavated habitation site of Paiyampalli by S.R.Rao,⁶ and the Neolithic cultural phase/sequence can be well compared to other sites of the state. Regarding the intra-site settlement pattern the Neolithic horizon could be traced on the three terraces situated on slope of a local hill revealing two phases (A and B) of Period I comprising dwelling pits (well compared with that of Nagarjunakonda in the Krishna valley of Andhra Pradesh and Burzahom in the Kashmir valley). These dwelling pits, varying in depths cut into the natural soil and they are roughly oval, rectangular and oblong in plan oriented to the cardinal points. They are either divided into two parts, by a row of stones or have had a ramped approach in the larger pits, but in some bases with two stages of filling of rubble through the arrangement of stone-slab flooring and rammed earth flooring of ca. 50 cm thickness. Post-holes along the periphery suggested thatched-roofs. In Phase B, there seems to have been a definite predilection for built-up huts on wooden posts above the dwelling pits in which floors were often made of stone-chips plastered with earth. The next three upper layers constituting Period II of Neolithic-Megalithic culture, an overlap phase, in which the grey ware and the polished stone axes of the preceding period occur but registers an iron age feature yielding iron objects and the megalithic black-and-red ware. For Period I, the earliest available C-14 date is 1725 ±110 B.C. and later date of 1360±210 BC This suggests that Neolithic phase in Tamil Nadu would have been still earlier as we take the occurrence of mere polished stone tool scatters on the terraces, slopes and hill-tops. For Period II, the oldest and youngest dates are 640 ±105 BC and 210 ± 100 BC.⁷ However, Narasimhaiah's observations through trial digs at the Neolithic habitations of Dailamalai and Tograpalli revealed one layer of deposits with an average thickness of 15 to 20 cm. while Mulliakkadu witnessed a thickness of about a half meter, divisible into five layers with an average thickness between 10 and 15 cm.

Apart from knowing the Neolithic character of sites at Dailamalai, Tograpalli and Mulliakkadu, Narasimhaiah's small scale section-scrapings at these three places helped in studying the ceramic industry in order to differentiate certain characteristic features of sites, based on pottery, as he clustered the Neolithic sites in Dharmapuri

district into three groups, the Dailamalai, Togarapalli and Mullaikkadu. At Dailamalai red pottery predominated (90.5%), but tan was the least (1.63%). At Togarapalli red ware was nearly half percent (45%) closely followed by tan ware (30%) and black ware is the least. While Mullaikkadu yielded all varieties in almost equal quantities, but the grey ware might have been predominant. The overall Neolithic pottery of the region can be divided into five types, red, tan, grey, brown and black wares. In the red and grey varieties coarse, burnished, dressed and burnished and slipped and rusticated varieties are noticed. In the case of brown wares, dressed and burnished or rusticated varieties are not found. Rusticated and burnished categories are absent in black wares. Majority of the pottery is handmade while some seems to be made on turn-table or slow-wheel and in the case of big jars, the beater and anvil method was followed. During the process of manufacture, a lump of grass might have been used to remove excess clay from the body. The process of pottery manufacturing was akin to that of South Indian Neolithic culture, in all matters, such as roughening the surface, burnishing, application of slip and other secondary features like handles, lips, round base and perforation. The shapes contain wide mouthed vases with various rim-forms, globular pots, wide mouthed vases with carinated neck and straight shoulders and a variety of bowls and pots (For forms of pottery, see Fig. 3).

The pecked and ground stone industry of the region consists of axes, adzes, chisels, wedges, hammer-stones, rubber-stones, points, choppers, blade flakes, fabricators and querns. Among which axes dominate, followed by adzes, but other varieties in small quantities. The factory sites at Kappalavadi and Bargur⁸ (first excavated by Foote, 1916) yielded polished stone axes, besides the flakes and by-product flakes perhaps been produced while the tools were manufactured besides a pre-Neolithic flake industry.⁹ But the traces of final grinding places could not be noticed, i.e. grinding grooves over the outcrops. The miniature size of axes and adzes indicates that broken tools were reused through the usual process of making tools, irrespective of rich availability of raw-material and hence one can presume that the Neolithic folk minimized the energy expenditure.

The manufacturing technique consisted of flaking, pecking, grinding and polishing which might be further divided into rough flaking, pecking or hammer dressing, edge grinding and overall grinding. Axes are invariably of pointed butt-end type with a few blunted and truncated varieties in triangular, ovoid, elliptical and quadrangular in shape; lenticular, plano-convex, bi-convex, circular, etc., in cross-section and some of them even possess straight cutting edges. It appears that basalt was the most preferred rock, but Archaen-schist, gneiss, diorite and prophyric trap were also used. Axe-hammers, mace-heads or perforated stones, perhaps, used as weights for digging sticks, are also found. Whereas, other implements, in the tool component, contained mortars and pestles. Adze was invariably used in the carpentry work, as it was grafted to have the working edge at right angles to the surface of the wood to be worked on.

The blade industry was a short blade variety consisting of tool types used as composite tools for the purpose of agricultural and domestic operations made on chert, chalcedony, jasper, quartz and other siliceous material. Tools made out of waste-products were also, perhaps, used, as the tool component consists of flake tools apart from the usual types. Finding the flake tools along with fluted cores indicate that they were locally manufactured as the tool-types show equal proportion of suitable raw material. The pointed tool-types from factory sites consist of borers and points with a tang, as they were made on flakes. A unique specimen of hoe was found from a factory site, as it was fashioned out of a cylindrical nodule which had an equilateral triangular lower portion to its cross-section and pointed end. In addition to these, bone tools found

at Paiyampalli indicate that bone industry also formed an integral part of tool manufacturing akin to the sites from other parts of Andhra Pradesh and Karnataka. It comprised of awls, points, and scrapers of different variety.

Disposal of the dead was practiced in the form of both fragmentary and extended inhumations in pits and urns. However, fragmentary burials are more popular in the case of children, often buried, under the house floors. Adults were interred in an extended fashion with pots; stone tools and even a head-rest were found as at T.Narsipur and Hallur in Karnataka, while children were interred in urns.

The basic economy of Neolithic population in Tamil Nadu was domestication of cattle, sheep, goat, pig and fowl along with hunting of wild animals like spotted deer, jungle cats and other variety of fauna. They also cultivated cereals and pulses like green gram, horse gram revealed from the excavations at Paiyampalli. This assumption has been supported by the occurrence of cluster of axes over the slope of hills and hillocks as a common feature in the wooded tracks of Western Ghats that suggest shifting cultivation by the use of digging sticks with mace-heads. Bones of rhinoceros from Paiyampalli indicate that they were either used as anvils for chipping microliths or could have been an ancient medicinal purpose and its presence in the faunal collection suggest the existence of swamp and thick jungle environment in the neighborhood of Neolithic settlements.

The Neolithic populations of Tamil Nadu had a sense of aesthetics as witnessed in the form of rock painting, petroglyphs and engravings on the walls and ceilings of rock shelters of granite. They executed them in white and red pigments at Mayiladumparai,¹⁰ Oppathavadi¹¹ and Nellerimalai¹² in the form of human and animal figures, human with weapons, archers, bird, elephant and geometric designs. Rajan¹³ while interpreting the rock paintings found at the above mentioned sites, expresses his view that the prehistoric people executed the paintings both in white and red pigments on the ceilings of rock shelters belonging to Neolithic and Megalithic periods. He adds that the figures of white pigment are found superimposing the figures of red pigment, the usual pattern being observed at all rock art sites in India, thereby indicating an early date for the red paintings. Therefore, he argues that they may belong to the Neolithic period as the figures in red pigment are not found on the megalithic burials.

Regarding the chronology, the Neolithic culture of the present region, based on the occurrence of microliths along with Neolithic artifacts, Narasimhaiah¹⁴ suggested five phases of existence of the Neolithic way of life in Tamil Nadu and dated them in the following manner:

1. Pre-Neolithic industry dated to 3500 B.C.?
2. Pre-pottery Neolithic culture 3000-2800 B.C.
3. Neolithic culture, phase I between 2800-2200 B.C; Phase II between 2200-1800 B.C. and Phase III between 1800-1500 B.C.

According to him the Neolithic time-scale was based on the occurrence of large quantities of polished axes and microliths in the same stratigraphic position, as the sites are situated in the plains and due to the absence of pottery from the hill-top sites which have been designated to pre-pottery Neolithic period. Whereas, the three phases Neolithic culture are established after trial digs at Dailmalai, Togarapalli and Mullikkadu according to the occurrence of red ware which was dominant in the 1st phase at Dailmalai, and in the 2nd phase at Togarapalli along with a few grey ware potsherds and stone blades. The 3rd phase, represented at Mullikkadu, consists of grey ware and stone blades in large quantities. It was further concluded that the 3rd phase noticed at

Mullikkadu is contemporary with the Neolithic phase of Paiyampalli dated to 1800 BCE and based on this he pushed back the dates of the 2nd and 1st phases to 2200 B.C.E, respectively.¹⁵

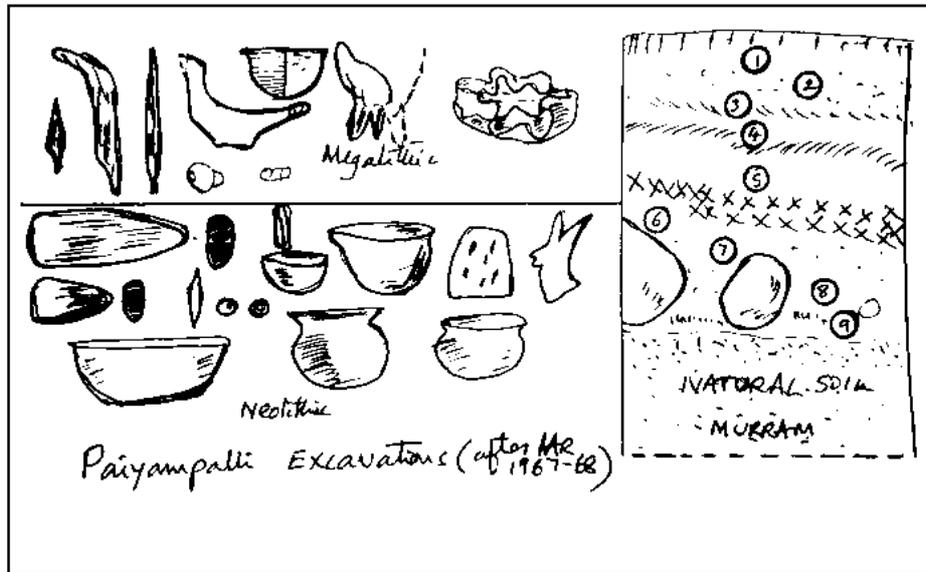


Fig. 3 Paiyampalli Excavations (after IAR 1967-68)

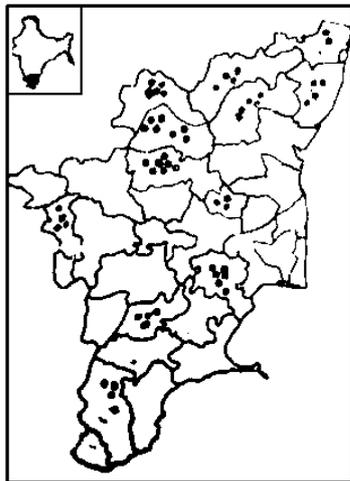


Fig. 4. Neolithic sites of Tamil Nadu

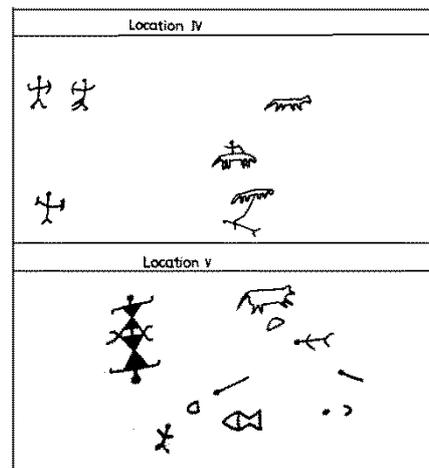


Fig. 5. Rock Paintings in Dharmapuri District (after Rajan 1991)

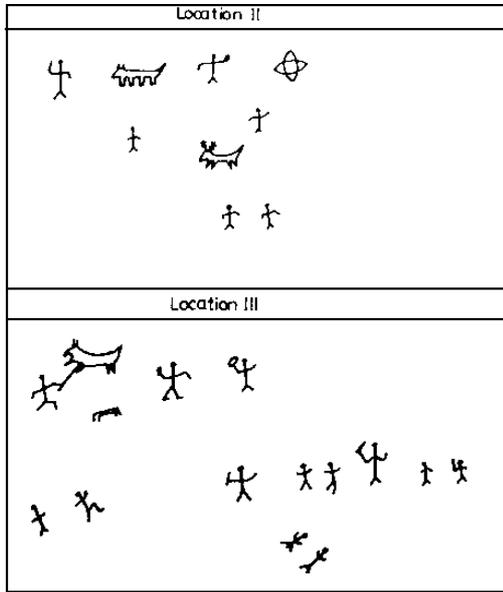


Fig.6 Rock Paintings in Dharmapuri District (after Rajan 1991)

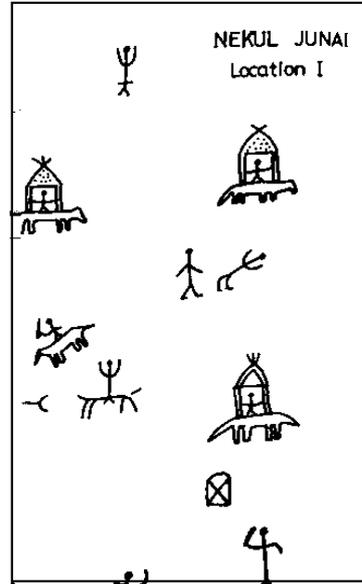


Fig. 7 Rock Paintings in Dharmapuri District (after Rajan 1991)

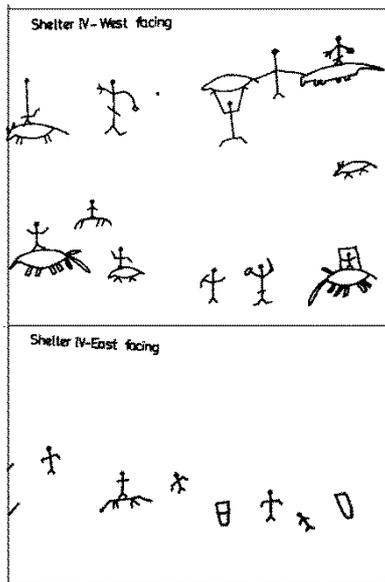


Fig.8 Rock Paintings in Dharmapuri District (after Rajan 1991)

Discussion

In view of the distribution and the stratigraphical occurrence of Neolithic settlements, the author is of the opinion that these pastoral-cum-agricultural community intruded into Tamil region, perhaps at the end of first phase ca. (2500-1800 BC) and beginning of the second phase ca. 1800-1500 BC) of the Southern Neolithic Complex¹⁶ as a result of its south and south-eastern expansion followed by two possible routes, i.e., the Pennar, Palar and Ponnayar river courses¹⁷ from the adjoining areas of the present Kolar and Bangalore districts and from the Mysore region¹⁸ which is drained by Kaveri river, of the south, south-eastern part of Karnataka. Just by taking the occurrence of factory sites and scatters of polished stone tools on the slopes, shoulders and top of hills, this region cannot be considered as one of the nuclear areas of Southern Neolithic culture, like that of Raichur and Bellary doab of Karnataka, as argued by Narasimhaiah and Sriraman¹⁹ and also the carbon dates do not support this presumption. Moreover, finding large quantities of dolerite flakes and edge tools, especially the polished axes, on the Sheveroy hill-ranges signify that it was either due to the process of exploitation of raw-material or left-over artifacts during the process of forest clearance during shifting cultivation, but they do not belong to the first phase of Southern Neolithic cultural component. In addition to that the evidence of head-rests, rusticated pottery, tan ware, large percentage of red ware and bone tools from Tamil Nadu suggests that they are an integral part of Neolithic cultural component of the second phase of Southern Neolithic culture. The profuse quantity of black ware specifically close to the megalithic character within the Neolithic cultural phase is interesting, but the production of grey or red ware without painting may indicate a distinct development, in view of the tradition in the terminal phase when compared to the Southern Neolithic culture in this region.

Appendix on Excavations and Explorations in Tamil Nadu

1. Trial excavation at Appukallu-APKL-1 in North Arcot District (*IAR* 1975-76:39, 1964-65:22 and 1976-77:47): Trial excavation conducted at the foot-hill on the topmost terrace of an ashy mound locally known as Nainarkollai yielded 4.40 m. thick deposit which had been divided into three cultural periods, Megalithic, Early historic and a mixture of Early and Late Medieval, however, the lower most layer yielded a few ground stones of indeterminate shapes devoid of pottery could be ascertained to pre-Neolithic times. Whereas, at APKL-2, trial excavation revealed 1.90 m thick habitation with four floor levels, uppermost and lowermost respectively made of rammed murrum of dark-brown and white kankar clay. One elongated pointed-butt end axe and another fragment of a celt were found on the floor sealed from top at a depth of 1.10 m besides slipped red ware, coarse red ware and other minor antiquities of Neolithic period.

2. Exploration in Coimbatore District (*IAR* 1991-92:96-97), at Tekkalur village, on the bank of river Vannathankarai lies a site extensively rich in calcined faunal remains mostly herbivorous animals of deer, stag, sheep, goat and few cattle bones deposited between granitic boulders bear cut-marks and partially charred suggesting a butchering and roasting spot. Close to this spot there is a habitation which exposed fire places, pounders and pestles.

3. A: Excavation at Paiyampalli, District North Arcot (*IAR* 1964-65:22-23): Under the supervision of S.R.Rao, ASI, trial excavation was conducted with a view to determine the extent of the time-lag, if any, between the end of the Neolithic occupation and the beginning of the Megalithic settlement. Excavation revealed a total habitation deposit in the lower and middle terrace varied from 1.5 to 2.5 m. and two cultural periods, viz. the

Neolithic (period I) and Megalithic (period II) were recognized. Period I was represented by 1 m. deposit yielding ground stone implements like axes with a pointed or truncated butt, stone pounders and polishers, a stone chisel and a hoe; terracotta beads (*IAR* Plate.XVIIA); a terracotta figurine of long-horned variety of cattle and handmade grey ware occasionally burnished and painted on the rim with red ochre were found. Pottery shapes included the lipped bowl, vessel with a flaring mouth and storage jar and dough-plate made of thick gritty red ware. Except a fluted core and an asymmetrical flake, both of jasper there was no evidence of any blade industry not was there any trace of the use of metal. For structural evidence, post-holes in a rammed gravel-floor suggest the existence of a circular hut built of perishable material. In one of the trenches, on the middle terrace, the top level of Neolithic horizon was found to overlap with an early level of Megalithic horizon as evidenced by the co-occurrence of the burnished grey ware and the megalithic black and red ware along with ground stone axes, which sufficiently illustrates the phenomena of the intermixture of two cultures. Whereas, period II was distinguished by the megalithic culture and was represented by 1.5 to 2 m. thick deposit comprising four successive floors, three of which were made of lime or *chunam* and the fourth of red earth. The occurrence of post-holes and rubble-footings indicated that the houses were either circular or rectangular in plan. Remains of an oven and storage jars *in situ* were found on one of the floors. However, among the other finds mention may be made of iron objects such as knives, sickles, nails, terracotta figurines of birds and animals, bangles of opaque glass and shell and beads of semi-precious stones, including the etched variety. Ground stone axes continued in use during this period as well. From the large quantity of iron slag and ore strewn all over the site, it can be inferred that the inhabitants smelted iron at the site itself. The ceramic industry of megalithic culture consists of black and red ware red ware and pink wares including a worse red variety in the late levels however, russet coated painted ware also made its appearance. Charred grains recovered from a large pit belonging to this period indicate the use of gram (khulti), green gram and the cereals resembling ragi, all of which are locally grown even now. At the foot of the hill and in the valley below, several stone circles were located. The excavation established two points: a. the absence of metal in the Neolithic level and b. the overlap between the Neolithic and megalithic cultures.

B: Excavation at Paiyampalli, District North Arcot (*IAR* 1967-68:26-27):The previous work had brought to light the evidence of two cultural periods, viz., the Neolithic (Period I) and the Megalithic (Period II). The carbon-14 determinations of charcoal samples indicated a date of 1390 ± 200 B.C. for Period I and 315 ± 100 B.C. for Period II. The renewed excavations were undertaken with five objectives: 1. to obtain more data on the nature of the dwellings in both the cultural periods; 2. to ascertain the method of the disposal of the dead; 3. to confirm the absence of metal in Period I as evidenced by the previous season's dig; 4. to investigate the part played by the blade industry in the Neolithic culture complex of this region and 5. To know whether there was any time-lag between the two cultural periods and if so, whether the overlap of ceramic industries noticed in the middle levels was a superficial one. Fig.3 reveals two phases of A and B in Period I. Phase A, represented by layers 8 and 9, contained bone tools and short blades of jasper, agate and chert, besides ground stone axes. Layers 7 and 7A formed the latter Phase B of the Neolithic occupation and contained lesser quantity of stone blades and bone tools. Layers 5,6 and A yielded iron objects and the megalithic black and red ware as well as the grey ware and polished stone axes of the Neolithic types and hence been considered as an overlap phase of Neolithic-Megalithic culture.

In Site-1, dwelling-pits of varying depths cut into the natural soil, roughly oval, circular and oblong with longer axis along the cardinal points, were uncovered and one of such pits was divided into two parts by means of a row of stones. The larger ones had

a landing or ramp-like approach on one side. A dwelling-pit lined with stones along the edges showed two phases of occupation, the earlier marked by a flat stone at the bottom and the subsequent one by a floor made of rammed earth, 50 cm. in thickness. A coarse red jar was found *in situ* on the floor and post-holes along the periphery of a few pits suggested the existence of some sort of thatched superstructure over them. Some refuse-pits too were encountered. Bone tools exemplified by awls, points and scrapers were also found in one of the dwelling-pits besides fragmentary ground axes and short blades of chert and quartz. Axes with a pointed butt formed the majority. Axe-hammer was an interesting type that occurred here. Mace-heads found here, used as weights of digging stick, were of particular interest. For domestic use and agricultural operations short blades of chalcedony, chert and quartz were used in the form of composite tools. Ceramic contents of Phase A comprised pale grey, burnished grey ware besides red ware but in small proportions. Among other stone objects found in the Neolithic levels include querns, mortars, pestles and pebble-polishers.

Phase B denoted the absence of bone tools, an increase number of stone blades and marked preference of built up huts with wooden posts over the dwelling-pits definitely indicating further development in the economy of the people. The floors were leveled with stone chips and plastered with ash-mixed earth. Of this phase, the principal pottery was red ware, though use of grey ware also continued. However, still, later, in layer 6A, 6 and 5, Neolithic and Megalithic wares were found together but the emergence and disappearance of painted pottery was a striking feature. All vessels of pale grey and red wares of pure Neolithic levels were handmade or turned on a slow-wheel. The most outstanding type occurring in all the fabrics was the lipped bowl with a round base. Pale grey ware was found painted in red ochre on the rim and another rare type was a bowl with a short channel-spout. The Neolithic settlers of Paiyampalli used to cultivate cereals and pulses. Charred grains identified as horse gram (chute) and green gram have been found in those levels where a few sherds of megalithic period occurred in Neolithic deposit. The skeletal remains from the Neolithic levels represented the arrival of bovid group, sheep, spotted deer, fowl, pig, jungle cat and rhinoceros. Swamps and thick jungle in the neighborhood of Paiyampalli suggested by the presence of rhinoceros bones.

District-wise distribution and details of Neolithic sites in Tamil Nadu:

1. Chingleput District (now divided into Kanchipuram and Tiruvallur): at Orathi (*IAR* 1979-80:69& 1987-88:102) and Tangalacheri (*IAR* 1957-58:38) where habitations yielding stone artifacts and pottery of burnished red ware, red ware and black ware was found; at Palavur and Peruveli (*IAR* 1994-95:65-66) Neolithic tools and habitations were found; at Acharapakkam, Neolithic tools were found at an early Medieval habitation; at Anaikunnam, Neolithic tools were found along with megalithic cist-circles; at Pallipettai, neoliths were found in and around the early Medieval habitation (*IAR* 1989-90:94-95); Neolithic celts at Karunguli and Nilamangalam, and Neolithic celts at Vilagam, all in the Madurantakam taluk (*IAR* 1990-91:64); Neolithic tools at Kilpattu and a Neo/Early historic habitation at Nedungal was located (*IAR* 1988-89:79).

2. Coimbatore District: at Pushpattur, Neolithic tools were found on the surface of Neolithic habitation located on the bank of a local stream, Amaravathi and at Sircarasamakulam, only stone artifacts were found (*IAR* 1957-58:38).

3. Dharmapuri District: at Adanur, Neolithic celts were found on the surface of a habitation; at Kadatur Neolithic habitation along with black and red pottery was found; at Kolahattur, Meriveddapalli, Totttikuppama and Vedarthattakkal, Neolithic habitations were located; at Modur, Neolithic habitation was found along with stone

artifacts and also noticed that the habitation belong to Neolithic/Megalithic culture;²⁰ Neolithic celts were found at Adiyamankottai, Akkamanhalli, Errabhayanahalli and Mulikanur, Muttur, Nagarkudal and Puchchettayahalli (*IAR* 1979-80:69); Neolithic habitations at Alampuram and Venkatatasamudram yielding handmade burnished grey and red wares bearing post-firing ochre painted designs and pointed butt and ground axes along with a number of pointed butt ground axes at the top of Battalamalai hill in Haruru taluk (*IAR* 1970-71:34); habitation site at the foot-hill region of Eriyur with stone artifacts and rock paintings (*IAR* 1988-89:79); at Guttur, Neolithic habitation was located at the foot-hill region where only celts were found (*IAR* 1982-83:71); at Mallappadi, Neolithic habitation along with grey ware and a head-rest was found (*IAR* 1977-078:50); at Peramanallur, Neolithic habitation at the foot-hill region with stone artifacts on surface (*IAR* 1978-79:20); at Bargur, a Neolithic factory site at the foot-hill region was located; at Dailamalai, Neolithic habitation at the foot-hill region where stone artifacts were found; at Gollapalli, Neolithic habitation at the foot-hill region with stone artifacts; at Kappalavadi, a factory site near the hillock along with other stone artifacts; at Mullikadu, a Neolithic/megalithic/early historic habitation along with Neolithic stone artifacts; at Pannimaduvu and Togarapalli, Neolithic habitations were found at the foot-hill region along with stone artifacts (Narasimhaiah 1980:28-30).

4. Madurai District: Neolithic habitations at Alampatti, Sivarakottai, T.Kallupatti and Tirumanikkam were located where burnished red ware, red ware, black ware with white paintings along with stone artifacts was found (*IAR* 1958-59:31); At Kollampattarai and Tangalacheri, Neolithic habitation along with stone artifacts were found (*IAR* 1957-58:38); Habitations along with pottery and stone celts were found at Kodangipatti and Karuvelampatti and at Tidian, a factory site was located at the foot-hill region (*IAR* 1960-61:18); At Bargur and Mulavi, Neolithic habitations along with pottery and stone artifacts were found at the foot-hill zone (*IAR* 1962-63:13); At Thalalapattimatum of shervaroy hills Neolithic habitation along with stone artifacts were found (*IAR* 1963-64:19). At Kovalanpottal, a trial excavation was carried out in the Neolithic horizon where an urn burial along with stone artifacts and also Neolithic habitations were found at the foot-hill region along with pottery and stone tools at Amirdhi and Kovalanpottal (*IAR* 1979-80:69).

5. North Arcot District: Neolithic habitations were found at Ambur, Lagattupallam and Pannagaram in the foot-hill regions by finding stone artifacts and pottery of grey ware and at the second site, a trial excavation revealed urn burials (*IAR* 1979-80:69 and 1980-81:65); Neolithic habitations were also located, mostly at foot-hill regions at Boganapalli (*IAR* 1964-65:22); and Kallerimalai (*IAR* 1975-76:39); Karuvelamapatti and Kodangipatti (*IAR* 1960-61:8), Sangamedu (now comes under Pudukottai District: *IAR* 1961-62:26), Siyamangalam (*IAR* 1977-78:82), T.Kallupatti, Thalapanmatan (*IAR* 1976-77:46; trial trench revealed pottery and stone artifacts); Thalatapamalai (*IAR* 1963-64:19-20 and Tirumalai (*IAR* 19665-66). At Thalapamalai, six rock shelters possessed rock paintings and stone tools of Neolithic period were found and at Tirumalai cores of Deccan trap was also found apart from the usual stone tools;

6. Salem District: Neolithic habitation sites were found at the foot-hill regions of Bargur Mulavi (*IAR* 1962-63:13), Beganpalli, Gollapalli (*IAR* 1964-65:22), Kalamankoil, on the drainage of Kaveri River (*IAR* 1961-62:26), Periyatanda and Tarakadu (*IAR* 1972-73:62);

7. Tirunelveli District: Neolithic habitation was found at Seidunganallur, where stone artifacts were collected²¹ (Ghosh 1989:67);

8. Ramanathapuram District: Neolithic celts were found at Periyakottai on the surface of a Neolithic habitation (*IAR* 1985-86:114);

9. Villupuram District: Neolithic celts and pottery was found at a Neolithic habitation where a temple of Chola period was explored at Gengavaram along with sarcophagus; a Neolithic-megalithic site along with fragments of sarcophagus was found at Samanthakuppam and at Solankunam, a Neolithic-Megalithic site was located where pottery, stone artifacts and sarcophagus were found (IAR 2000-2001: 117,161).

End Notes

-
- ¹ Foote, R.B. 1916. On the occurrence of Stone Implements in lateritic formations in various parts of the Madras and North Arcot Districts, *Madras Journal of Literature and Science XIV* (Series 3, Part 2), 1866:1-31; R.B. Foote, *The Foote Collection of Indian Prehistoric and Protohistoric Antiquities: Notes on Their Ages and Distribution*, Madras: Government Museum.
- ² Narasimhaiah, B. 1980. *Neolithic and Megalithic Cultures in Tamil Nadu*, New Delhi: Sundeep Prakashan.
- ³ *Indian Archaeology A Review (IAR)*, New Delhi: Archaeological Survey of India. IAR 1964-65:22-23 and 1967-68:26-27.
- ⁴ Narasimhaiah, B. 1980. *Op. cit* :28-30.
- ⁵ Subramonian, V.I. 1990. *Dravidian Encyclopaedia. (People and Culture)*, Vol.1., Tiruvananthapuram: The International School of Dravidian Linguistics:487.
- ⁶ IAR 1964-65:22-23 and 1967-68:26-27
- ⁷ Ghosh, A. (ed.). 1989. *An Encyclopaedia of Indian Archaeology*. Vol.1 (Subjects), New Delhi: Munshiram Manoharlal Pvt. Ltd.:68. & IAR 1968-69:73
- ⁸ Foote, R.B. 1916. *Op. cit*.
- ⁹ Some of them could belong to Paleolithic phase.
- ¹⁰ Figs.12,13 and 14 of Rajan, K. 1991. Archaeology of Dharmapuri District, Tamil Nadu. *Man and Environment*, XVI(1): 37-52.; *ibid*. 44-45, and Figs.7,6 and 5 of this paper.
- ¹¹ Fig.10 of Rajan, K. 1991. Archaeology of Dharmapuri District, Tamil Nadu, *Man and Environment* XVI(1):42 and Fig. 8 of this paper.
- ¹² Rajan, K. 2011. Rock Art in Tamil Nadu: A Status Report. *Man in India* 91(2):337-357.
- ¹³ Rajan, K. 1991. *Op. cit*.
- ¹⁴ Narasimhaiah, B. 1980.*Op. cit*.
- ¹⁵ Rajan, K. 1991. *Op. cit*.I:39.
- ¹⁶ Bridget Allchin and Raymond Allchin. 1968. *The Birth of Indian Civilization*, Harmondsworth:Penguin Books:163.
- ¹⁷ Banahalli and other sites: see Table 11 of Appendix III; Ravi Korisettar, P.C.Venkatasubbaiah and Dorian Q Fuller. 2002. Brahmagiri and Beyond: The Archaeology of the Southern Neolithic. In *Prehistory: Archaeology of South Asia (Indian Archaeology in Retrospect)*, S. Settar and Ravi Korisettar (eds.), Vol. 1., New Delhi: Manohar and ICHR:470.
- ¹⁸ Hemmige. 2002. *T.Narsipur and other sites*:see Table Table 12 of Appendix III; Ravi Korisettar et.al. *op. cit* :471-72.

-
- ¹⁹ B. Narasimhaiah, B. and P.S. Sriraman, P.S. 2004. Neolithic Culture in South Karnataka (Kaveri Valley), In *Indian Prehistory and Protohistory (Recent studies)*, Proceedings of R.B. Foote Memorial National Seminar 1995, A.Sundara (Eds.), Bangalore:Directorate of Archaeology and Museums, Govt. of Karnataka:203.
- ²⁰ Rajan, K. 1991. *Op. cit.*:37-47.
- ²¹ Ghosh, A. (ed.). 1989. *An Encyclopaedia of Indian Archaeology*. Vol.1 (Subjects), New Delhi:Munshiram Manoharlal Pvt. Ltd.