



Megalithic Cemeteries and Land Use in the Yān Oya River Basin of Sri Lanka

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Abstract

Megalithism is a cultural phenomenon associated with mortuary rituals. Societies that practise megalithism construct burials and memorials using stone slabs in memory of the dead as a form of ancestor worship. Archaeological evidence shows that the remains of these cultural practices that originated during the Neolithic period, occur in various geographical zones around the globe. Across peninsular southern India and Sri Lanka megalithism is observed, reflecting the cultural identity of Early Protohistoric-Iron Age communities of South Asia and practised even today, in certain parts of India. In Sri Lanka, the Yān Oya macro region of the North Central Dry plains is a geographical region where megalithism is prevalent and visible on the landscape. Megalithic groups appear to have widely dispersed across the Yān Oya river basin from the early quarter of the 1st millennium BCE to the early quarter of the 1st millennium CE with their adaptive strategy contributing to the formation of the cultural landscape of the region. In this paper, the megalithic cultural complex in the Yān Oya macroregion is discussed using evidence from archaeological surveys and excavations, with a focus on territorial expansion, resource exploitation and land use pattern. Archaeological evidence points to a series of three patterns or phases where the megalithic community in the region developed from a nomadic or semi nomadic pastoral subsistence to a sedentary village based agro-pastoral subsistence.

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Introduction

The megalithic necro-geographical region of the north-central dry plains of Sri Lanka corresponds to the Yān Oya (river) basin with its geological and climatic features associated with the Dry Zone of the island (Dissanayake, 2018). The Yān Oya basin has been an area of great attraction to Early Protohistoric-Iron Age and megalithic communities. This is substantiated by the large number of archaeologically recorded megalithic cemeteries found in this area (Dissanayake, 2018; Seneviratne, 1984).

The total number of megalithic cemeteries currently recorded in the Yān Oya basin is 34 (Figure 1), with five cemeteries in the upper basin, 26 cemeteries in the middle and three cemeteries in the lower basin. As suggested by Seneviratne (1984), the geophysical environment as well as the socioeconomic and cultural features of the megalithic communities have resulted in the gathering of the majority of protohistoric and Early Iron Age people within this core area identified in the landscape with megalithic cemeteries and settlement sites. It is assumed that the megalithic communities have been attracted to the natural ecological niches of the Yān Oya basin not only as a result of stimuli created by favourable environmental conditions, but also by the incentive offered by their own subsistence strategy associated with megalithic sociocultural practices.

The objectives of this article are to discuss the subsistence strategies and physical factors that led to the distribution of megalithic communities across the entire Yān Oya region and to understand the nature of the cultural landscape formed by the activities of these groups. Furthermore, the long-term continuity and changes in the megalithic cultural complex in the region is discussed using evidence from archaeological surveys and excavations conducted in the Yān Oya macroregion during the past few years.

Adaptive strategies, land preference and land use patterns

In order to study resource utilisation and land use patterns of the megalithic groups in the Yān Oya basin, the spatial pattern of megalithic archaeological sites (cemeteries and habitation sites) were taken into consideration. Interpreting the spatial pattern of archaeological sites distributed in a certain landscape facilitates the understanding of the factors that stimulated the structures of such patterns. It is apparent that the spatial dispersion of the megalithic archaeological sites of the Yān Oya basin have been based on two basic factors. They are: (a) physical factors and topographic features, (b) cultural and socioeconomic factors.

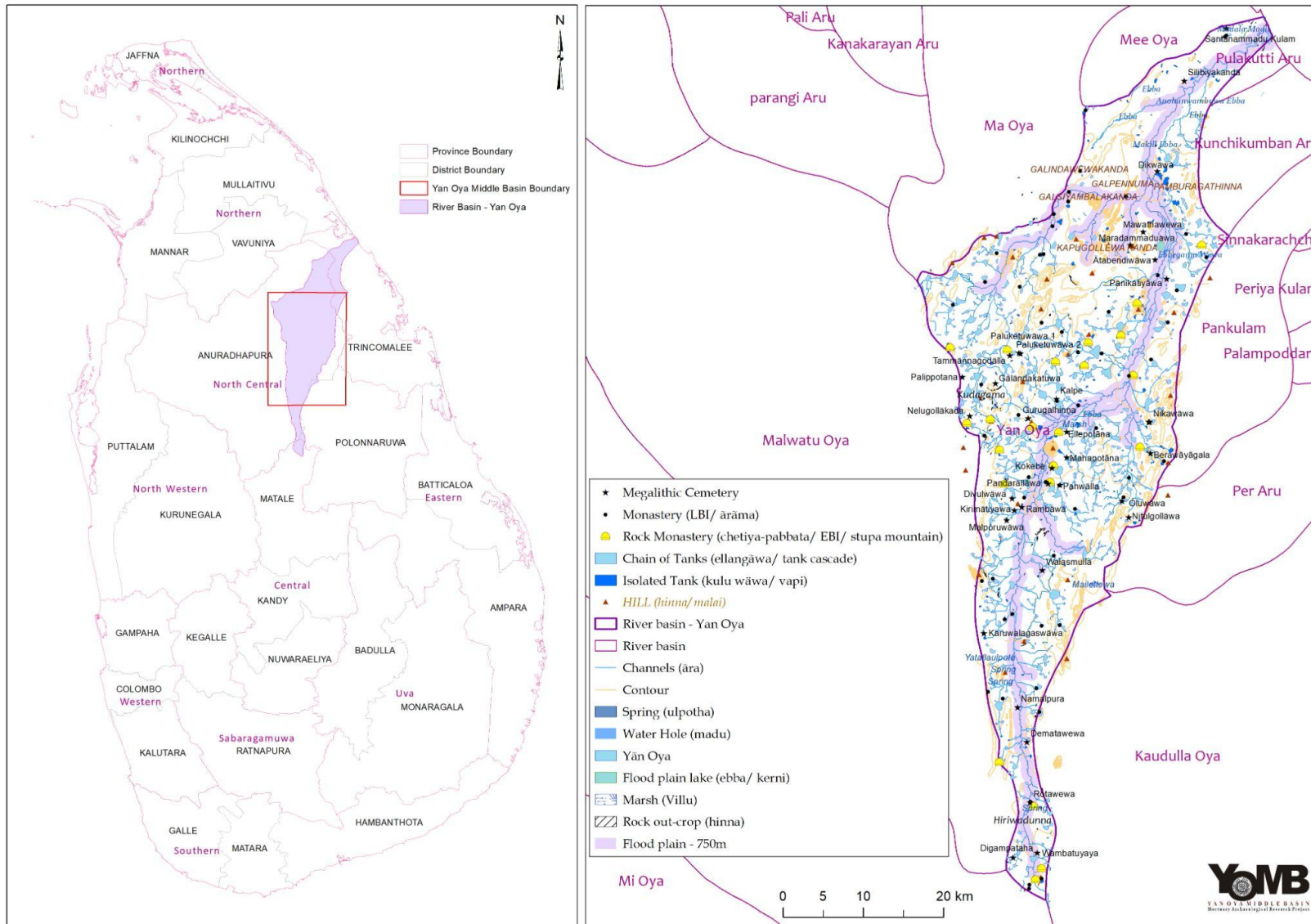


Figure 1. Map of Sri Lanka (L) and Megalithic cemeteries in the Yān Oya river basin (R).

The first factor of geophysical considerations is connected to several ecological aspects such as the geophysical environmental characteristics of micro ecological niches in this region. Such geographical features are elevation, slope, soil structure, availability and persistence of food and water sources, distance to resources and the quantitative/qualitative value of these factors. The second factor contributing to the shape of the dispersion of the megalithic archaeological sites comprises the sociocultural and economic factors. These factors are directly related to human activities. For instance, a community following a nomadic pastoral economy or an agricultural economy conduct their lifeways in a particular space demonstrating the behavioural pattern apt for their primary economic strategy (Butzer, 1982:258; Gebel, 2008:7).

The point pattern analysis indicates that the spread of megalithic archaeological site density of the Yān Oya region correlates with environmental variation. Clearly observed patterns and arrangements are identified bringing to focus the relationship between 'the locations of natural features' and 'archaeological features' of the Yān Oya basin (Table 1).

Table 1. Spatial and archaeological phenomena in the Yān Oya (river) basin and suggested explanatory factors.

Feature	Spatial phenomena	Archaeological phenomena	Explanatory factors
1	Mainstream, Floodplain, rocky outcrop or monadnock, Grassland (<i>damana</i>), Floodplain lakes (<i>vala, vila, villuor ebba</i>), Swamp, Alluvial narrow strip	Megalithic cemetery (built environment)	Pastoral economy based semi sedentary or mobile way of life, seasonal post-flood or incipient rain-fed agriculture.
2	River catchment or basin, Natural canals (<i>āra</i>), Natural ponds, water holes (<i>ebba</i>), water springs, small hill, monadnock or rock outcrops (<i>hinna</i>), etched plain with undulating terrain, RBE soil region	Megalithic cemetery (built environment), Sherd and slag scatterings (Semi or permanent settlement), small cave monastery or monistic cells with EBI and small <i>stūpa</i> on top of the rock, Rudimentary ponds (converted as tank) or isolated tanks, arable lands	Intensive irrigation agro-pastoral economy based sedentary way of life, isolated tank-based villages
3	River catchment, Natural channels (<i>āra</i>), Natural ponds, water holes (<i>ebba</i>), water springs, small hill, monadnock or rock outcrops, etched plain with undulating terrain, RBE soil region, rock knob plain	Megalithic cemetery (built environment), Sherd and slag scatterings (permanent settlement), organic Buddhist monastery with LBI, chain of tanks, paddy fields	Intensive irrigation agro-pastoral economy based sedentary way of life, integrated tank villages, (or permanent settlements extended throughout the river basin)

The spatial proximity between diverse geophysical phenomena and archaeological phenomena seen in the horizontal space of the Yān Oya basin shed light on their interactive relationship as well as the land preference of megalithic groups. The spread of megalithic archaeological sites observable in the entire Yān Oya basin are seen on the associated horizontal geophysical interface (Katugampola, 2021). However, by dating the archaeological phases from excavations at these sites, it is possible to obtain a vertical chronological gradient. Through this analysis the sites can be ordered, showing that they represent multiple periods and settlement instances. As such, the complexities of the territorial expansion, resource exploitation and the land use pattern of megalithic communities in the Yān Oya basin can be studied through the distribution of megalithic archaeological sites belonging to multiple periods and settlement episodes.

Techno-cultural transformation: time-space gridding and trajectories

Techno-cultural transformation in the Yān Oya study region can be addressed through the techniques of time-space gridding. This is accomplished by categorising the complexity of the Yān Oya megalithic cultural landscape by classifying cemeteries based on the specific occupation periods and their location as parameters, the horizontal and vertical changes in land use, and resource exploitation. Time-space gridding allows inferences on the techno-cultural transformation experienced by the megalithic groups based on three probable trajectories or assumptions related to three phases (Figure 2). They are:

1. Linear sporadic pattern of the Early Protohistoric (EHP 1000-500 BCE) megalithic groups along the micro-ecological niches found along Yān Oya floodplain.
2. Sparse scattering (dispersal pattern) of isolated tank villages of megalithic groups of Late Protohistoric or Protohistoric-Early Historic transition (LPHP/PHEH transition 500-250 BCE) in the natural water courses and floodplains.
3. Dense scattering of a chain of tank villages (cluster pattern) based on the natural landscape where Early Historic (EHP 250 BCE-100 CE) megalithic groups widely renovated the landscape gathering around the newly built tank catchment areas.

The geographical extension of the megalithic sites that spread across Yān Oya floodplain and the entire Yān Oya basin in the 1st millennium BCE and the adaptive strategies of the megalithic community can be categorised into three trajectories. A trajectory here is, the long-term continuity and change of the basic organisational features of a culture. These three trajectories as applied to the study area are explained in detail below.

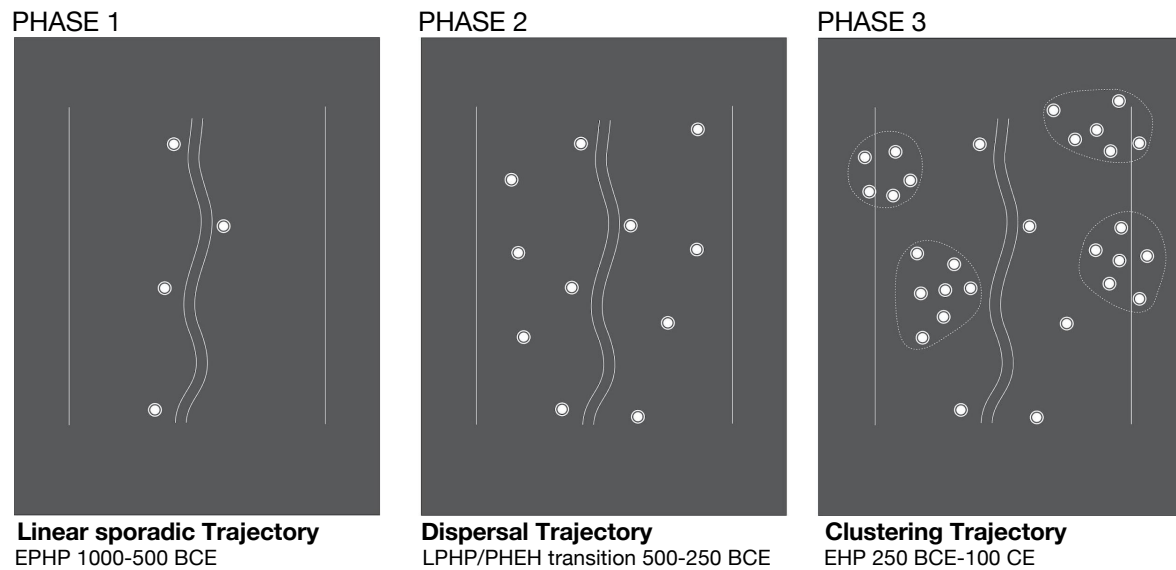


Figure 2. Three phases as proposed trajectories (assumptions) in the distribution pattern of megalithic burial sites in the Yān Oya (river) basin.

EPHP: Early Protohistoric Phase

LPHP: Late Protohistoric Phase

PHEH: Protohistoric-Early Historic Transition

EHP: Early Historic Phase

Phase 1: Linear Sporadic Trajectory (EPHP)

Adaptation associated with the exploitation of floodplain resources in the mainstream

The trajectory in the first phase describes the nature of land use and resource exploitation of the early protohistoric groups that occupied the Yān Oya basin. For this, the site location, which is the only feature visible on the surface of the megalithic landscape and the size of the territory where activities centred on those sites took place are taken into consideration. By focusing on the physical nature and the distribution of micro-ecological niches located along the Yān Oya floodplain where the megalithic cemeteries are found, the environment was directly related to the subsistence strategies of these megalithic groups. Of the sites visible on the surface that belong to the early historic landscape of Yān Oya mainstream, megalithic cemeteries are the most significant. Although more than seven archaeological sites have been recorded from the narrow floodplain of the Yān Oya, surface archaeological evidence of habitation sites associated with these cemeteries has not yet been recorded. The scarcity of habitation sites associated with megalithic cemeteries is not limited to the Yān Oya basin - it is common to the entire north central Dry Zone of the island (Karunaratne, 2010:119). A few examples that confirm these facts are discussed below with reference to three main river basins, which present a distribution of megalithic sites along their floodplains: the Kok Ebe and Ibbankatuwa megalithic cemeteries located in Kala Oya upper basin and the Gedige habitation site located in the Malwathu Oya middle basin in Anuradhapura. These three archaeological sites belong to the Early Protohistoric Phase (EPHP).

The protohistoric habitation in Gedige in the Malwathu Oya basin belongs to 900 BCE (Deraniyagala, 1992), while the megalithic cemeteries of Ibbankatuwa and

Kok Ebe along the Kala Oya and Yan Oya belong to 790 BCE (Deraniyagala, 1992; Mendis, 2017). As noted previously, the EPHP habitation sites manifest poor visibility on the landscape in comparison to the cemeteries of the LPHP/PHEH. Karunaratne (Karunaratne, 2012:113) points out that such habitations were temporary campsites in the river floodplains and a more nomadic subsistence economy may have been associated with these megalithic groups. For instance, the archaeological evidence found from the settlement deposits ASW2 (Coningham, 2006) and ASW3 (Karunaratne et al., 1994) in the Gedige area in Malwathu Oya floodplain provides information about seasonally migrating pastoral communities. These settlements of the Iron Age have been found nine metres below the surface, within silt sediment deposits from the annual flooding of Malwathu Oya (Karunaratne, 2012:113-114).

It is vital to closely study the site location and territory size of the micro ecological units in the region. As outlined by Butzer (1982:225-227), the factors such as water, food resources and topographic features influence the choice of site location of a particular community, while the territory size is decided by factors such as technology, resource limitations and resource exploitation strategies. Although the spatial behaviour of humans appears to be a rational practice with a primary economic basis, it is not necessarily the most suitable factor (Butzer, 1982:258). Humans do not always depend on the principle of least effort, as clearly manifested by pastoral groups who drive their cattle farther seeking greener pastures. Some argue that the spatial practices of a certain community group could rarely function based on the optimization principle which promotes a minimum effort for a maximum return (McFarland, 1978 cited in Butzer, 1982:258). Considering these facts, Butzer (1982:258) has presented two arguments related to the mobility of pre-modern communities and their subsistence strategies: (1) the distribution, predictability, and variables that control resource opportunities and limitations require complex decisions that allow multiple alternative choices, (2) cultural and socioeconomic variables increase the multiplicity of alternative choices that can be made with respect to perceived rather than real environments. Therefore, it is Butzer's belief that the site location or site selection, which is an outcome of the spatial behaviour of a certain community group, takes place in consideration of the suitability for living, which can be quite idiosyncratic (Butzer, 1982:258).

The complexities involving decision making behind the site location of hunter-gatherer, foraging and sedentary agriculturalist communities as identified by Farland (1978) and Butzer (1982) are reflected in the spatial behaviour of the megalithic groups of the Yān Oya basin. From the archaeological studies conducted in Yān Oya basin, it is apparent that the megalithic cemeteries from the Early Prohistoric Phase (1000 – 500 BCE) are located in Yān Oya floodplain. The best example for this is the Kok Ebe megalithic site in the Yān Oya middle basin close to Horowpothana. The floodplain-based location of Ibbankatuwa in the upper basin of Kala Oya and Anuradhapura Gedige in the middle basin of Malwathu Oya are quite like that of Kok Ebe. Karunaratne (2010) who intensively examined the information from excavations carried out in Ibbankatuwa and Anuradhapura Gedige suggests that Early Prohistoric megalithic groups favoured river floodplains as their site locations. This floodplain hypothesis presented by Karunaratne (2010) suggests that these pastoral nomadic communities positioned their pastoral camps and adapted to using resources found in the floodplains (Karunaratne, 2010:219) and that the evidence of these habitations have not endured due to their close proximity to the river. This

argument has merit because only a very small number of early protohistoric settlements are visible and/or recorded from the north central Dry Zone where the megalithic communities were widely dispersed. Moreover, the invisibility of protohistoric habitation sites could be because they may have been temporary camps that were submerged within the deeper levels of the floodplain through time.

There are a few common physical features of the micro-ecological systems around the early protohistoric megalithic sites of the Yān Oya floodplain; they are, the “vala, vila or villu” (floodplain lake), “pataha” or “ebba” (located in the floodplain within the rain drainage system), the floodplain of the system, monadnock or rocky outcrop (a higher land in the floodplain), arable lands and pasture lands found along the floodplains.

A case study: Kok Ebe megalithic site in the Yān Oya Middle Basin

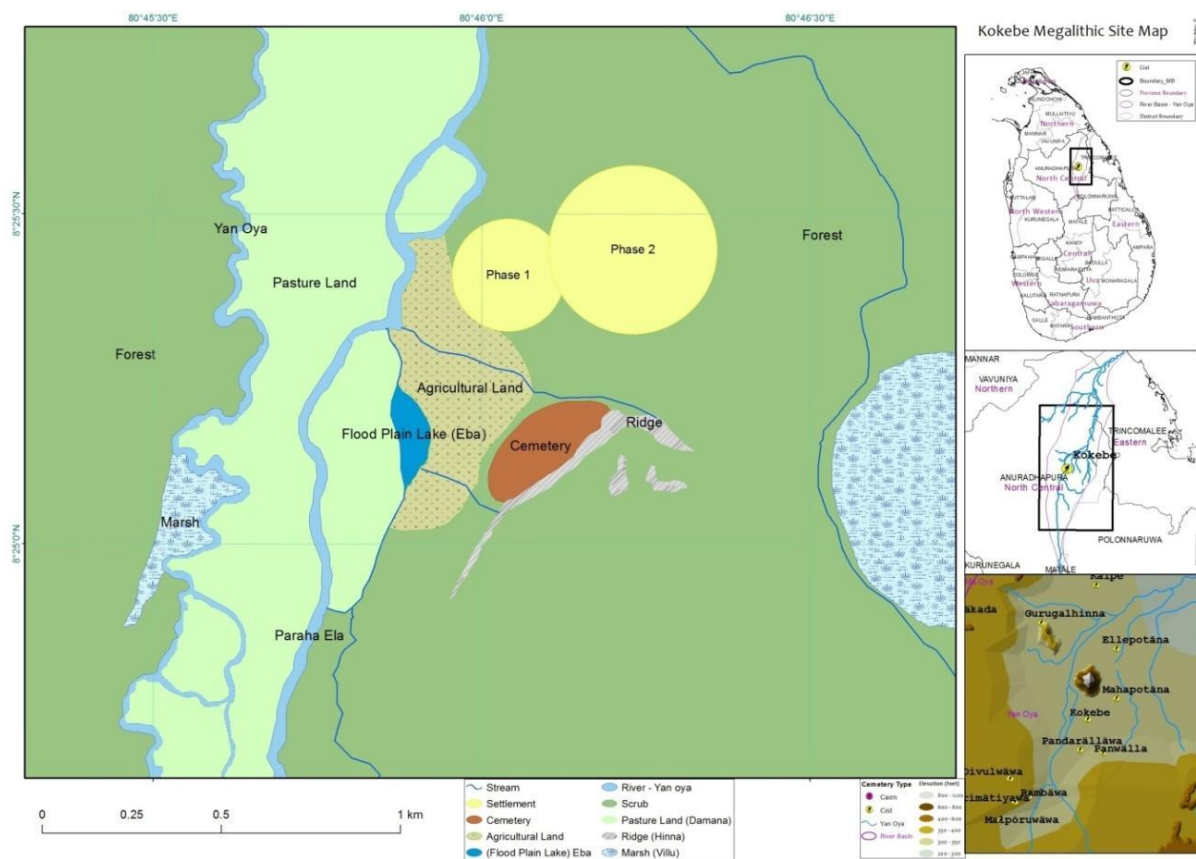


Figure 3. Land use pattern of early protohistoric megalithic communities in the Kok Ebe micro-ecological system.

The Kok Ebe megalithic cultural landscape is highlighted in this discussion of early protohistoric resource exploitation, subsistence strategies and land use associated with the Yān Oya floodplains (Figure 3). The built environment feature that characterises the activities of megalithic communities in Kok Ebe’s natural geographical background is the cemetery. It is a systematic cultural landscape that has been built deliberately, with graves built associating and parallel to the main rocky outcrop in the area. It is also clear that the stone slabs for the graves have been

obtained from this rocky outcrop. Villagers in the Dry Zone use the term “hinna” for these outcrops. Accordingly, the area where the Kok Ebe cemetery is located is called Wadakahagalhinna. Gurugalhinna is another well-documented megalithic cemetery (Ievers, 1885-86; Bell, 1892; De Silva, 1970; Seneviratne, 1984; Dissanayake, 2018) centred on a similar ridge located in the Yān Oya middle basin. Such rocky outcrops or hinna are found throughout the Yān Oya basin.

A large number of Black and Red Ware (BRW) potsherds were found in the soil shovelled from a recently dug well in a sesame plantation located close to Yān Oya, slightly to the north of the cemetery (habitation phase I). When the soil profile of this agricultural well was examined, potsherds at a depth of about 100 – 150 cm were visible, making this location the most probable primary habitation site of the Kok Ebe megalithic community. Evidence of habitation sites along Bellan Oya in the Yān Oya upper basin and Anuradhapura Gedige has been found in deeper levels of the floodplain (Karunaratne, 2010:216-117). The location named phase 2 (habitation phase 2) in Figure 3 is located on higher ground close to phase 1, where iron slag and Red Ware potsherds were densely scattered on its surface. These potsherds suggest that this site belongs to the Early Historic Period.

Early protohistoric pastoral nomadic groups may have been attracted to the micro-ecological zones in the floodplains because they could exploit resources therein without expending significant effort. Shallow water-filled puddles, depressions and open fertile grasslands located in the floodplains of the north central Dry Zone were natural ecosystems that facilitated the subsistence economy of the early megalithic community. The present-day villagers living in the Dry Zone name these water-filled depressions using several terms: villu (floodplain lakes), vala, vila or pataha (pond) or ebba. All of these are natural formations slightly different from each other. There are several villu eco systems of this type in the Yān Oya basin that are home to a wide variety of bird species and are also abundant in aquatic plants, fish, prawns and crabs (Manamendra-arachchi 2014: 39).

Another ecosystem that is found in the Yān Oya basin is the natural formation named “eba”. This ecosystem is formed when a certain amount of flood water from the oya (river channel) is retained alongside the banks in natural troughs. In Kok Ebe there are two channels that allow water to flow in and out of the eba, which become active only during the rainy season. Although the water level of the oya goes down during drought periods, animals rely on using the remaining water in the eba. The important eba found in the Yān Oya basin is where the Kok Ebe site is located (Figure 3). Similarly, another example for an eba ecosystem is “Habavila” which is located close to Wahalkada area in the Yān Oya middle basin (Withanachchi, 2017:72).

Open grasslands are also an ecosystem found in the Yān Oya floodplain. These grasslands, also known as “damana”, are commonly found in the floodplains of the Dry Zone. The spread of damana grasslands depends on the rainfall, temperature, and the soil composition. They are visible as open grasslands with occasionally occurring trees (Manamendra-arachchi, 2014:38-39). Grass species such as *Cymbopogon nardus*, *Imperata cylindrica*, *Themeda tremula*, *T. triandra* and grass families such as *Aristida*, *Brachiaria*, *Eragrostis* and *Ischaemum* are found in the damana grasslands of the Yān Oya basin (Manamendra-arachchi 2014:39). These types of grass are considered most suitable for herbivores, especially cattle.

The Kok Ebe natural micro-ecological system of Yān Oya middle basin (floodplain of the stream or the river, villu, vala, vila or pataha, hinna and damana or

pitiya grasslands) has been extremely favourable for the land use pattern of the early protohistoric megalithic communities. Evidence from the Ibbankatuwa megalithic cemetery (Karunaratne, 2010), which is similar to Kok Ebe indicates the attraction to such ecological niches.

The only built environment feature visible in the physical landscape of the floodplain is the cemetery, which has been built in a very systematic way at a higher elevation of the floodplain. It is often located at the foot of a “hinna” or a small hill in the early protohistoric phase. The probability of locating megalithic habitation sites in peninsular southern India and Sri Lanka is low. As Karunaratne (2010) argues, megalithic communities of the early protohistoric period were nomadic pastoralists who set up their temporary camps in the floodplains. Evidence of those habitations would be deposited in deeper levels with regular floodplain activity submerging the sites (Karunaratne, 2010:118). Kok Ebe and Bellan Oya megalithic sites are such examples where there is very low visibility of early habitation sites of megalithic communities.

As the archaeological records show, the natural landscape in the region was suitable for the subsistence strategies of the megalithic communities who built their burial grounds in higher elevations near monadnocks or ridges, while their settlements were located closer to the water system. Karunaratne (2012:117) believes that the uniformity of the megalithic cultural landscape created in association with the physical landscape of the Yān Oya floodplain is commonly observed in the entire north central dry plains. This spatial rule based on the symbiotic land use pattern or the relationship that influences the geographical location of the megalithic sites has been called the “megalithic residence ruler”. As Karunaratne suggests, the term ‘clan heartland’ is appropriate to refer to the spatial pattern that is embroidered in the cultural landscape guided by this residence rule (pers. comm., Priyantha Karunaratne, 2018).

Phase 2: Dispersal Trajectory (LPHP-PHEH)

Adaptation associated with the exploitation of floodplain resources in the rain-fed channels of the smaller inland valleys.

Archaeological evidence shows that the landscape morphology created by simple megalithic activities associated with micro-ecological systems along the Yān Oya floodplain has evolved into an extremely complex cultural landscape by the Late Protohistoric Phase (LPHP) or Protohistoric-Early Historic transition phase (PHEH) (500-250 BCE). Seneviratne (1984:239) notes that archaeological evidence indicates megalithic communities of the Yān Oya basin showing an interest in expanding their land ownership based on small tanks built for the purpose of using the floodplains intensively.

The land use pattern of the Yān Oya floodplain provides insights on a semi-sedentary foraging economy or subsistence economy during the Early Protohistoric Phase (EPHP). However, instead of being restricted to the Yān Oya floodplain, intensive land-use and resource exploitation of the entire Yān Oya basin including

etched plains and floodplains is evident by the Protohistoric-Early Historic transition period (PHEH).

Archaeological and inscriptional evidence bear testimony to landscape modifications apt for a sedentary agro-pastoral or subsistence economy carried out by building rudimentary small tanks across the basin. The intra-site patterning of megalithic sites shed light on the evolution of semi-sedentary foraging megalithic groups towards a sedentary agro-pastoral subsistence economy. The physical, socioeconomic and cultural factors behind this intra-site patterning can be analysed as factors that are manifest during the transformation of nomadic or semi-nomadic lifeways into sedentary agrarian lifeways (Butzer, 1982:248). Accordingly, intra-site resources, topographic matrix, soil matrix and biotic matrix can be identified as the intra-site physical factors of the Yān Oya megalithic landscape, while the intra-site socio-economic factors include technology, social organisation and cultural values.

Most of the megalithic cemeteries or habitation sites found in the Yān Oya basin belong to the Protohistoric-Early Historic transition phase (PHEH) (500-250 BCE). These megalithic sites are not located in the main floodplain of Yān Oya but rather in the Yān Oya river catchment area, which includes smaller floodplains that feed Yān Oya. The physical components of the micro-ecological systems exploited during the Early Proto Historic Period (EPHP) such as ebba, villu or vila (or pataha), damana grasslands and hinna or monadnocks located in the Yān Oya floodplain and the sub floodplains of the channels found in the inland floodplains have been more intensely used during these later periods. It is believed that the EPHP megalithic communities who had a pastoral semi-nomadic way of life engaging a seasonal post-flood or rain-fed agriculture as well as hunting, gathering and fishing have gradually shifted towards wet cultivation, which involves simple water supply systems along with small tanks to store rainwater (Panabokke, 2009: 18-19; Karunaratne, 2010:128-30). The megalithic communities that led a cooperative lifestyle and economy using the physical components of the natural environment converted their natural environment into a human-made ecosystem based on its adaptive features (Seneviratne, 1987). The centre of this ecosystem was the tank. The naturally occurring rudimentary ponds and depressions (vala, vila or villu and pataha or ebba) located in the floodplains of the Dry Zone could have been later converted into a wewa or larger tank (Ranawella, 2014:115; Tennakoon 2012:44) by constructing small embankments to retain water in shallow villu or pataha. Such rudimentary ponds that have been later developed into tanks are found in the Yān Oya basin. “Ebagamawewa” near Wāgollakada situated in the lower basin and “Kenda Ebba Wewa” located in the middle basin are tanks that have been thus transformed. Similarly, the small tank located in close proximity is called “Bendiwewa”, which stands for bendawewa (built tank). “Kernikulama” located in the Yān Oya lower basin could also be an instance where a natural ebba has been developed into a tank. “Kerni” in the Tamil language is equivalent in meaning to the terms “pataha, vila or ebba” in the Sinhala language. Several villages identified with the name Kerni are found in the Yān Oya lower basin. Brohier (1975) who studied the drainage system in Sri Lanka confirms this idea that many primitive pond-reservoirs were later converted to tanks as the science of irrigation progressed. Fernando (1982:48) who further

supports Brohier's idea identifies the above-mentioned natural rudimentary ponds as the earliest hydraulic structures.

In Early Brahmi Inscriptions (EBI) and Late Brahmi inscriptions (LBI) natural rudimentary ponds are clearly denoted using terms such as “*vala, vila and pataha*”, suggesting that these terms were important elements of their glossary. These “Brahmi” inscriptions belonging to the last quarter of the first millennium BCE and the first quarter of the first millennium CE describe the Buddhist cave monasteries built during this period and the offerings made for the wellbeing of the monks who lived in those monasteries. For instance, the rock inscription of Wannātimune in Kāvantissapura, Séruvila adjoining Yān Oya basin states that the water revenue of the nearby pond (*vila*) had been offered for the maintenance of Thissa Viharaya (Thantilage et al., 2015:6-7). This “*vila*” could most probably be Séruvila located in close proximity to the inscription. The Dūwégala inscription in the Polonnaruwa District, mentions that the revenue of the *vila* named “*Nikulavila*” has been offered for the maintenance of the nearby temple (IC, vol.,II,15). Paranavitana has identified that this is a temple located in the floodplain of Mahaweli River (Paranavitana, 1983:21-23). Similarly, the Thissamaharama inscription includes the terms “*Golagamavila and Golagamaketa*” (referring to a paddy field with that name), while the Molahitiyawelegala inscription mentions the name “*Nakavila*” (Paranavitana, 1983:3), with location names referring to a certain land or a property (Perera, 2001:64). It is assumed that some terms refer to a paddy (rice) field cultivated using the water of the associated *vila* (or *wewa*).

“*Pataha*” denotes a rudimentary water pond found in the floodplains of the Dry Zone. Many *pataha* have been identified in the Yān Oya basin. There is a possibility that the term *ebba* too has been used to refer to such *pataha*. The word *pataha* (pond) is seen in an inscription found in the vicinity of the Buddhist monastery located on the other side of Wadakahagahinna ridge where Kok Ebbe megalithic cemetery is found (Paranavitana. 1983: No., 81, 118-121). As it states, an offering has been made to the temple named “*Harayada*” (*Harayada-viharahi*) and the name “*Har[a]yada-pataha*” could either refer to a land or a paddy field that has been offered or the area from which the offering has been made. This could most probably be a land or a paddy field that links to a *pataha*. A similar name of an area is “*Digampataha*” located near a temple (Paranavitana, 1983:121, footnote 6).

Another word occurring in Brahmi inscriptions related to land offered for the maintenance of Buddhist monasteries in the early periods is “*viyaas*”. According to Perera (2001:67), “*viya*” has been later modified as “*vavi*” and “*vapi*” that has been used to refer to a small-scale tank. The word *vila* has been used together with *viya* (*vihara-viya*) in the Dūvegala inscription (Paranavitana, 1983:15). According to Perera (2010:67), although the specific space or feature referred to by these two terms remains unclear, both could refer to an entity related to water. As interpreted from the Dūvegala inscription, the revenue of the tanks “*vakaravi, viharavi and panitakavi*” as well as the lake named “*nikula*” has been granted to the monastery. Perera (2001) further states that the term *vila* refers to a stagnant pond as per the current usage and the term *viya* stands for a small human-made tank. Fernando (1982) and Panabokke (2009; 2010) who studied the drainage system in the dry zone speculate that *vila* and *pataha* are natural features of the architecture of a stream landscape

(viya>vavi>vapi, in Brahmi inscriptions), formed by blocking the shallow streams found in the etched plains of the dry zone.

The major river channels (Oya) within these etched plain landscapes belong to the categories of primary and secondary geomorphologic basins, such as the middle basins of Malwathu Oya and Yān Oya that consist of a larger number of small tanks (Panabokke, 2010; Tennakoon 2012:14-15). As Tennakoon states, among the factors that have contributed to the large number of small tanks in the left bank of Yān Oya middle basin, which is the focus of this study, the moderately undulating terrain consists of soil regions that facilitate water retention. Not surprisingly, 128 isolated small tanks have been found in the region of the Yān Oya macro basin (Village tank VIDB 2000; Witanachchi 2017:57-58).

Although small tanks can be identified by physical remains visible even today in the Yān Oya macro region, those features would have undoubtedly been through various modifications over several periods. Therefore, despite difficulties in clearly understanding the basic technical formation of these tanks, their existing features such as the location, size, height of the bund and water discharge system enables their identification (Somadeva, 2006:293). There are a multitude of primary tanks built by blocking the rain-fed channels beginning from the top of small basins and the slopes of slightly elevated hinna that separate the basins from each other. The small tanks located by the megalithic cemeteries of Tammennagodella, Kok Ebe, and Nikawewa in the Yān Oya middle basin as well as Dematawewa located in the upper basin are examples of these. A fine example of a group of rudimentary tanks built by blocking the rain-fed channels that begin from small hills or monadnocks is the large number of tanks surrounding Panwewakanda located in the Yān Oya upper basin. These tanks still consisting of simple primary features have been renovated through the intervention of the villagers and divisional administrative units. These tanks surrounding Panwewakanda are not very deep, and their bunds are not very high. Simple clay pipes used to discharge water from these types of tanks have been found by many archaeological surveys (Somadeva, 2006:293). The size of a small tank as at present is 0.03 hectares and its volume is sufficient for the consumption of 10-50 families for a period of 5-6 months (Somadeva, 2006:293; Panabokke, 2009:12; Itekura et al., 1993:7). Panabokke (2009:12) believes that these lakes must have been dug at least 2 metres deep using iron implements, which have been widely used during the PHEH transition phase.

Evidence of Early Protohistoric megalithic groups that lived depending on the natural rudimentary ponds such as vila and pataha in the Yān Oya floodplain is found in the megalithic cemeteries located in Ibbankatauwa, Bellan Oya, Kok Ebe and Satanammadu Kulama (Deraniyagala, 1970; Karunaratne, 2010; Vidanapatirana et al., 2015; Mendis, 2017). Megalithic cemeteries distributed across the Yān Oya macro region and the large number of small tanks built crossing the small basins in the Yān Oya catchment show that during the PHEH transition phase, these megalithic groups that were adapted to a simple foraging economy within a limited area of the Yān Oya basin have spread throughout its macro region, widely exploiting its land and resources. The 36 megalithic cemeteries distributed across the Yān Oya macro region, except for two, belong to this PHEH transition phase. The inscriptions that belong to this period point out that permanent villages have been formed centred on small tanks, built using minimum labour and effort. Substantial information regarding these small tanks and the tank villages built based on them is recorded in the Brahmi

inscriptions found in the Yān Oya macro region (Withanachchi, 2017). As pointed out by the spatial and artefactual evidence of the Yān Oya basin (north central Dry Zone in common), settlements established based on small, isolated tanks described above is confirmed by the ancient sherd scatters found around those tanks (Bandaranayake, 1990; Somadeva, 2006; Karunaratne, 2010). Archaeologists believe that wet cultivation was carried out by using the water retained in the small rain-fed tanks, while their simple “chena” (shifting/swidden) cultivation was dependent on rainwater.

Agricultural tools have been identified among the simple metal implements found from the megalithic graves excavated in the Dry Zone (see ASCAR 1970). Geologically, the Yān Oya inner basin, where megalithic sites have been established, has naturally occurring Reddish Brown Earth (RBE) that is favourable for agriculture (Panabokke, 2009: 18-19). Archaeological evidence shows that a metal technology that facilitated clearing the Dry Zone vegetation and ploughing the soil for chena, and wet cultivation has been available during this period. The Brahmi inscriptions found at Brahmanayagama archaeological site in the middle basin refers to craftsmen in Yān Oya basin engaged in metal work. Such inscriptions carry the terms such as “tabara” (coppersmith) and “kabara” (ironsmith) referring to those craftsmen (Paranavitana, 1970:161d). In addition to the above evidence, slag scatters can be observed in most archaeological sites identified as ancient habitation sites in the Yān Oya basin, while explicit iron production sites have been exposed near the megalithic cemetery at Dematawewa in the Hurulu reserve of the upper basin and near the megalithic cairn field at Oluwewa in the middle basin.

Examining the biotic matrix of a micro-tank catchment shows that the area has provided abundant resources to meet basic human needs required for a sedentary way of life. The rich tank catchment zone has been conducive to an intensive irrigated agro-pastoral subsistence, with a tank centred economy supported by wetlands for farming and grasslands for cattle rearing (Dharmasena, 2004:34-35; Tennakoon 2012:40-62). Thus, the intra-site resource exploitation and land use pattern of the PHEH transition has ensured food security and sustained productivity offering autonomous spatial dispersion (Panabokke, 2009:16; Butzer, 1982:248).

In addition to the physical aspects, the formation of intra-site patterning of the sedentary agro-pastoral tank villages in the Yān Oya basin in the PHEH transition was impacted by cultural and socioeconomic factors. The physical factors (i.e., resource, topographic matrix, soil matrix and biotic matrix) that attracted the EPHP megalithic groups who resided in the Yān Oya floodplain towards the vast Yān Oya inland valley, paved the way for socioeconomic variations of the transitional megalithic groups. The resource limitations of the micro ecological niches in the floodplain in addition to the demographic expansion of population might have been a reason for the decline of the carrying capacity of those microunits. These factors may have served as driving forces behind the territorial expansion and the creation of social dynamics in search of alternate methods of survival and adaptation. The use of technology, social organisation and novel cultural values are evident among the social dynamics that initiate socio economic changes.

Kok Ebe and Tammennagodella (Dissanayake, 2023 forthcoming) of the Yān Oya middle basin represent two phases of the megalithic cultural landscape. It is evident by their placement that clan territories of the Iron Age spread along the Yān Oya floodplain and a vast area of the Yān Oya inner basin. There are both similarities

and differences among the physical intra-site factors of the micro space of the Kok Ebe and those of the Tammennagodella burial site. Through time-space gridding, the spatial and artefact palimpsest discovered in the megalithic cultural landscape of Kok Ebe indicates a multicultural time frame illustrating changes that took place through time.

The transitional process between two cultures or two traditions has been discussed here under two trajectories or phases. What has been described as a trajectory here is the long-term continuity and the transition as the fundamental characteristic of any culture. In other words, taking the Kok Ebe archaeological landscape as a case study, the transformation is reflected in the transition from a foraging economy to a sedentary village based agro-pastoral economy. At an intra-site level, the land usage of Early Protohistoric megalithic communities of Kok Ebe reflected how a nomadic/foraging subsistence lifeway gradually transformed into a sedentary irrigated agro-pastoral lifeway. It is also evident from the archaeological landscape that there had been a gradual cultural or ideological change with two fundamentally different cultures assimilating and/or acculturating into forming one single unit over time. An artefact palimpsest that represents multicultural phases can be seen on the surface in the Kok Ebe microenvironment. This archaeological manifestation found in Kok Ebe is replicated in many other megalithic cultural landscapes.

The physical factors that favoured the megalithic cultural landscape during the Early Protohistoric phase (1000 – 500 BCE) (EPHP) were intensively used during the Protohistoric – Early Historic transition (500 – 250 BCE) (PHEH) (e.g., Tammennagodella). Archaeologists who studied this transition believe that this transformation was the result of a systematic socioeconomic process (Bandaranayake, 2012; Seneviratne, 1987; Somadeva, 2006; Karunaratne, 2010). The PHEH socioeconomic transition was a dynamic related not only to the Yān Oya basin but to the subsistence economy of the entire north-central Dry Zone. According to McIntosh (1982), these dynamics in the subsistence economy are not unique to the Sri Lankan north-central Dry Zone, but common to the sub-sphere of peninsular southern India and Sri Lanka. However, this does not imply that megalithic subsistence economies were identical across the region. The nature of these changes varied according to time and space variables (Gururaja Rao, 1972; Leshnik, 1967; 1974; Narasimhaiah, 1980; Ramachandran, 1980; Rao, 1988; Kajale, 1989; Ramachandran, 1962; Deo, 1985; Lucas et al., 1989; Mohanty, 2005). Karunaratne (2010:121) suggests that the intensity of these transformations depended on the variability of the macro and micro environmental factors.

The only prominent landmark of the megalithic cultural landscape is the spaces on which the megalithic graves were built. These spaces containing the megalithic graves that are symbolic of legitimising tribal land ownership were mostly situated based on rocky outcrops or hummocks in high ground (Figure 4). The reason for this is presumably the easy accessibility to obtaining the raw material and the ability of these elevated landscapes to attract attention. If that is not the case, as Butzer (1982: 248) once stated, the logicity of the perceived environment over the practicality of the real environment might have been a cause. Regardless, one of the hypotheses on megalithic graves is that they were symbolically located as territorial markers (see further, Dyson-Hudson et al., 1978; Renfrew, 1976; McIntosh, 1985: 482; Chapman, 1995:29-48).

Figures 4 and 5 show the regional landscape discussed in this article and an archaeological excavation with several burial structures at the Tammennagodella megalithic burial site.



Figure 4. View from the Divulwewa megalithic cemetery with the Kok Ebe hill, a landmark of the Yān Oya River Basin.



Figure 5. Burial structures excavated at the Tammennagodella megalithic burial site.

In the PHEH transition phase, the monastic rock-shelter residences that were forming in the megalithic cultural landscape signalled the advent of a behaviour system linked to a tradition that was different to what existed previously. This novel cultural pattern implanted within the same megalithic necrogeographic setting forecasted the acculturation process that was bound to happen in the future. The rocky elevations and isolated high grounds with monadnocks that were taken into consideration by the megalithic community in the construction of their cemeteries laid the foundation for the very first Buddhist monastic settlements, common to the entire Dry Zone (Bandaranayake, 1974:17). The “pānsukūlika” ascetic or residence ruler of the ancient bhikkhu society who accepted/used funerary offerings blended well with the basic physical features of the megalithic funerary landscape.

Historic sources indicate that Buddhism was established in Sri Lanka by Arahāt Mahinda in 3rd century BCE. The founding bhikkhus resided in the monastic rock-shelter residences in Anuradhapura under royal patronage (Mahavamsa 16 chap. 12 verse). Those rock-shelter based monadnocks including caves were called “chethiyapabbata or chethiyagiri” (stupa mountains). Small stupas (ākāshachaithya) were constructed in early monastic residences and the remains of these chethiyapabbata or chethiyagiri can commonly be found in the Yān Oya basin.

This Megalithic-Buddhist residence ruler (megalithic burial sites) and the placement of early Buddhist monastic residences based on the spatial rule that relied on relationship, stemmed from similar cultural criteria and consequently, according to archeological evidence, spread rapidly in the Yān Oya basin and in the entire Dry Zone. On the roofs of these monastic rock-shelter residences were inscribed Brahmi dedicatory inscriptions that they enjoyed the sponsorship of the wealthy in the area (Paranavitana, 1970). More than 85 Early Brahmi Inscriptions (EBI) bearing evidence to the construction of such rock-shelter residences have been discovered in the Yān Oya basin. The inscriptions found in Rasnakawewa, Handagala, Kotakanda, Brahmanayagama, Medagamakanda, Kok Ebe, Wadakaha Galhinna, Puliyanakadawala, Diyatitta Wewa, Berawayakanda, Madayakanda, Bambarahela, Mahakapugollewa, Wagollakada, Aliyakada, Walaskunawewa, Kuda Ambagaswewa, Sigiriya, Pidurangala and Sembimale are some examples (Paranavitana, 1970; Medhananda 2008; Thantilage et al., 2016). These cave dwellings, which were natural rock shelters renovated with minimal human intervention and given as an offering to the bhikkhus, were not constructed with formal or geometric architecture. Bandaranayake (1974: 2012: 136-7) bears the view that such informality is a structural reflection of non-centralized social organisation.

Phase 3: Clustering Trajectory (EHP)

Adaptation associated with exploitation of resources in the entire etched plain of the river basin with densely scattered chain tank villages.

During the PHEH transition period in the Yān Oya basin, another improvement in the land manipulation pattern that centred on small, isolated tanks was the creation of a chain of small tanks connecting these isolated tanks. The main technology behind this was the construction of a few tanks that differed from each other in their geographical relief by intersecting the channels flowing from the same natural watercourse from *hinna* (rocky outcrops) to the Yān Oya through small basins. In the

absence of a natural waterway, water from one tank to another was transported through a human-made canal. Scholars recommended the terms “small tank cascade” (Madduma Bandara, 1985) and ‘*Ellangava*’ to refer to such an irrigation system set up in a small basin. There are around 80 such *Ellanga* systems in the Yān Oya macro region that includes approximately 618 small and medium sized tanks (Village tank VIDB 2000; Witanachchi, 2017: 57-59). It is apparent that during the 1st millennium BCE, the spread of the Proto Historic megalithic communities in the entire dry zone in peninsular Southern India and Sri Lanka (that has the same geographical relief as the Yān Oya basin) took place as they were used for a subsistence strategy that could adapt to this specific landscape (Gururaja Rao, 1972). It is estimated that the megalithic groups in this zone, who were used to the techniques of forming small tanks, intersecting acclivity and such methods of land usage, constructed approximately 160,000 small village tanks (Panabokke, 2012:11). According to statistics (Village Tanks of South Asia published by DHAN Foundation 2002 as cited in Panabokke, 2012:11; Chinnian, 1983:37), there are 65,000 such tanks in Andhra Pradesh, 39,000 in Tamil Nadu, 36,000 in the Karnatak region and 18,380 in Sri Lanka.

The archaeological landscape of the Yān Oya macro region faced a major transformation by the EHP 1, 2 and 3 as evidenced by archaeological surveys and excavations. In the Early Historic Period the isolated tanks and settlements (tank-based villages) that spread in the small inner basins of the Yān Oya main basin spread further in the entire Yān Oya macro region. A number of new elements that had not been encountered previously in the archaeological landscape were evident during this period. The cave dwellings of the Buddhist monks who newly came to the rocky elevation of the deathscape were replaced with free-standing monastic residential structures that were made with bricks after landscaping. Such complete monastic complexes built according to formal architectural plans have been termed as organic monasteries by Bandaranayake (1974: 45-6) in his classification of Buddhist monasteries. The Divulwewa monastic complex next to the Divulwewa megalithic cemetery, monastic ruins near the Kalpe-Wadigawewa megalithic cemetery, ruins of Padhanagaraat Kiralagala (Weherabendigala), ruins of Asanaghara monastery at Kok Ebe and monastic ruins near the Silibiliyakanda megalithic cemetery site are some examples. A prominent feature in this period is the aforementioned rural or semi-urban monastic complexes in place of the monastic rock-shelter residences made for the pansukulika ascetic monks.

In addition to the above features of the megalithic cultural landscape of the Yān Oya basin, there are many factors that indicate the complexity in the settlement system. The earlier small, isolated village tanks were further expanded and interconnected in addition to the creation of mid-scale irrigation systems. Also, factors facilitating large settlements that were based on the chain of tanks are also observed archaeologically. A clustering of megalithic burial sites that had initially dispersed in the internal valleys as well as these inter-connected settlement clusters could also be observed. However, by the second quarter of the Early Historic Period (EHP2; ca. 100-250 CE), it was evident that the megalithic mortuary evidence was gradually disappearing from the Yān Oya cultural landscape, but there is also evidence that it continued in isolation in some places. This cultural transformation in the early historic cultural landscape was not unique to Yān Oya basin but evident in

the entire north-central dry zone (Karunaratne, 2010: 142; Bandaranayake, 1992; Seneviratne, 1987; 1996).

The rural monastic complexes that were constructed using durable materials, based on organised architectural plans as noted above; the tank irrigation system irrigated by both natural and human-made canals, which consists of middle-scale tanks; elements of irrigation engineering connected with these tanks, and huge settlement dynamics; the collection of stone bridges across Yān Oya, which indicates the existence of a road system that connected them with the other zones (Vidanapatirana, 2012; 2015: 2016) are the prominent features of the Yān Oya cultural landscape in the Early Historic Period. According to Mahāvamsa (25 chap. 71-72 verse) during the Early Historic Period (EHP1), King Duttagamini (161-137 BC) made Anuradhapura the capital, which lies in the middle basin of the Malwathu Oya (to the west of Yān Oya) in the aftermath of a political unification. It has been proved both historically and archaeologically that the terrestrial area belonging to this political, economic and cultural supremacy centred on the aforementioned control unit extended to the entire country (Bandaranayake, 1974:17; Gunawardena, 1982). An analysis of the Later Brahmi inscriptions found in places such as Rasnakawewa, Timbiriwewa, Tammennakanda, Nettukanda, Kahatagasdigiliya, Kukulewa, Morawewa, Diyatittawewa and Puliyanakadawala reveals that to carry out the developments in the Yān Oya basin, a large-scale donation of paddy fields and tanks was made towards the maintenance of monasteries under royal patronage (Paranavitana, 2001; 1983; Medhananda 2008; Thantilage et al., 2014). Additionally, as mentioned in the Palumekichchawa inscription (Wickramasinghe, 1912, No. 18), by the Early Historic Period (EHP1) the Anuradhapura ruler decentralised the administration of Yān Oya into regions, among which there was one called “Upalabijaka” which had a sub-region called “Utharapuraatana”. Reference is made to this Upalabijaka region in the Tammennakanda rock inscriptions as well (Paranavitana, 1983, No. 140). There are numerous inscriptions that indicate the time (between millennia) as well as the incentives needed for the maintenance of the irrigation and religious complexes and the fact that there was a group of officers in charge of them. They also reveal how the provincial elite (such as Gamika, Parumaka) who were affluent farmers and tradesmen, officials (such as nagaragutika, gamika, senapathi, parumaka) were absorbed into this brand-new governance, while craftsmen and the general public worked for the betterment of the religious institutions.

Archeological and historical evidence reveal that the socio-political, economic and cultural transformation that started in the north-central dry zone during the LPHP/PHEH transition (ca. 500-250 BCE) reached its climax by the Early Historic Period (EHP ca. 250 BCE – 100 CE). Some examples of such transformation in the EHP cultural landscape are: the spread of protohistoric ecological niches in a wider space throughout river valleys, the formation of a chain of tank systems by connecting small isolated tanks (Somadeva, 2006: 280), the creation of paddy fields irrigated by tank irrigation, the building of enormous monasteries that were designed using organised architectural plans and which contained huge stupas (Bandaranayake; 2012:182-18; Karunaratne, 2010:143), Later Brahmi inscriptions include detailed descriptions that run on few lines in place of Early Brahmi cave inscriptions, which were limited to a few words. According to Bandaranayake (2012:154-55), one of the reasons for such advancement in the entire north-central Dry Zone including the Yān

Oya basin is the establishment of a centralised state that brought the whole country under a single regime.

The above outcome of the changes that took place in the north-central dry plains during the Early Historic Period (EHP, ca. 250 BCE – 100 CE) is reflected in the cultural landscape of the Yān Oya basin. A considerable number of changes have taken place in the protohistoric land use pattern that has prevailed in the Yān Oya basin. It was described above that the pastoral economy of the protohistoric period had gradually converted to an agro-pastoral mixed economy by the transitional period and into an intensive irrigation based agricultural economy by the Early Historic Period. As Karunaratne explains, this change of subsistence strategy is an outcome of the adverse impact of irrigation agriculture on the previous pastoral economy (Karunaratne, 2010:120). For instance, two Early Brahmi inscriptions found in Avukana make it clear that a pastoral economy had prevailed during the Early Historic Period and that it had generated a large income (Paranavitana, 1970:91). In this light, the cave inscription numbered 1149 mentions a person named Siva who is the son of Mahasiva, an owner of a grassland (“tanabumika bojhaka”) and the cave inscription numbered 1150 states that a cave was built with the income derived from a grassland that belonged either to Siva mentioned before or another person. It states that this is the grassland of the tank named “Dinna”. However, such grasslands in the tank catchments must have been converted to paddy fields during the Early Historic Period. As two Later Brahmi inscriptions found in Morawewa and Timbiriwewa of the Yān Oya basin state, not only were the grasslands and jungles that had been used for pastoral activities converted to paddy fields by the Early Historic Period, but also those lands were offered for the construction of monasteries (Thantilage et al., 2015(14-15). Accordingly, the forest or land that belong to “upasaka Siva” (devotee Siva) and the forest or land named “Gandamadana” that belong to “upasika Naga” (devotee Naga) have been offered to the same monastery. Upasaka Siva and Upasika Naga may have offered the forests (or grasslands), freeing them from their initial purpose, to build monasteries by the Early Historic Period. Thus, it can be argued that the lush grasslands essential for pastoral activities had apparently been detached from their initial purpose by the 1st millennium CE. However, complete abandonment of the pastoral activities is not suggested while they may not have continued pastoral activities as their major livelihood.

In addition, the shared or common right in terms of land ownership or consumption had transformed into a private one as shown by the evidence from inscriptions (Ranawella 2014: 56-7). Further, many Later Brahmi inscriptions state that there had been private land and tank owners in the Yān Oya basin by the Early Historic Period (Paranavitana, 1970; 1983). This condition had been observable from the PHEH transition itself and according to the Early Brahmi inscriptions, such lands appear to have been owned by a certain family or a clan. For instance, as per the Kok Ebe rock inscription, a woman named Talata Laxmi has offered her share of the property owned by her clan (kula-sataka) and its income to the temple named Harayada (Paranavitana, 1983:118-121). Similarly, Berawayakanda inscription states “parumaka lona shamuda kulaha lene sagasa niyate” meaning that the cave belongs to Lona Samudda's family or clan (Medhananda, 2008). Furthermore, the Kawantissapura cave inscription found in Seruvila adjoining the Yān Oya basin states that “gapati deva gutakulahalene”, meaning the cave that belongs to house holder Dewagupta's family or clan has been offered (Thantilage et al., 2014:7). Most

inscriptions that belong to this period carry the names of the clan. A clan named “Devanampiya” (devanapiyakulahi) has been mentioned in the Minvila rock inscription in the Polonnaruwa District (Paranavitana, 1983:1-2). In certain places the clan’s name refers to the father’s name. For instance, “mahasivayaha puta sivayaha lene” stands for the cave that belongs to Siva, the son of Mahasiva (Paranavitana, 1970:1149). Thus, evidence from inscriptions shows that the practice of mentioning the father’s name, the genealogy or the family name had been a practice in the transitional period. The practice of using the genealogy before one’s own name shows that the family has been a primary entity of the social fabric (Perera, 2001:96). Karunaratna (2010) who studied the Ibbankatuwa megalithic cemetery located in the Dambulu Oya floodplain of the Yān Oya upper catchment, considering the spatial arrangement of its graves, states that the said megalithic society has had two segmented clan units. To elaborate this idea, the megalithic community has been a part of a social structure that consisted of small groups based on a clan with a lineage or extended family units (Karunaratne, 2010: 163). When comparing Karunaratne’s interpretation on the megalithic society with the social structure inscribed in Early and Later Brahmi inscriptions, it appears to be an evolutionary extension of the structure of the protohistoric Early Iron Age itself. Land use (ownership or tenure) in the protohistoric Early Iron Age had been under a communal land tenure system which is confirmed by the archaeologists’ position that megalithic cemeteries were a signifier of tribal land ownership (Renfrew, 1976; McIntosh, 1985:481).

It was explained above that the megalithic communities that adapted to a nomadic or semi-nomadic pastoral subsistence strategy during the Protohistoric-Early Iron Age, have turned towards a sedentary agrarian way of life by the Early Historic Period. This sedentism has been able to promote a sense of individual ownership in place of a communal belonging. Accordingly, the land and property used by a lineage for a long period of time became privately owned. It appears that such land and property had been divided among the members belonging to the same lineage or family (Paranavitana, 2001, No., 153). There is ample evidence to show that words such as “karisa” have been added to the vocabulary to refer to the land extent divided in this manner (Paranavitana, 2001:153; 1983:82). Similarly, the availability of the right to sell or rent such privately owned land or property to a person outside one’s lineage has been described (Paranavitana, 1983:144; Ranawella, 2014:59).

Conclusion

This article discussed the process of sedentarization among groups that occupied the Yan Oya macro region during the first quarter of the 1st millennium BCE and the 1st millennium CE. Relative proximity of location of the megalithic residence ruler of the megalithic community, as suggested by the archaeological record of the geographical space in the Yān Oya basin has been based on cultural and economic criteria. These favoured settings and favoured locations that influenced the geographical location of the megalithic community can be considered elements of sedentism (Gebel, 2008). Moreover, to understand the process of sedentism, a focus on its triggering and empowering territorial, economic and ethological background of the megalithic community is required. For this purpose, the interdisciplinary approach

(Gebel 2008:7) proposed to study the process of Near Eastern Neolithization and sedentarization can be used.

Three trajectories or assumptions associated with the site distribution patterns in the physical landscape associated with cultural phases, were proposed in this article. These trajectories are based on the territorial behaviour of protohistoric Iron Age megalithic groups of the Yān Oya basin, location of megalithic cemeteries and their interconnection. The interactive relationship created by the spatial proximity between the spatial and archaeological phenomena visible in the natural landscape of Yān Oya basin was the basis for these assumptions provided as trajectories. The focal point of all these assumptions was the location of the megalithic funerary monuments, while explaining the setting of megaliths in the landscape. Phase 1 Trajectory assumption is the linear sporadic position of the burial sites along the floodplain of the mainstream. Phase 2 Trajectory assumption reflects the dispersion of megalithic burial sites in different directions of the region away from the floodplain of the mainstream, which is the river catchment or basin.

The scattered distribution of megalithic cemeteries reflected in the first and second phase trajectories (assumptions) can be compared to the model of territorial markers suggested by Renfrew who focused on the positioning of the megalithic cemeteries (Renfrew,1979). According to the first assumption, the pattern of establishing cemeteries reflect the subsistence strategies and the land use pattern of the megalithic community, which have also been indicators of communicating the megalithic tribal land ownership. The megalithic funerary monument can be celebrated as a medium of expressing the ancestry of a lineage as manifested by the spatial connection of the megalithic burial sites described by this assumption. Archaeologists who have previously studied the function of the megalithic funerary monuments identified the megalithic burial sites as landmarks that flagged the transition to liminal zones in the landscape (Gebauer, 2015), while this has also been interpreted as an occasion where the boundary between the landscape “domesticated” by the megalithic community and the areas beyond was marked (Sjögren, 2003 cited in Gebauer, 2015:139). It is this domesticated megalithic landscape that has been suggested as the “clan heartland” in this article.

In the second and third assumptions, territorial expansion of the megalithic groups, the complexity of resource exploitation and subsistence strategies, and an emerging new cultural tradition are reflected. The focal point marked by the funerary monuments, which were the landmarks of the megalithic necrogeographic setting of Yān Oya basin, have been gradually acquired by small Buddhist stupas built in the megalithic funerary landscape itself. The megalithic-Buddhist appropriation reflected by the small stupas overlooking the megalithic funerary monuments is not found only in the Yān Oya macro region, but the tendency to appropriate such sanctified spaces is a common behavioural parameter in the peninsular South India-Sri Lanka sub-sphere (Rajan, 2013:824). Following the first and second assumptions, it can be suggested that the funerary monuments must have been built as a medium to communicate the legitimacy of land use and the consolidation of the members. However, the third assumption, which is the clustering assumption, hints at a transformation into a regional level of social organisation that brought about discipline

through an organised ideology. This complexity reflected in the temporality of the Yān Oya landscape sheds light on megalithic ethos and mind.

The megalithic 'spatial rule' had been determined environmentally, either consciously or unconsciously. While megalithism based on an ancestor veneration cult is an environment-based belief system, such small-scale societies' social thinking generally converts the landscape to communal and sanctified features (see further, Tilly, 1994; Ingold, 1993). Therefore, it suggested that megalithism has operated as a communicational ritual practice and perception that consolidated control over people and land.

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