**Exploring Swahili Urbanism through Survey of Songo Mnara Island, Tanzania**

*Abstract: This paper offers a mesoscale approach to the study of the urban landscape surrounding the 14th-16th century Swahili site of Songo Mnara just off the southern Tanzanian coast. The study is based on a systematic, intensive survey of the town’s immediate, island hinterland. Such an approach, we argue, exposes a set of activities that extend out from the urban core and situates the traditional objects of study (urban center, rural villages) in an integrated landscape. This scale of activity is particularly apparent in an island context, where urban activities encompassed the island itself. This example demonstrates why urban societies in island contexts must be considered in their landscape setting, as a range of territorial relationships can be discerned in the past that were an integral part of the ways that urban lives were constructed.*

*Keywords*: Swahili, urbanism, mesoscale, Songo Mnara

This paper discusses the results of a full-coverage survey of Songo Mnara Island, Tanzania, providing a mesoscale analysis of urbanism along the eastern African Swahili coast. The data provide evidence for a spatial network of activity that encompassed the island landscape and demonstrate that life in the town of Songo Mnara was entwined with activities across that landscape. This research calls into question the absolute distinctions drawn between Swahili towns and their surrounding landscapes, challenging the way towns are understood as bounded entities. We suggest that the boundaries imposed by town walls stand in sharp contrast to the way that the towns were remarkably porous, with activities and populations spilling out into their surroundings. Our mesoscale analysis on Songo Mnara Island indicates that the island scale is often crucial to understanding urban Swahili life.

The intensive investigation of the mesoscale in other urban regions has offered new insights into urban process and development (Cowgill 2004:539-540). Such an approach is implicated in Smith’s (2014) urban landscape perspective, which suggests that the ‘hinterlands’ and ‘surroundings’ of urban centers are important to their “ritual, political, economic and social uses.” Applications of this scale have been made to early cities in the Near East, where the mapping of surface artifacts in the immediate region of Tell Brak (Ur et al. 2007) has revealed patterns of urban growth. In West Africa, the cities of the Inland Niger Delta provide another example, with research positing the interaction of specialist groups across a closely set, clustered urban landscape (McIntosh and McIntosh 2003). In Mesoamerica, high-resolution landscape data acquired through Lidar has led researchers to ‘recenter the rural’ as part of an “integrated totality across a continuous expanse” (Garrison et al. 2019:135). Archaeologists there have employed the concept of low-density urbanism to describe the interdigitation of urban and rural areas (Lucero et al. 2015). In this paper, rather than redefining Swahili urbanism as low-density, we argue that *all* towns should be considered in their landscape context, as a range of territorial relationships can be discerned in the past that were integral to the ways that urban lives were constructed. After all, landscape shapes the ways that urbanism is spatially manifest and locally construed (Pauketat 2020).

On the eastern African Swahili coast, we believe a mesoscale approach might be most legible at an island scale. Many precolonial Swahili towns can be found on islands either nestled along the coast (e.g., Lamu, Pate, Mombasa, Kilwa Kisiwani, Songo Mnara) or on more distant archipelagos (Zanzibar, Comoros). The study of Indian Ocean African islands generally focuses at the macroscale, on the way they connect continental Africa to the Indian Ocean world (Pearson 1998), or how they facilitate connections along the coast (Alpers 2000). Such approaches treat Swahili settlements primarily as entrepôts without examining how towns were part of complex island settlement landscapes. A mesoscale of analysis--describing the immediate surroundings of a city beyond the town walls but encompassing an area in which urban inhabitants would have moved on a daily or weekly basis--provided by systematic archaeological survey corrects such oversight and provides recognition of the functional link between cities and their immediate hinterlands (sensu Trigger 1972). While it has drawn relatively little attention on the coast (but see Kusimba et al. 2013; LaViolette and Fleisher 2018), the mesoscale is crucial for outlining the nested boundaries of urban space (see Smith 2003: 4), understanding the way urban infrastructures extended across a defined region, and pursuing the ways in which membership of a city was conceptualized. Other scales are also helpful for studying Swahili towns, from the macroscale mentioned above, to entire archipelagos, to the microscale of households and urban neighbourhoods, and the survey reported here does not rule out those scales. Instead, the data force a reimagining of urban boundaries in the island landscape, suggesting that islands themselves are meaningful scales at which to understand urban life and from which to build out to the others. Songo Mnara, located on an island in the Kilwa archipelago on the southern Tanzanian coast, presents an opportunity to evaluate mesoscale approaches, as a well-to-do Swahili town with a tight occupation window enabling its urban characteristics to be well understood. The work described here shows how urban life at Songo Mnara was integrated with patterns of agricultural, maritime, water procurement, and settlement activities taking place across the island.

**Swahili urbanism and Songo Mnara**

The eastern African Swahili coast runs from southern Somalia through northern Mozambique, an area defined as much by history and culture as by geography. It was home to a society united by a shared, if regionally varied, culture known as Swahili, which developed in the latter half of the first millennium CE and was maintained through regular contact between coastal and inland communities (Horton 1987; Chami 1998). Swahili society experienced a florescence in the early second millennium, spurred by increasing wealth derived from interregional trade and characterized by a cosmopolitan material culture incorporating Islamic, Middle Eastern elements alongside African ones (LaViolette 2008). During this time, dozens of stone-built towns and cities thrived along the coast (Figure 1). Their communities were independent and competitive, seeking commercial advantage as they cultivated personal relationships with Indian Ocean merchants, practicing different varieties of Islam, and linked to the diverse populations of their respective hinterlands (Kusimba 1999; Horton and Middleton 2000).

Following a trend in African archaeology to explore urban function in relation to cities’ hinterlands (e.g. McIntosh and McIntosh 1984), numerous archaeologists undertook work to place Swahili towns and cities within their regional contexts (e.g., Wilson 1982; Mutoro 1985; Abungu and Mutoro 1993; Helm 2000; Fleisher 2003; Wynne-Jones 2007; Walz 2010; Pawlowicz 2017). The results of that work influenced the development of several models for Swahili urbanism. These presented Swahili cities as administrative centers managing regional economies for the production of trade goods, mercantile cities servicing the commodity needs of both their surrounding countrysides and Indian Ocean traders, or competitive ritual centers drawing on Islam and exotic goods to establish power and authority (see discussion in LaViolette and Fleisher 2005). Nevertheless, these archaeological surveys often produced settlement pattern data that had the unintended consequence of creating a false dichotomy between town and hinterland, purely by privileging the town in the definition of the survey universe. This emerges, we argue, from the way the archaeological surveys were carried out, focused on identifying discrete ‘sites’.

Recent work at Songo Mnara has drawn renewed attention to the functions of Swahili cities and the practices of their inhabitants. The site sits at the northwest end of an island, also known as Songo Mnara, in the Kilwa archipelago (Figure 2). The town possessed extensive stone-built architecture, including six mosques, numerous tombs, and dozens of domestic structures within a town wall (Figure 3), which attracted early archaeological attention (Mathew 1953; Garlake 1966). Unlike several other Swahili towns and cities, which developed incrementally over many centuries (e.g., Chittick 1974), Songo Mnara was built and occupied from only the late 14th to the 16th century CE (Wynne-Jones and Fleisher 2010). This narrow time-frame offers advantages for understanding the town’s activities and exploring town planning within a well-understood time and place, so that the ways in which particular human actions came to structure and define both urban spaces and what ‘urban’ implied could be understood (Fleisher 2014; Wynne-Jones and Fleisher 2016). Consideration of the mesoscale through systematic, intensive archaeological survey provides further insight into the ways that the town was socially constructed, lived in, and connected to broader landscapes (see Smith 2014).

**Survey methodology: The case for mesoscale full coverage**

A gap exists concerning the scales at which investigations of Swahili urbanism have typically functioned, developed from the false dichotomy of town and hinterland. The mesoscale, comprising the “immediate hinterland” of a city’s closest surroundings, has often been ignored or folded into a wider regional hinterland and mostly overlooked. The current survey, in contrast, was designed as a full-coverage approach, able to provide a comprehensive view of settlement and land-use over Songo Mnara Island, so that the immediate area around the town and the full range of activities taking place on the island would be well understood. It focused on patterns of past activity rather than identifying sites and was part of a nested, gridded, approach to urban activity on Songo Mnara at the level of the house, public space, and the island landscape. At each level, we have examined archaeological data in a systematic way, sampling houses, open spaces, and the island landscape through regular grids, allowing for the mapping of activities across space. Previous reconnaissance had charted standing architecture beyond Songo Mnara’s town walls, identifying other settlements both contemporary to Songo Mnara and occupied after its abandonment (Garlake 1966; Pradines and Blanchard 2005). Specialized maritime and phytolith surveys of the island (Stoetzel 2011; Pollard et al. 2012) similarly suggested broader patterns of human activity on the landscape. But the relationship between those other settlements and Songo Mnara– and indeed what was going on outside the Songo Mnara town wall – was poorly understood.

Full-coverage survey provides advantages when exploring land-use patterns. It produces the best dataset for exploring complex regional networks, particularly those exhibiting functional interdependency (Fish and Kowalewski 1990: 271-3; Falconer and Savage 1995). With its command of the locational relationships between sites and capacity to capture rare, off-site land-use activities on the landscape, full-coverage survey is well-situated to characterize the flow of resources through a network, which is important for understanding the social and economic relationships underpinning urbanism. It was enabled, in part, by the island environment of Songo Mnara, which provided a relatively circumscribed survey universe of around 19 km2. Even so, methodological challenges discussed below prevented gridded coverage of that entire area. Still, the comprehensive approach of a full-coverage, non-site strategy was able to successfully explore the mesoscale of Songo Mnara and identify patterns of activity across the island associated with its development.

An important methodological lesson from previous survey work on the Swahili coast was the necessity of subsurface testing (e.g., LaViolette et al. 1989; Fleisher and LaViolette 1999; Fleisher 2003; Pawlowicz 2017). Because the Songo Mnara coastal environment was heavily vegetated, a program of systematic subsurface testing was implemented to recover past cultural material, which would be missed by pedestrian survey alone in that environment and was often buried at considerable depth. Shovel-test pits (STPs) were selected as the means of sub-surface testing most likely to recover artifacts (McManaman 1984) and most suitable for the island’s geology. All material excavated from the STPs was sieved using a woven 2 mm mesh.

The Songo Mnara survey employed STPs on a 50 m grid, with pedestrian survey covering the space in between. The 50 m interval between STPs enabled the survey to capture any site above 0.25 ha (Krakker et al. 1983), a size corresponding to the smallest archaeologically identified levels of Swahili settlement (Fleisher 2003; Pawlowicz 2017). The relatively short interval would also catch evidence of many spatially restricted loci of activity, important for an approach where recovering land-use patterns and evidence of routine, daily practices was as significant as identifying settlements.

Songo Mnara Island is an outcrop of Neogene-period fossilized coral limestone (Nicholas et al. 2006) covered by a generally shallow but highly variable soil deposit. An effect of this geology was that, while cultural material was buried at depths over half a meter in many locations, some tests were located in spots with little or no soil at all. andintensivedogleash of all artifacts from a closely investigated 2-m radius circle around points on the 50-m grid. Exposed coral was a particular challenge over much of the southeastern portion of Songo Mnara, where walkover exploration confirmed expectations from geological maps that the surface was bare coral or a thin (<10 cm) soil layer, akin to the uncultivated, unoccupied *pori* or *uwanda* land described for Zanzibar (Middleton 1961: 11), and covered with a dense thorn-brush thicket, which was distinct from the vegetation elsewhere on the island and mostly impassable. These factors meant it was not possible to survey the area in a manner consistent with the rest of the island, or indeed for it to have been a likely location of much past activity. However, the site of Mwanikiwambi, whose standing architecture was described by Pradines and Blanchard (2005), is located on an inlet of this area with deeper soil.

The parameters of the survey were extended to include the adjacent island of Sanje ya Majoma, adding about two km2 to the overall survey universe. In part, that decision came from the geographic relationship of the islands; they are only separated by about 1 km across mangrove swamp and a narrow channel, such that Sanje ya Majoma has sometimes incorrectly been represented as being part of Songo Mnara Island (see discussion in Pradines and Blanchard 2005). It also rested upon recognition of the close social relationship of the inhabitants of the two islands in the present. That closeness is possible because the channel between the islands can be traversed within a matter of minutes by canoe, such that the possibility for daily interaction between their populations existed.

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**Results of the survey**

Perhaps the most striking result of the survey was the intensity of the two islands’ occupations. Over 44 percent (865 of 1950) of the STPs produced artifacts, mostly local ceramics, but also imported ceramics, beads, slag, and daub (Table 1). The density of artifacts was greatest in the northwestern portion of Songo Mnara and the western shoreline of Sanje ya Majoma. The intensity of the islands’ occupation meant that our non-site approach focusing on land use was fruitful. Applying a traditional site-based approach to the data from Songo Mnara and Sanje ya Majoma was less advantageous because of difficulty in distinguishing between sites. The edges of many artifact concentrations blurred into one another or were separated by relatively short distances, such that many concentrations probably did not represent discrete sites.

***Recovered loci and island chronology***

Rather than sites, the survey focused on 36 loci where artifacts were concentrated, distributed into 17 clusters across the two islands (Figure 5; Table 2). The majority of the recovered loci clusters (12 of 17) were found in the northwest portion of Songo Mnara Island. They represented a variety of land-use patterns. Some were permanently occupied settlements, with the greatest artifact densities outside the town walls, the remains of stone and/or wattle-and-daub architecture, and the presence of cemeteries. Other loci were probably activity areas where people from Songo Mnara or the other settlements on the island farmed, fished, procured water, or carried out other tasks. Based upon artifact density, these activity areas were used more or less intensively, with some representing regular use, potentially with seasonal or dispersed household occupations (i.e. in fieldhouses, temporary structures occupied during particular moments in the agricultural cycle).

The chronology of these various clusters is crucial, as only those that overlap with Songo Mnara are relevant to understanding the immediate hinterland of its urban landscape. Using artifact chronologies drawn from glass beads and local and imported ceramics, it was possible to discern chronological overlap between many of the loci and the main occupation of Songo Mnara, yet there was also evidence for occupation and human activity both before and after that period. The earliest settlement of the two islands, and indeed the only evidence of human occupation before the later 14th century, is found at Sanje ya Majoma, where Tana/TIW ceramics of the late first millennium CE, with crosshatching at the rim typical of Kilwa (Figure 6; Chittick 1974: 321), were recovered from all three loci covering the western and northern coastlines of the island. In the 14th century, the settlement at Sanje ya Majoma was joined by Songo Mnara and the village of Mkuje, located along the eastern shoreline of Songo Mnara Island more than six kilometers distant from the town. As the 15th century progressed and Songo Mnara grew, many of the loci from the northwestern portion of Songo Mnara Island emerged as the immediate hinterland landscape came into focus (Figure 7). During this period, loci such as Mkwaju and Rukunduji were used intensively, probably by people living in Songo Mnara, although finds of daub at each site suggest the possibility of a small, perhaps seasonal, resident population. The period of stone construction at Sanje ya Majoma, including its small Kilwa-style mosque, overlaps with Songo Mnara’s 15th-century growth (Garlake 1966: 38).

***Patterns of land-use and human activity***

The systematic coverage of Songo Mnara and Sanje ya Majoma enables the positioning of the data from the urban center within a network of activity areas (Figure 8). The survey data expand on some of the themes noted for the urban center (Wynne-Jones and Fleisher 2016), such as the continuum of different types of architecture, the importance of water management strategies and maritime activity, and the role of agriculture. It also highlights the ways that urban architecture and activity can be seen to extend beyond the town.

*Settlement in the island landscape*

The patterns of activity across the island landscape are punctuated by areas where there were quantities of earth and thatch houses (see Table 3). While daub often ‘disintegrates’ in the Songo Mnara environment (Welham et al. 2014), the concentrations recovered during the survey seem to represent a few loci of permanent settlement amid a broader landscape of activity. Each is linked to a site where some coral architecture is found. Earth and thatch houses existed inside and just beyond the town wall of Songo Mnara, around the coral architecture on Sanje ya Majoma, and near the coral tombs at Mkuje. These associations serve to reinforce the interdependence of areas of coral and earthen architecture, such as has been noted in other towns on the east African coast (Kusimba et al. 2013; LaViolette and Fleisher 2018; Pawlowicz 2019). Yet this patterning also invites a deeper consideration of the nature of Swahili settlement. There has been a tendency to conceptualise architectural variation at Swahili sites as a dichotomy between elite (stone) and non-elite (earthen) houses. Data from Songo Mnara, and now from the surrounding landscape, suggests that this binary approach fails to capture a range of variation within the town and outside in the 14th and 15th centuries.

Excavations of earthen houses inside the town walls of Songo Mnara have recovered a rich material culture, including most of the commonly accepted markers of wealth and status, such as beads, imported ceramics, and coinage. Those houses have in fact yielded a richer material record than some of the stone houses, probably because their packed earth floors captured and preserved what was dropped on them. In addition, the earthen houses in the town were locations for craftworking and manufacture of shell beads, metal objects, and possibly cloth. These houses thus seem to have been functionally distinct, rather than less wealthy in material terms.

Beyond the walls, there was greater diversity. Daub was found in the area immediately outside the town at Msete, suggesting the presence of households outside the town walls. However, the density of artifacts here is significantly lower and imported goods are much fewer, suggesting that the inhabitants held less material wealth. Further afield at Mkwaju and Rukunduji, traces of daub suggest the presence of fieldhouses or less substantial permanent dwellings. Given the proximity of each to Songo Mnara, they were probably places to which town inhabitants travelled during periods of agricultural activity, such as the crop harvest, rather than reflecting discrete populations (see Middleton 1961 for ethnographic comparison). By virtue of its distance from Songo Mnara, greater artifact density, and more substantial concentration of daub, Mkuje was a separate settlement. Despite the presence of some spindle whorls suggesting spinning, numbers of imported goods at Mkuje are comparatively low. Sanje ya Majoma, where daub was widespread and an STP was excavated through the remains of a daub structure, was a site more comparable with Songo Mnara. The evidence for earthen architecture there overlaps with a richer overall picture of material wealth, particularly in terms of beads, which were recovered from many STPs, including that of the daub structure.

Earthen architecture on the landscape thus seems to represent both independent sites, as well as fieldhouses and homesteads scattered across an agricultural landscape. The intensity of landscape exploitation increased during the 15th century, contemporary with the occupation of Songo Mnara, supporting the likelihood that this agricultural landscape was an extension of urban life within the town walls. The absence of significant quantities of daub across the large northwest portion of the island suggests it would probably have been farmed by people residing at Songo Mnara. Ethnographies of the contemporary Swahili describe various forms of territorial demarcation beyond the town/village, including lands linked to corporate groups and lands held in common. Similar modes of ownership and control could have mediated use of this island landscape; they are discussed in more detail below.

The record of earthen architecture presents a continuum of settlement, spanning both richer and poorer living conditions. Yet it is also a web that ties together the discrete sites at Songo Mnara and Sanje ya Majoma as focal points in a more expansive urban landscape; one which encompassed agricultural fields and landscapes in the daily, monthly, and yearly round of mobility and interaction across the island.

*Maritime activity*

The archaeology of Songo Mnara within the walls is replete with evidence for the importance of fishing and shellfish collection for subsistence (Quintana Morales 2013). The faunal assemblage for the site is dominated by fish and shellfish, with the former comprising a little more than half the total weight of faunal remains (51% of ~25 kg) recovered from across the site. The Minimum Number of Individuals for fish (7555) vs. tetrapod specimens (190) suggests that although the inhabitants ate a mixed diet, fish and shellfish were important to their daily sustenance.

The ocean was also an important resource for production at Songo Mnara. Mangrove wood and coral were exploited for architecture, both inside the walls and beyond (Fleisher 2020). Marine shell was not only indicative of the consumption of shellfish, but was also a raw material used for the production of beads. The western open area of Songo Mnara, just inside the entrance to the town, was a setting for shell bead production and excavations have recovered debris from the manufacture of beads from conus shell and aragonite. Soil chemistry in that space is characterized by high levels of calcium and sodium, suggesting the processing of marine resources such as seaweed, or perhaps the drying of nets (Sulas et al. 2017). The world of maritime activity was therefore part of urban life for those that lived at Songo Mnara, providing food and raw materials as well as being bound into the space of the town demarcated by coral architecture.

Beyond the walls, survey data demonstrate that the islands’ inhabitants were never far from the sea. Marine shell was recovered from 62.5 percent of loci clusters (see Table 3). These resources were especially prevalent towards the western shoreline of Songo Mnara, which would have had easier access to the diverse marine environments of coral reefs, mangroves, and the relatively protected Sangarungu Harbor. The presence of such materials in the loci adjacent to Songo Mnara shows that the processing of marine resources took place outside of the town walls as well as within. The northern and eastern shorelines would have had a more difficult time, guarded by a substantial barrier reef that would have pushed most maritime activities significantly further offshore across a very shallow lagoon of sharp reef coral. However, there is evidence that locations along this coast, particularly near Mikadi and Mkuje, made use of coral causeways, either anthropogenic constructions or natural features embellished by human hands, to cross the lagoons to the reef flat and open ocean (Figure 9; Pollard et al. 2012). Thus, it seems that the islands’ inhabitants were exploiting a wide range of marine ecosystems.

*Water-Procurement*

Other than the standing architecture at Songo Mnara and Sanje ya Majoma, the most substantial evidence of human labor on the islands in the mid-second millennium CE is a series of wells. The survey encountered two large wells contemporary with Songo Mnara elsewhere on the island, and another on Sanje ya Majoma. The Songo Mnara Island wells were located about 0.5 and 1 km southwest of the town, and would have complemented the four wells and many cisterns located within the town walls (Wynne-Jones and Fleisher 2014b). The larger well was located further away; it measured 4.5 m in diameter and, despite having been partially filled in, 7 m deep. The well was elaborated at the surface with coral architecture (Figure 10) and nearly all of its depth was carved directly into the limestone bedrock. The smaller well appeared to be of similar depth, though it was significantly narrower. Artifacts dating to the mid-second millennium, such as Islamic monochrome ceramics, were recovered around each well, indicating their contemporaneity with Songo Mnara’s occupation. A third large well from this period was located at Sanje ya Majoma, at a place called Mandanguru. The well was 3 m in diameter and 5 m deep, though no longer in use and partially filled in. Stone coursing reinforced the top of the well above the bedrock. Like the two wells on Songo Mnara, it was surrounded by a concentration of 15th-century artifacts.

The wells would have been supplemented by natural springs and waterholes found at the edges of the plateau that made up much of each island. Some of the more prominent natural springs, at Mikadi, Mvinja, and Sanje ya Majoma, have served as the foci for settlement and human activity at different moments in the past and remain in use in the present (Figure 11). Like the wells, the springs were surrounded by concentrations of artifacts. The contemporaneity of these water sources with Songo Mnara has not been established however, and Mvinja is known to postdate the site’s main occupation.

These findings support the notion that a significant water infrastructure was required to support Songo Mnara’s urban population (Wynne-Jones and Fleisher 2014b). The significance of fresh water on a small island without streams is hardly surprising, representing one of the clearest challenges to settlement in an island landscape. Yet at many locations on the eastern African coast there are still island populations without a reliable source of fresh water; clearly the advantages of island life outweighed the inconvenience of lack of easily accessible fresh water. The survey adds recognition that water was also required off-site, to support countryside populations and agricultural activities. The wells found outside the town may have served to irrigate fields, representing an important additional dimension of water supply and a possible use of the island landscape beyond its natural capacity. Together, the wells encountered during survey and those within the walls point to a diverse water management strategy that enabled activity and occupation across the island landscape, not just in pockets of settlement supplied by boat.

*Agricultural activity*

Agricultural pursuits were another major consideration shaping human activity, and the location of settlements, on the two islands. Not all land on the islands is equally suitable for agriculture. Areas that could be farmed were of two types: deep, brown sandy soils just in from the coastline, which could extend several hundred meters inland in some places, and the thinner reddish brown sandy loam soils of the coral plateau on the northwestern portion of Songo Mnara Island and the north-central portion of Sanje ya Majoma. Farming in the latter zones may have been supported by water from the wells. Today, the former areas support coconut groves, banana plantations, and fields of sorghum and maize, while the latter are also farmed, though less intensively, and support cattle grazing. Plateau soils were deeper on Sanje ya Majoma than northwest Songo Mnara, though each was deeper and of a different color and consistency than areas with soil found in the southeast portion of Songo Mnara.

The density of human activity was highly responsive to these conditions. The largest settlements on the islands, Songo Mnara and Sanje ya Majoma, were each located amid large stretches of deep sandy soil, enabling agriculture for tree and grain crops in their immediate vicinity. They were also each near an arable coral plateau, and evidence from artifacts and soil types recovered during the survey shows that the plateau was used in each case. Mikadi, the modern village on the island, which also yielded artifacts from the 15th century, is similarly located in a large patch of deep sandy soil with access to the arable plateau. The eastern shoreline had no such access, for it was backed by the bare-coral thicket, constraining the land available for agriculture. The densest locus and only clear settlement on this part of the island, Mkuje, was located where the deep soil extended the furthest inland and agriculture was most promising. Intervening areas such as Makongwa have evidence of human activity and could have supported limited agricultural activities, but likely had too little available land to serve as the focus for permanent settlement.

**Discussion**

Data from survey on Songo Mnara thus expand our understanding of urbanism here in some differing but complementary ways. In one sense, what is revealed is a network of resource exploitation that underpinned the growth of an urban place: agricultural activity, water procurement, and the exploitation of marine resources. The evidence suggests that these activities were built into the lives of the inhabitants of the urban core, whose daily routines drew many of them beyond the walls. Phytolith evidence within Songo Mnara suggests that urban households, from those in wattle-and-daub to those in the grandest stonehouses, were involved with agricultural practice, processing crops they had probably grown themselves, or which had been grown on lands they controlled (Sulas and Madella 2012; Wynne-Jones 2013). Such activities were organized across the islands to make full use of the relatively limited resources available, including arable land and especially water.

This evidence that populations within the town farmed or controlled areas beyond the walls invites a consideration of territorial control. As discussed above, recent ethnographies suggest ways that lands were owned and controlled through town-based descent networks under the oversight of a ‘guardian of the soil’. Claims on territory would be marked by trees, especially coconuts, which could be owned by individuals and families (Middleton 1961; Prins 1961; Caplan 1975). While that exact system was perhaps not present at Songo Mnara, it is likely that households in the town were able to make claims on arable land. Also, the land suitable for coconuts and other productive trees is restricted to the deeper, sandier soils along the coastline, though trees along the coast might have marked a claim on plateau lands above them. Similar kinds of claims could also have been made on marine resources, where ethnographically a ‘master of the sea’ occupied a similar position to the ‘guardian of the soil’ overseeing foreshore and near-shore areas (Prins 1961: 62). Around Songo Mnara it has been suggested that the coral causeways could have served as demarcations of areas related to particular groups or communities on the island (Pollard et al. 2012). Thus we might see some of the ways that urban life encompassed areas of the countryside. If so, they need to be considered as an element in urban authority negotiations and the ways that social power might have been achieved.

Many of the loci on the northwest portion of the island would have been tightly tied to Songo Mnara itself, and should be seen as extensions of the town. Ethnographic expectations regarding the typical distance of daily agricultural activity (e.g., Middleton 1961; Stone 1992; Singer 1996) would encompass much of that part of the island. Still, the survey suggests that not every inhabitant of the two islands would have identified primarily as a resident of Songo Mnara. Instead, separate communities existed at Mkuje and at Sanje ya Majoma. In the former case, a cemetery with 15th-century tombs constructed of coral and with spaces for inset bowls (Figure 12) is surrounded by a dense artifact cluster including substantial concentrations of daub. Such finds suggest that Mkuje’s cemetery was part of a wattle-and-daub village, rather than an isolated piece of religious architecture (cf. Pradines and Blanchard 2005). The people buried there might have belonged to and identified with that community. Yet Mkuje’s residents would have been cognizant of the urban lives and practices of Songo Mnara’s residents, and leading figures from Mkuje may have tried to reproduce some of those practices of authority (see Wynne-Jones 2016) in their own community, as materialized in the funerary architecture.

Sanje ya Majoma presents a slightly different case. Like Mkuje, the site had its own cemetery, surrounded by a dense cluster of artifacts indicative of a permanent settlement. Yet only at Songo Mnara and at Sanje ya Majoma were elaborate stone-houses and mosques constructed in the 14th and 15th century. Sanje ya Majoma also has the distinction of being the earliest settlement on either island, the only one occupied before the 13th century. Yet, Sanje ya Majoma was clearly eclipsed by its neighbor. It has fewer structures than Songo Mnara and less evidence for participation in Indian Ocean trade. Garlake’s characterization of Sanje ya Majoma as a “subsidiary settlement” of Songo Mnara (1966:7) still holds, but it *became* so. The reasons for the shift in the relative status of the settlements are not entirely clear. Though we might consider their respective harbors, or the resources available on the two disparately sized islands, the answer may also lie in a particular history of mercantile success for Songo Mnara’s early inhabitants. Whatever the reason, Sanje ya Majoma’s residents would have had to reckon with the success of their neighbor. Given that merchants would have needed to sail directly past Songo Mnara to reach Sanje ya Majoma, it seems likely that trade relationships, including with nearby Kilwa Kisiwani, would have been mediated by the larger site. Sanje ya Majoma’s residents were full participants in Swahili culture, and the practices of urban elites materialized, in part, by coral stone architecture were practiced there. Yet if those practices are understood as combining elements of extravagance and display of individual wealth, along with Islam-derived ideals of piety and generosity (see Wynne-Jones 2016), one would have to conclude that the residents of Songo Mnara were more successful in undertaking them.

**Scalar implications - town and island**

The town of Songo Mnara was enclosed by a stone wall. It does powerful symbolic work in defining and delimiting an urban area, perhaps stressing a ritual division related to Islam and purity at the town wall itself (see discussion of el-Zein 1974 in Wynne-Jones and Fleisher 2014a). Yet the data from this survey show that the walled area is far from coterminous with the activity areas of urban residents. Geophysical testing has demonstrated the presence of wattle-and-daub structures both inside and outside of the Songo Mnara town wall (Welham et al. 2014). Agricultural landscapes dotted with daub structures at Rukunduji and Mkwaju extended south from the wall, in the only direction not encircled by ocean or cemetery. These structures have affinities with wattle-and-daub housing within the town, but differences in artifact densities in these settings testify to a diverse population with a range of material wealth. This variability of wattle and daub settlement argues against viewing its inhabitants as a homogenous non-elite.

By viewing the walled urban core from the perspective of activity across the landscape, we expand our knowledge of urban life in several ways. First, the agricultural activities and maritime practices required to support the population at Songo Mnara are positioned spatially. In many cases we are seeing traces of activities conducted by the residents of the stone houses (or their laborers) in their daily round of food procurement. This is in itself a more rounded view of a Swahili town than is often presented, as the focus has long been on the trade that occurred during the months between monsoons and not on the mundane pursuits that made up the greater part of the year.

The survey data also make clear that island inhabitants were living lives in settings outside the town, both in dispersed agrarian settlement and the smaller towns. A view of the urban core that also includes these locations forces us to think more broadly about the spatial framing of urbanism and the porosity of the boundaries of the town. After all, inhabitants of Sanje ya Majoma, Mkuje, and across the islands would have been regular visitors to Songo Mnara. This throws into relief the characteristics of the urban core, as a setting for the burial of ancestors, particular types of urban life, and also as centers of Islam, with grand congregational mosques that may have drawn in this dispersed population each Friday for communal prayer.

The island setting captured through systematic full-coverage survey is crucial to this reinterpretation of the boundaries of urbanism. Studies of the relationship between a town and its wider ‘hinterland’ do different work, as they assume an agricultural zone of activity, and it can be difficult to be certain if the hinterland was actually looking to the town at all. The ways the island landscape was used, in contrast, emerge as a bounded space, demarcated in relation to the town(s) that grew up here and in the ways that agricultural and maritime activity grew around it. Islands are often studied in expansive terms, with their special nature understood through ease of connectivity. Yet there is also an introvert sense to an island, creating a type of settlement in which urban core and broader landscape are united by the common boundary of the shore. Both the introversion and extroversion of islands are crucial to their nature, yet the former has not previously been empirically evaluated. The island mesoscale survey, presented here, provides an understanding of island introversion, especially in the ways that it provided a setting for an urban landscape that spilled beyond the walls of the occupied core. This approach might usefully be applied elsewhere in the western Indian Ocean, where archaeology has tended to focus on trading centers and their connections over long distances. The island setting in such models is simply about connectivity and navigation; by positioning the urban core within the island mesoscale we instead view the ways that islands represented urban worlds in themselves, with activities drawing in agricultural, coastal, and resource landscapes.

Through this lens, many of the functional explanations of Swahili urbanism seem to have an element of truth: Songo Mnara did sit atop a well-integrated local economy, it monopolized access to Indian Ocean traders and trade goods for inhabitants of the two islands, and with its many mosques it would have served as the center of Islamic activity on the islands, with its elites out-competing the older site of Sanje ya Majoma for local influence. Yet each of these explanations is incomplete, and none is sufficient by itself to explain Songo Mnara’s urban nature. Instead, a more subtle view of Songo Mnara urbanism considers the ways in which each of these functions, as well as the more mundane ecological concerns of food, building materials, and water, enabled some of Songo Mnara’s inhabitants to engage in a set of practices that defined what it meant to be urban in the Swahili context.

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