



The Archaeology of Social Transformation in Rural Zanzibar, Tanzania, from the Eleventh Through Nineteenth Centuries CE

Wolfgang Alders 

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Abstract Archaeological field surveys in Zanzibar, Tanzania point to the role of specific rural agricultural regions in shaping social transformations across the East African coast and the Indian Ocean world. From 1000 to 1400 CE, small rural communities developed within fertile soil zones in response to local social demands for grain and other agricultural products. The abandonment of rural inland villages following the end of occupations at the elite center of Tumbatu to the north likely reflects a return to coastal subsistence in the fourteenth or early fifteenth century, in parallel with other systemic changes across the East African coast during this time. Newcomers to these same rural areas resumed the production of agricultural surpluses in the late colonial period (1830–1964) during the development of the plantation system on the island. Settlement patterns, ceramic analyses, and architectural patterns attest to the significant entrainment of these rural spaces within emergent global economic networks. Though power accumulated in towns and urban centers, rural agricultural landscapes on the island were places where elites mobilized and converted social dependency and slavery into both social prestige and commodified, economic wealth multiple times over the

last millennium. As venues for agricultural production, specific rural landscapes helped produce the transformations that altered social dynamics in East Africa, the Indian Ocean, and beyond.

Résumé Les prospections archéologiques à Zanzibar, en Tanzanie, soulignent le rôle de régions agricoles rurales spécifiques dans la formation des transformations sociales sur la côte est-africaine et dans le monde de l’océan Indien. De 1000 à 1400 CE, de petites communautés rurales se sont développées dans des zones de sols fertiles en réponse aux demandes sociales locales de céréales et d’autres produits agricoles. L’abandon des villages ruraux de l’intérieur après la fin des occupations du centre d’élite de Tumbatu au nord reflète probablement un retour à la subsistance côtière au XIVe ou au début du XVe siècle, parallèlement à d’autres changements systémiques sur la côte est-africaine à cette époque. Les nouveaux venus dans ces mêmes zones rurales ont repris la production des excédents agricoles à la fin de la période coloniale (1830–1964) lors du développement du système de plantation sur l’île. Les modèles de peuplement, les analyses de céramiques et les modèles architecturaux témoignent de l’entraînement significatif de ces espaces ruraux dans les réseaux économiques mondiaux émergents. Bien que le pouvoir se soit accumulé dans les villes et les centres urbains, les paysages agricoles ruraux de l’île ont été des lieux où les élites se sont mobilisées et ont transformé la dépendance sociale et l’esclavage à la fois en prestige social et en

W. Alders (✉)
Center for Advanced Spatial Technologies, University
of Arkansas, Fayetteville, 304 JBHT, Fayetteville,
AR 72701, USA
e-mail: walders@uark.edu

richesse économique marchandisée à plusieurs reprises au cours du dernier millénaire. En tant que lieux de production agricole, des paysages ruraux spécifiques ont contribué à produire les transformations qui ont modifié la dynamique sociale en Afrique de l'Est, dans l'océan Indien et au-delà.

Keywords East Africa · Swahili · Social transformation · Rural complexity · Surplus · Settlement patterns

Introduction

Archaeological field surveys in northern Zanzibar, Tanzania, have resulted in the first large-scale regional reconstruction of a rural inland settlement system on the island. This article presents this data and argues that rural spaces helped shape social transformation in Zanzibar due to their combination of fertile agricultural land and labor. These factors produced locally and globally salient forms of social and economic value over the last thousand years. Site patterns and material culture analyses demonstrate that rural settlements in inland northern Zanzibar were constrained both spatially and temporally to agriculturally fertile soil zones and to periods of social stratification and intensified wealth accumulation during 1000–1400 CE and under the plantation economy in the late colonial period, 1830–1964 CE. This pattern, along with changing artifactual evidence and the absence of marine resource exploitation, suggests that rural inland areas were primarily settled to meet social and economic demands for agricultural surpluses. These surpluses were converted into social and economic power by both rural and urban elites across the last millennium, and the process of their accumulation and mobilization produced social transformations across East Africa and the Indian Ocean.

Archaeological research has emphasized the complexity of rural spaces within the settlement systems of urban societies globally, demonstrating evidence for short- and long-distance trade and exchange, class differentiation, craft production, and ritual specialization at multiple scales (Hawken & Fletcher, 2021; Kearns & Georgiadou, 2021; Lamb, 2022; Lemonnier & Arnould, 2022; Parikh & Petrie, 2019; Smith, 2021; Teira-Brión et al., 2023). Furthermore, recent archaeological studies

of urban–rural dynamics in Africa have sought to explain how rural communities were economically and socially integrated within regional settlement systems (Chirikure, 2020; Dueppen & Gallagher, 2023; LaViolette & Fleisher, 2018). These studies have also emphasized rural complexity and how foreign and locally produced materials were revalued according to local cultural logics across rural networks. Building on these studies, I embarked on a research project to investigate how rural landscapes related to wealth accumulation and periods of social transformation within the urban–rural mosaics of the Swahili Coast.

Zanzibar Island presents an ideal case study since archaeological and historical studies have documented four distinct phases of social transformation, excluding the late Pleistocene period and later post-colonial and modern eras (Alders, 2020, 2022; Baužytė, 2019; Bishara, 2017; Croucher, 2014; Crowther et al., 2015; Fitton, 2018; Horton & Clark, 1985; LaViolette & Norman *in press*; Power et al., 2020; Prendergast et al., 2017; Prestholdt, 2008; Rødland, 2021; Sarathi et al., 2022; Sheriff, 2018; Shipton et al., 2016; Sulas et al., 2019; Vernet, 2017; Wynne-Jones et al., 2021). These phases are: (1) the early recolonization of the island starting in the mid-first millennium CE by agriculturalists and fishing communities; (2) the development of socially stratified rural and urban societies from the late first millennium CE to around 1500; (3) the integration of coastal East Africa into early modern colonial systems, 1500–1830, hereafter called the early colonial period; and (4) the development of the plantation system and the commodification of land and labor in the late colonial period under Omani and British rule, 1830–1964. This article addresses the latter three phases of transformation, where the development and articulation of political power and wealth beyond the level of the kin group structured the course of social change. This paper asks, when Omani settlers on Zanzibar brought enslaved East Africans inland to farm cloves in the early to mid-nineteenth century, what did they encounter, and how did the environmental conditions and preexisting communities of rural inland areas shape the development of their plantation society? Furthermore, how did the Swahili people in prior centuries use the agricultural regions that became the base of the nineteenth-century plantation system, and how did settlement in these periods

relate to prior phases of social transformation, like the development of Swahili urbanism?

The next section outlines a theoretical perspective on the production of prestige and wealth in Zanzibar and its relation to social transformation. The following sections describe the results of field surveys and artifactual analyses in a rural region of the island. The article concludes with a discussion of these results in relation to the broad issues of rural complexity, wealth accumulation, and social transformation in East Africa and globally.

Social and Commodified Production on the East African Swahili Coast

Rural spaces were vital to the production of social prestige and economic wealth in coastal East Africa in ways that produced social transformations from the precolonial period onward. Drawing on the concepts of wealth-in-people (Guyer & Belinga, 1995) and creative and ritual power (McIntosh, 1999; Stahl, 2004), archaeologists have shown how Swahili elites on Pemba Island accumulated prestige from the eleventh through fifteenth centuries by constructing monumental Islamic architecture and hosting communal feasts featuring rice-based dishes (Fleisher & Wynne-Jones, 2010; Fleisher, 2010a, 2019; LaViolette & Fleisher, 2009; Walshaw, 2010, 2015). Elites used trade networks to obtain luxury ceramics that they could distribute as gifts during feasts or to adorn public spaces in ways that increased their prestige and gained them followers (Fleisher, 2010a). However, imported ceramics were only present in small quantities, and most things that elites converted into prestige were derived from specific local and rural contexts: rice that was grown locally (Walshaw, 2010, 2015), local open bowls used in feasting (Fleisher, 2010a), and limestone and timber building materials that were used in the construction of stone mosques and religious architecture at Chwaka (LaViolette & Fleisher, 2009), or houses and public spaces at Songo Mnara on the Tanzanian coast (Fleisher, 2013; Wynne-Jones, 2013).

The production of these materials can be termed social production, that is, a production that occurs to satisfy social demands beyond subsistence related to ideological, ritual, or power-legitimizing processes (Brookfield, 1972; Kirch, 1994). In particular, rice

farming by Pembans starting in the eleventh century can be characterized as a form of social production since it was agriculturally more laborious and riskier than growing millet or sorghum but was incentivized by the social rewards of growing and consuming rice within a new Islamic society (Walshaw, 2010, p. 150). Social production shaped the emergence of class distinctions on the East African coast in the late first and early second millennium (Fleisher & Wynne-Jones, 2010). Aspiring Swahili elites in towns across the coast likely drew on relationships of social dependency (including slavery, see Rødland et al., 2020) and kinship networks for social production in rural landscapes in ways that caused transformative changes in Swahili society. Just as competitive feasts were places where non-elite people could criticize power or support favored patrons (Fleisher, 2019), rural agricultural areas were likely also arenas where communities involved in social production could exert pressure on elites in ways that required cooperation, appeasement, or control. Alongside urban religious and communal life, social production in rural areas may have been a venue for the constitution of socially transformative class distinctions.

Around 1500 CE, Portuguese colonialism in East Africa curtailed the autonomy of Swahili elites and disrupted social systems (Prestholdt, 2018). These impositions likely affected social production in rural areas, but these dynamics are unclear. At the rural sites of Mvuleni and Fukuchani on Zanzibar, there is evidence of abortive Portuguese attempts to establish fortified agricultural outposts, which prompted defensive responses by Swahili communities (LaViolette & Norman, *in press*). Future research may continue to clarify Portuguese impacts on the Swahili social and economic systems.

In the nineteenth century, there was a direct link between agricultural production in rural areas and social transformation, based on the transformation of land, labor, and produce into economic commodities. Bishara (2017) argues that new contractual and legal innovations in the western Indian Ocean allowed for the commodification of land, produce, and enslaved labor at this time, enabling economic expansion and the development of plantation systems in coastal East Africa and the Persian/Arabian Gulf. Along with the caravan trade in ivory and enslaved people, the labor of hundreds of thousands of enslaved East Africans in rural areas produced clove and coconut crops for

export. These transformed Zanzibar Stone Town (the main urban center) into one of the wealthiest cities in the Indian Ocean for a period (Bishara, 2017; Cooper, 1977; Prestholdt, 2008; Sheriff, 2018). The customs revenues in Zanzibar eclipsed those of Muscat by the 1830s (Bishara, 2017, p. 51), and Sultan Seyyid Said relocated the capital of the empire of Oman to the island around this time.

However, social production continued alongside new forms of commodified production for global markets. Enslaved people in Zanzibar straddled the line between older forms of social and prestige-based wealth and emerging forms of financialized and commodified wealth (e.g., Cooper, 1977, p. 77–79; see also Vernet, 2017). In addition to continuing to host feasts (Glassman, 1995), the Zanzibar elites (consisting now of mainly the Omani ruling class) gained prestige in the colonial era by accumulating enslaved people. Vernet (2017, p. 80–83) argues that in late eighteenth- and early nineteenth-century Zanzibar, elites held large retinues of enslaved people as a form of prestige and did not employ them in agricultural production beyond that which was required to support the subsistence of plantation owners, their families, and their guests. This changed around 1830 when plantation owners increasingly used enslaved labor for the surplus production of cash crops for export because of the profitability of cloves. Given new economic opportunities, the elites on the island partially converted their wealth-in-people to wealth in commodities for sale in far-reaching markets while continuing to “domesticate” (sensu Prestholdt, 2008) foreign commodities to legitimate their power locally.

Through cash crop production, rural spaces in Zanzibar were arenas where elites could partially convert the labor of enslaved East Africans into forms of wealth that were acceptable in global markets, like the cash crops of cloves or copra from coconuts. The conversion of enslaved labor into export crops is why Hopper (2015, p. 224) argued that slavery in the western Indian Ocean reached new heights in the late nineteenth and early twentieth century, even after abolition: increased demand among burgeoning American and European consumer classes for cloves from Zanzibar and dates from Oman, new shipping technologies, and the stability afforded by the British Empire in the region meant an increased incentive for acquiring enslaved labor to produce these desired products. Enslaved East Africans and their

labor on rural plantations in Zanzibar and elsewhere produced social surpluses for elites locally and commodified economic surpluses for elites within global markets through the conversion of labor and land into agricultural commodities. Both forms of production sharply increased class distinctions on the island and transformed the sociopolitical system of coastal East Africa and the Indian Ocean.

The following sections describe archaeological investigations that sought to reconstruct rural landscapes in Zanzibar, to understand better the contexts of agricultural surplus production and accumulation across multiple periods.

Investigating Rural Inland Zanzibar

Despite the historical importance of rural zones for cash crop production in the nineteenth century, little archaeological research has occurred to understand how both enslaved and free people in rural inland communities developed over centuries in relation to urban centers and to the plantation system in Zanzibar apart from Croucher’s (2006, 2014) surveys, and research by LaViolette and Norman (in press) on earlier Portuguese rural settlements in the far north of the island. To investigate rural landscapes in relation to phases of social transformation, this project reconstructed a part of the settlement system of rural inland Zanzibar using systematic archaeological field surveys and geospatial analyses from the period of earliest occupation to the end of the late colonial period.

Results show that large-scale settlements were constrained to soil zones most suitable for intensive agricultural production and that occupations in inland zones corresponded chronologically to two specific periods of surplus accumulation: the period 1000–1400 CE that was contemporary with the development of the elite center of Tumbatu, and the late colonial period (1830–1964 CE) when the plantation system developed. This, along with other material and spatial evidence, suggests that, as bases for social and economic production over the last millennium, rural landscapes and their residents helped produce social transformations in coastal East Africa and the western Indian Ocean.

In addition to addressing questions of anthropological significance about the role of rural places in the constitution of power and social change, this research

also answers calls to investigate the material effects of colonialism on communities in East Africa (Biginagwa, 2012; Biginagwa & Lane, 2021; Croucher, 2014; Walz, 2018; Fleisher & Wynne-Jones, 2010) and the history and archaeology of labor and slavery in East Africa and the Indian Ocean (Haines, 2020, 2021; Lane, 2014, 2021; Marshall, 2021; Rødland, 2021; Rødland & Wynne-Jones, 2020; Rødland et al., 2020). Drawing on these studies, this research sheds light on the dynamics of colonial contact, slavery, and social inequality in East Africa and globally. The following sections outline the research project and discuss the results of field surveys.

Field Surveys and Site Results

Settlement system analysis is a tool for understanding the factors and consequences of social transformation since human decisions about settlement reflect the ways that people are embedded in social, material, and ecological systems (Banning, 2022). The long-term perspectives of settlement archaeology can offer insights into the sociopolitical, economic, and environmental factors and consequences of social transformation.

Field surveys across an environmentally diverse and sociopolitically varied region on the island of Zanzibar have enabled the reconstruction of settlement patterns from the earliest settlement to the end of the late colonial period (Alders, 2020, 2022). Figure 1 shows the planned survey region, which covers a strip that extends from the east to the west coast of the north-central part of the island. These survey regions were planned to intersect the largest possible number of soil and environmental zones on the island (Fig. 1). Soil zones were derived from Khamis et al. (2017, p. 120). Systematic survey squares were sampled using random transects within each square. Judgmental surveys were also carried out. Survey areas 21 and 22 were planned based on conversations with community partners to investigate historical areas of interest. Survey area 23 was planned to compensate for our inability to access area 15 because of active rice harvesting. In survey areas 24, 25, and 26, judgmental transects were planned to investigate a known nineteenth-century plantation landscape previously delineated by Croucher (2006). Survey transects could not be completed to the far west, where sand

and gravel mining has denuded the landscape and where mangrove swamps make pedestrian survey impossible.

Surveys used subsurface shovel-test pit survey methods developed in North America (e.g., Lightfoot, 1986), which have since become standard techniques on the East African coast (e.g., Fleisher, 2003; Pawlowicz, 2011). Shovel-test pit grids and surface collections were used to identify sites, establish site size, and collect ceramic artifacts for dating. Imported ceramics enabled chronological control, a standard and inexpensive method for dating sites in coastal East Africa (Fleisher, 2003; Horton, 1996). Late Tana/TIW local ceramics (phases C and D; Horton, 1996, p. 256–270) and late sgraffiato imported wares (Horton, 1996, p. 281–291) characterized the assemblages of most early second millennium sites, which date from the eleventh through fourteenth centuries. Glazed monochrome ware (Horton, 1996, p. 293), Longquan celadon (Horton, 1996, p. 307), and Husuni modeled ware (Chittick, 1974, p. 326) dated one coastal village site in the east to the fourteenth and fifteenth centuries. Early colonial period sites (1500–1830) were identified based on late glazed monochrome ware (Chittick, 1974, p. 304), late Ming Chinese blue and white porcelain, and Bahla ware (Power, 2015, p. 10–13). Late colonial period sites (1830–1964) contained large quantities of imported European polychrome hand-painted whiteware, transfer-printed whiteware, sponge-decorated whiteware, dipped or annular whiteware, edged whiteware, and late Qing blue and white porcelain (see Croucher, 2006; Kirkman, 1974; Miller, 1980; Samford, 1997; Samford & Miller, 2012; Wilson, 2019). Late colonial sites also produced large relative quantities of everted rim, carinated cooking pots, which replaced open bowls as the most common form starting in this period (Alders, 2022, p. 379–384). This was comparable to Sarah Croucher's results in Pemba at the nineteenth-century plantation site of Mgoli (Croucher, 2014, p. 214).

To assess settlement patterns in relation to zones of agricultural fertility, a wide variety of environmental datasets were classified and analyzed against site locations (Alders, 2022, p. 200–238). Agricultural fertility corresponds to soil zones on the island, which are known by Swahili names (see Figs. 2, 3, and 4, based on Khamis et al., 2017, p. 120). *Kinongo* soils are deep, red, naturally occurring laterites and

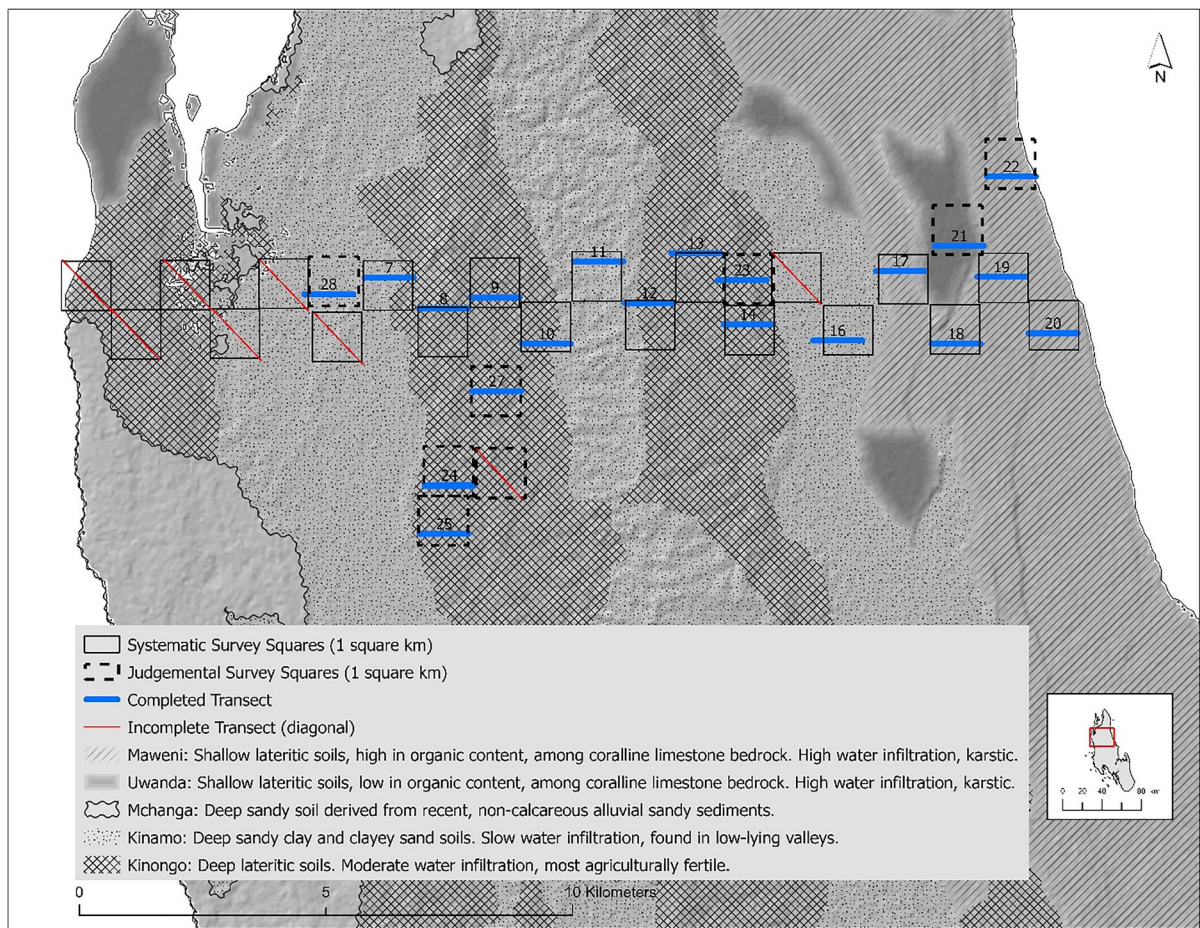


Fig. 1 Survey region with systematic, judgmental, and incomplete survey squares, overlaid on soil zones outlined by Khamis et al., (2017, p. 120). Hill shade DEM was extracted from SRTM 30 m imagery

make up the most agriculturally fertile zones on the island. Farmers use *kinongo* soils today for coconut, clove, and fruit orchards, mixed gardens, bananas, and tubers like cassava, and rain-fed rice, millet, legumes, and sorghum. *Kinamo* soils are thick sandy clays found in low-lying, swampy areas. These thick clays reduce the speed of water infiltration, making *kinamo* areas suitable for rice cultivation with modern irrigated methods but less suitable for other types of mixed garden crops and trees. In contrast, *uwanda* and *maweni* soils are agriculturally marginal soils comprised of shallow lateritic clays interspersed among outcrops of coralline limestone bedrock, producing rocky landscapes that are difficult to farm. *Mchanga* soils are deep, sandy soils built on alluvial

parent material and are not present in the survey region.

Surveys identified and recorded 44 new archaeological sites (Figs. 2, 3, and 4; Alders, 2020, 2022). Seven sites date to the early second millennium (eleventh to fifteenth century), four sites to the early colonial period (1500–1830 CE), 32 sites to the late colonial period, and two sites are of indeterminate age. One site, Mwanakombo, has substantial pre-colonial and late colonial site components. Figures 2, 3, and 4 show spatial overviews of these sites, divided by period, across soil zones. Table 1 below shows a list and description of newly recorded sites, with numbers corresponding to the sites depicted in Figs. 2, 3, and 4. Mwanakombo is a multi-component site, so it is

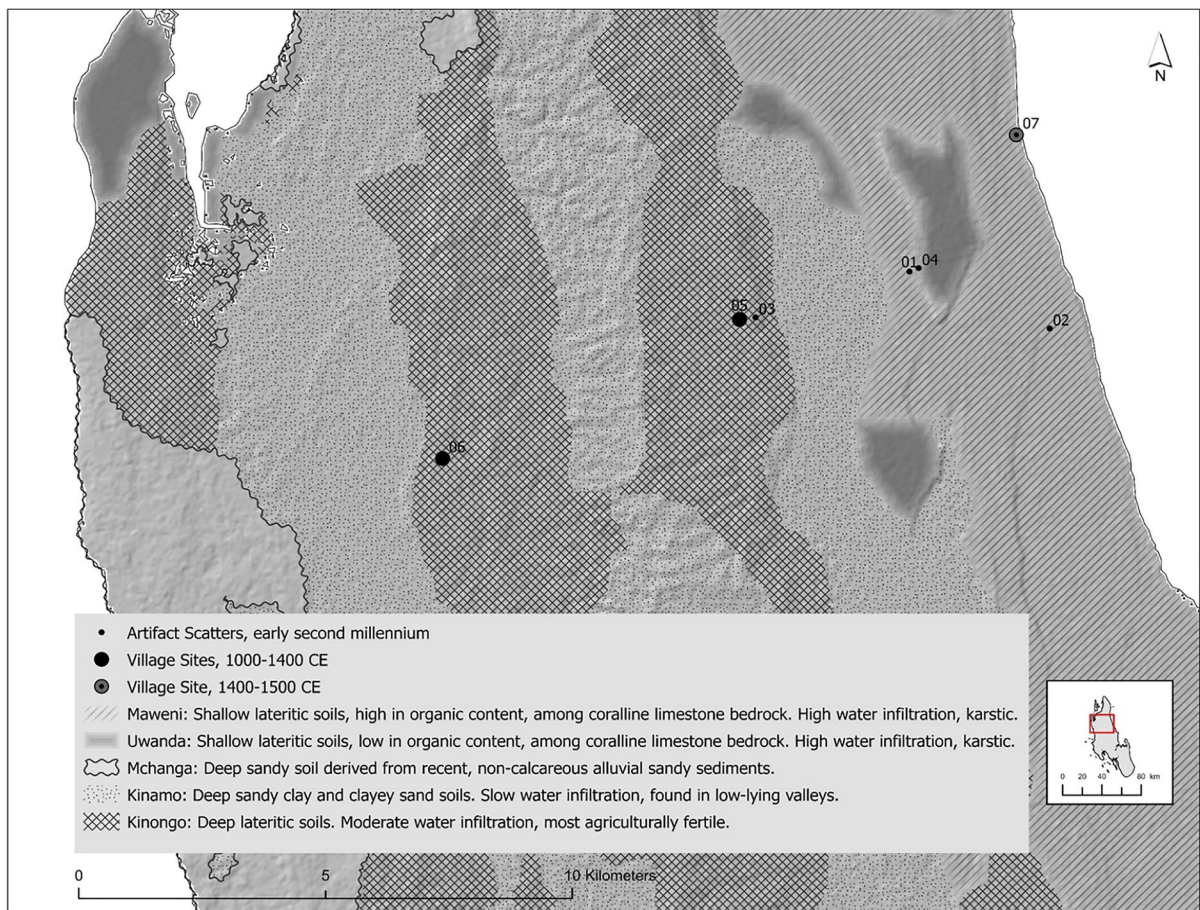


Fig. 2 Overview of precolonial sites in the survey region, across soil zones (adapted from Khamis et al., 2017, p. 120, and Hardy et al., 2015, p. 6). Hillshade DEM is extracted from SRTM 30 m imagery

counted twice in the figures above but only once in the table below.

Social Production in Precolonial Zanzibar

Though Zanzibar Island was settled as early as the sixth century CE, surveys did not record any sites dating to the late first millennium in inland areas. The earliest inland sites were the villages of Kirikacha (05) and Mwanakombo (06) (see Fig. 2), founded in the eleventh century at the beginning of a period of urbanization and social stratification on the island (Fitton, 2018) and across the Swahili world (Fleisher et al., 2015). During this period, the site of Unguja Ukuu to the southwest declined in size or was abandoned before being reoccupied in the fifteenth

century (Juma, 2004, p. 154). Early Swahili people in the west founded a town on the Shangani peninsula, a small fishing village that would later grow into Zanzibar Stone Town (Fitton, 2018; Power et al., 2020). The sites of Mkokotoni and Tumbatu in the north developed into an urban landscape from 1000 to 1400 CE (Rødland, 2021). In the far south, residents built the Kizimkazi mosque in 1107, dated by a sandstone inscription (Kleppe, 2001). During this period, settlement reorganization across the island coincided with the conversion to Islam and a shift toward open bowl forms as the dominant local ceramic type at Mkokotoni and Tumbatu in ways that likely reflect dietary and social changes (Rødland, 2021, p. 108). These changes appear similar to the situation on Pemba Island, a contemporaneous site (e.g., Fleisher, 2010a; Walshaw, 2010, 2015).

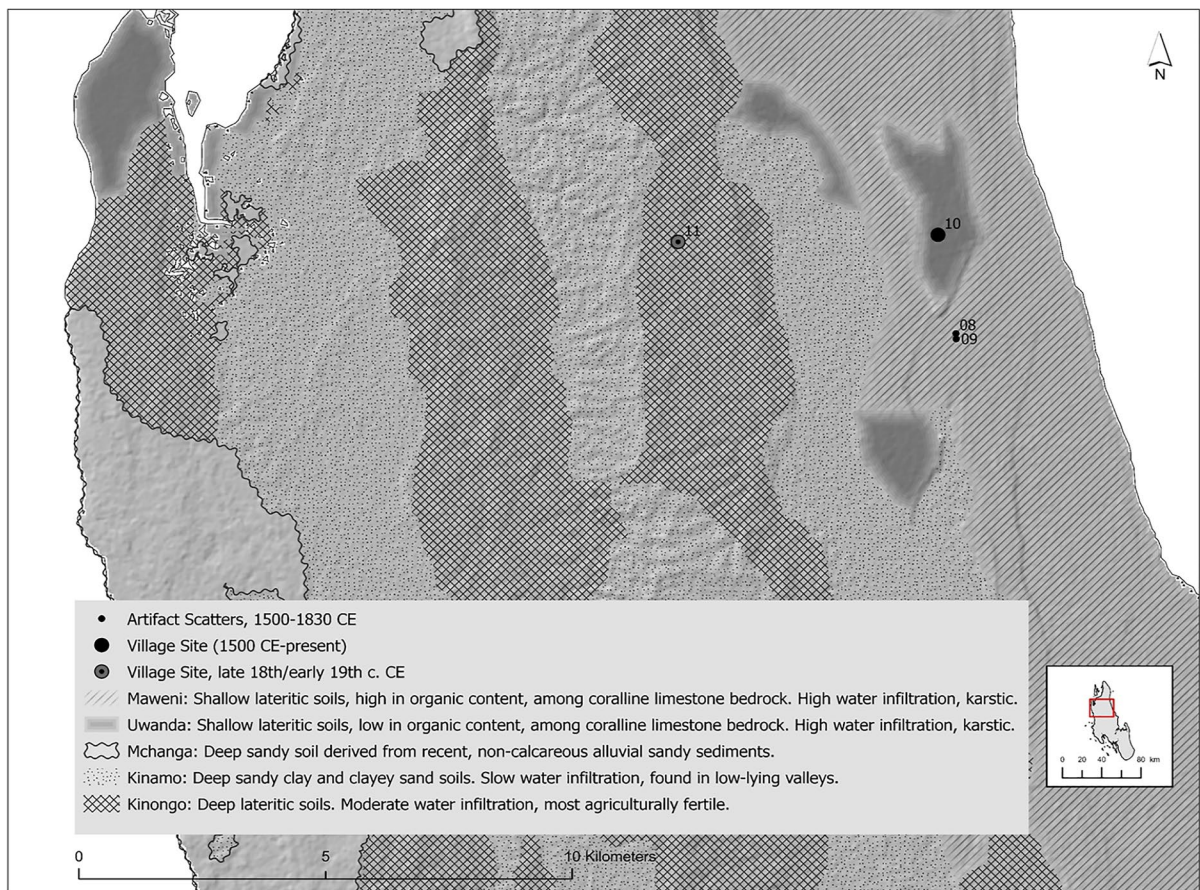


Fig. 3 Overview of early colonial (1500–1830) sites in the survey region, across soil zones (adapted from Khamis et al., 2017, p. 120 and Hardy et al., 2015, p. 6). Hill shade DEM is extracted from SRTM 30 m imagery

The two sites of Kirikacha and Mwanakombo were small villages on raised bluffs alongside perennial streams in elevated areas of agriculturally rich *kinongo* soil (Fig. 5). Both sites produced large numbers of open bowls, other Phase C Tana/TIW ceramics, and open bowls made from late sgraffiato ware (Horton, 1996, p. 260, 284–288). These artifacts constrain the occupation of the sites during 1000–1400 CE and suggest that the residents of these village communities were consuming rice-based dishes like other Swahili people of the early second millennium. The sites featured daub fragments and lacked stone architecture. Both sites also produced *mofa* oven fragments (Fig. 5), used elsewhere on the coast for baking millet bread (Fleisher, 2003, p. 177; Horton, 1996, p. 46). Millet (likely pearl millet) was the most common grain found at Tumbatu and Mkokotoni to the north (Rødland, 2021, p. 189–190), supporting the idea that

millet were grown and processed in northern Zanzibar. Shovel-test pit grids did not reveal any evidence of marine resource exploitation.

Finally, both sites are located within the areas of the survey universe that became the largest centers of plantation agriculture in the nineteenth century. In the case of Mwanakombo, the pre-colonial site lies directly beneath a nineteenth- and twentieth-century plantation near the modern town of Mahonda. In the case of Kirikacha, the site is adjacent to the large nineteenth-century Chaani (42, Fig. 4) and overlooks the same rice valley. These spatial continuities, specifically constrained to *kinongo* soil zones, speak to a similar orientation toward agricultural production as a factor of settlement in the precolonial and late colonial periods.

Archaeologists elsewhere have established the importance of marine resources to Swahili

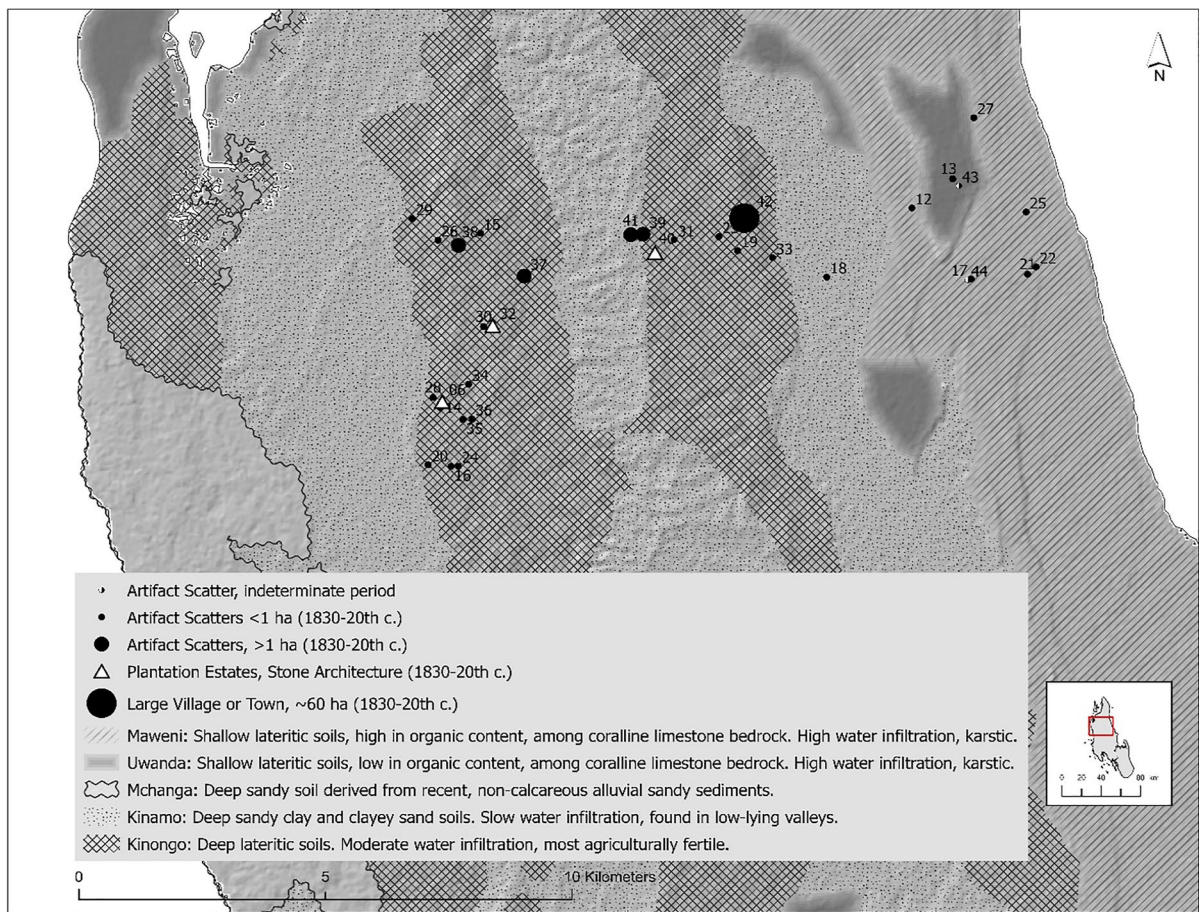


Fig. 4 Overview of late colonial (1830–1964) and indeterminate sites in the survey regions, across soil zones (adapted from Khamis et al., 2017, p. 120 and Hardy et al., 2015, p. 6). Hill shade DEM is extracted from SRTM 30 m imagery

communities (Prendergast et al., 2017; Quintana Morales & Prendergast, 2018). Large shell deposits like those at Unguja Ukuu (Juma, 2004, p. 129) or the eastern coastal site of Pwani Mchangani (07) recovered during this survey (Fig. 2) attest to the importance of marine resources for subsistence and daily life. Quintana Morales et al. (2022) show that at urban centers like Songo Mnara, the use of fish in feasting was associated with elite practices. Furthermore, coastal sites enabled direct sea access to foreign trade from other parts of the Indian Ocean world. Given the access to marine resources and foreign trade that would have been available on the island's coasts, what compelled early second-millennium Swahili people to settle inland at sites like Mwanakombo or Kirikacha? Population pressure in the coastal zone would not have been a factor since only

a handful of sites existed in the coastal areas of Zanzibar around the year 1000 CE (Fitton, 2018), though further coastal surveys may reveal more.

Swahili people may have moved inland to *kinongo* soil zones in the early second millennium in response to social demand for grain, possibly specifically for millets, which were likely baked into bread at the sites of Kirikacha and Mwanakombo in *mofa* ovens. Millets were the most frequently found archaeobotanical materials at Tumbatu and Mkokotoni, along with rice (Rødland, 2021, p. 189–190). The lack of evidence for marine resource use at Kirikacha and Mwanakombo and the presence of bread ovens suggest that these communities were agriculturalists. Though there is no direct evidence of rice production at these sites, the large numbers of open bowls at these pre-colonial village sites and Tumbatu and Mkokotoni to

Table 1 Identified sites during the 2019 survey, with approximate dates based on ceramic chronologies, site sizes, site type, and region of occurrence

Map no	Site name	Date range	Area (ha)
01	West_Kandwi003	Precolonial: 1000–1400 CE	0.02
02	Mwanampaji001	Precolonial: 1000–1400 CE	0.09
03	Kikobweni001	Precolonial: 1000–1400 CE	0.9
04	West_Kandwi001	Precolonial: 1000–1400 CE	0.9
05	Kirikacha	Precolonial: 1000–1400 CE	1.67
06	Mwanakombo	Precolonial: 1000–1400 CE, also a 19th-century plantation estate	4.24
07	Pwani Mchangani	Precolonial: 1400–1500 CE	5.56
08	Kandwi_Kibokwa002	Early Colonial: 1500–1830 CE	0.18
09	Kandwi_Kibokwa003	Early Colonial: 1500–1830 CE	0.2
10	Kandwi	Early Colonial: 1500 CE to present	1.53
11	Njua_Kuu	Early Colonial: 18th or early 19th c	1.77
12	West_Kandwi002	Late Colonial: 1830–twentieth century	0.01
13	Kandwi002	Late Colonial: 1830–twentieth century	0.02
14	Kanisani001	Late Colonial: 1830–twentieth century	0.06
15	Donge_Karange001	Late Colonial: 1830–twentieth century	0.07
16	Mahonda002	Late Colonial: 1830–twentieth century	0.09
17	Kandwi_Kibokwa001	Late Colonial: 1830–twentieth century	0.1
18	Chaani_Kibokwa001	Late Colonial: 1830–twentieth century	0.1
19	Kikobweni003	Late Colonial: 1830–twentieth century	0.14
20	Mahonda003	Late Colonial: 1830–twentieth century	0.16
21	Mwanampaji003	Late Colonial: 1830–twentieth century	0.17
22	Mwanampaji002	Late Colonial: 1830–twentieth century	0.23
23	Kikobweni004	Late Colonial: 1830–twentieth century	0.26
24	Mahonda001	Late Colonial: 1830–twentieth century	0.28
25	East_Kandwi001	Late Colonial: 1830–twentieth century	0.31
26	Donge_Mbiji002	Late Colonial: 1830–twentieth century	0.31
27	Muembe Nambo	Late Colonial: 1830–twentieth century, also has early second-millennium components	0.38
28	Daraja_La_Mwanakombo001	Late Colonial: 1830–twentieth century	0.4
29	Donge_Pwani002	Late Colonial: 1830–twentieth century	0.4
30	Mkataleni002	Late Colonial: 1830–twentieth century	0.49
31	Kichangani003	Late Colonial: 1830–twentieth century	0.65
32	Mkataleni	Late Colonial: 1830–twentieth century	0.7
33	Kikobweni002	Late Colonial: 1830–twentieth century	0.71
34	Mnyimbi001	Late Colonial: 1830–twentieth century	0.74
35	Mahonda_Mkataleni003	Late Colonial: 1830–twentieth century	0.78
36	Mahonda_Mkataleni001	Late Colonial: 1830–twentieth century	0.8
37	Donge_Karange002	Late Colonial: 1830–twentieth century	1.08
38	Donge_Mbiji001	Late Colonial: 1830–twentieth century	1.09
39	Kichangani001	Late Colonial: 1830–twentieth century	1.59
40	Kibirikani	Late Colonial: 1830–twentieth century	1.99
41	Kichangani002	Late Colonial: 1830–twentieth century	2.04
42	Chaani	Late Colonial: 1830–twentieth century	~60
43	Kandwi003	Indeterminate, probably nineteenth century	0.12
44	Kandwi_Kibokwa004	Indeterminate, probably nineteenth century	0.18

Fig. 5 Ceramics and artifacts from 1000 to 1400 CE, from the village sites of Mwanakombo and Kirikacha. **1** Late sgraffiato open bowl base. **2** Late sgraffiato sherd with repair hole. **3** Neck-punctated spherical pot. **4** *Mofa* oven fragment. **5** pot with thick carination and hatched incisions. **6** Open bowl with thickened rim. Photos by the author (see Alders, 2022)



the north (Rødland, 2021, p. 108) suggest that rice was likely also grown nearby and consumed in northern Zanzibar as well, based on comparisons with Pemba where open bowls correlate to the consumption of rice-based dishes (Fleisher, 2010a; Walshaw, 2010). Alternatively, open bowls may relate to increased communal consumption, and similar feasting dynamics may have played out in northern Zanzibar with millet rather than rice.

Increased social demand for grain, whether millet or rice, may have come directly from the elite center of Tumbatu to the north or may be related to increased social demand for grain at all levels of Swahili society, related to emergent feasting practices and communal consumption during this period (Fleisher, 2019). This demand may have drawn some residents of Zanzibar's coastline to move inland and adopt farming full-time. The late sgraffiato ware found at Mwanakombo and Kirikacha suggests that the residents of these inland villages received imported ceramics from the coast through trade or as gifts; agricultural products may have been sent in exchange. Studies of Swahili cuisine have also demonstrated the importance of caprines and cattle as sources of meat and milk in Swahili stone towns (Quintana Morales et al., 2022). Though no evidence from sites in rural Zanzibar supports the idea that residents were herders, the open spaces of inland Zanzibar would have certainly provided grazing land.

The occupation chronology suggested by ceramics at Mwanakombo and Kirikacha lines up with the chronology of the elite center of Tumbatu from 1000 to 1400 CE (Rødland, 2021, 2022). Though Swahili

people lived in communities on the coastal fringe of Zanzibar as early as the sixth century CE (Fitton, 2018), they do not appear to have settled inland prior to the emergence of social stratification at the elite center at Tumbatu (Rødland, 2021). When the stone town of Tumbatu was abandoned in the fourteenth or early fifteenth century, these village sites appear to have been abandoned as well. It may have been the case that without the demand for the social production of grain from this elite center, there was no longer any incentive for Swahili people to remain far inland, away from easily accessible marine resources in the reefs and at sea. Alternatively, both these inland village sites and Tumbatu may have been abandoned alongside a broader sociopolitical shift, which is not fully understood but may relate to changes across the Swahili Coast in the early second millennium (Fleisher et al., 2015).

Overall, settlement results from the early second millennium in northern Zanzibar suggest that rural inland areas were places where Swahili people produced agricultural surpluses on the island for the first time to satisfy social demands for grain. Following the abandonment of Tumbatu, rural inland northern Zanzibar was not reoccupied until the early to mid-nineteenth century, when the plantation system for clove production spread across the island. From the end of the fourteenth century to around 1830, the fertile agricultural lands of inland north-central Zanzibar returned to the pre-eleventh century conditions: open spaces and forests. The Swahili communities living directly on the coastal fringe used this landscape for hunting and gathering firewood, lumber,

and other forest products. An exception was the village of Kandwi (10, Fig. 3) in the eastern part of the survey region, outside the nineteenth-century plantation zone. This site lies on a particularly secure rocky plateau and may have been a place of refuge during the turbulent early colonial period (LaViolette & Norman, *in press*; Prestholdt, 2018; Vernet, 2009) when coastal sites were vulnerable to raids by the Portuguese or others. Njua Kuu (11, Fig. 3) was also founded and briefly occupied in the central region, though it was abandoned prior to the foundation of the clove plantation system.

Commodified Production: The Plantation System

Starting around 1830, demand for the commodified production of cloves led to the establishment of plantations with enslaved labor. The largest late colonial settlements developed directly over or adjacent to precolonial villages of the eleventh to fifteenth centuries. However, Omani settlers and their retinues did not directly displace Swahili residents from the most agriculturally fertile regions of the island since these places appear to have been unoccupied by the time they arrived. It may have been the case that the knowledge of these places was never lost despite their abandonment and that Omani planters looking for good areas to farm were able to draw on local Swahili knowledge about agriculturally fertile zones. The settlements for this period clustered once again in agriculturally fertile *kinongo* soil zones (Fig. 4), where hilly landscapes and deep soils were ideal for clove and coconut tree orchards.

Just as Swahili people used rural inland environments to satisfy social demands in the precolonial period, elites in the late colonial era (1830–1964 CE) used these spaces again to produce agricultural surpluses, though under a commodified system of value. The demands of commodified production led to the resettlement of agriculturally fertile inland zones once again, areas that played an outsized role in the development of Zanzibar as one of the wealthiest places in the Indian Ocean world by the mid-nineteenth century. The commodification of land and produce for international capitalist markets transformed rural inland Zanzibar into a plantation system (Bishara, 2017; Cooper, 1977), with knock-on effects

that reshaped the social and environmental fabric of the Swahili Coast.

Direct archaeological evidence for clove and coconut orchard farming is scanty due to the ephemeral nature of the tools used to harvest both crops. The only materials needed to harvest cloves are ladders to climb the trees and straw mats for drying the cloves. For coconuts, even less is needed—a fibrous climbing strap for the feet and a sharp knife or machete are the only tools necessary to harvest coconuts. Because of this, historical sources are necessary for understanding the extent to which clove planting transformed Zanzibar’s landscape (e.g., Bishara, 2017; Cooper, 1977; Middleton, 1961; Sheriff, 1991, 2018; Vernet, 2017). Despite the lack of preserved materials related to agricultural production, surveys recovered four lines of evidence that attest to the role inland areas played in the intensification of commodified production: (1) large increases in site size and count; (2) the development of stone architecture in inland areas for the first time; (3) large increases in imported ceramics, particularly European industrial whiteware and Chinese blue and white porcelain that entered circulation in Zanzibar at the same time as the intensified plantation system; and (4) a shift to everted, carinated cooking pots as the dominant local vessel form. The following sections outline these changes.

The most significant settlement change was the growth in site size and site count starting around 1830. Surveys recorded 32 sites from the late colonial period across the survey region, which constitute a large majority of the total sites located (Fig. 4, Table 1). All transects produced evidence for late colonial sites and these cluster in *kinongo* soil zones. One of these sites, Chaani (42, Fig. 4), became a large village or town of around 60 hectares during this period, dwarfing even the largest pre-colonial settlements on the island (see site size column in Table 1).

The large increase in site size and the count does not appear to be related to differences in site preservation. If anything, nineteenth-century sites are more ephemeral and, therefore, more likely to be destroyed through modern farming practices than the deep deposits that characterize precolonial village sites. The increased site size and count most likely related to a demographic shift: the arrival of enslaved East Africans in the inland regions brought increasing numbers to the island in the early nineteenth century (Vernet, 2017). By the mid-century, these new

arrivals nearly outnumbered the free Swahili population of the island (Cooper, 1977, p. 56). Facilitating population growth was the cassava plant, first planted in Zanzibar in 1799 (Hillocks, 2002). This tuber appears to have supported these large, enslaved populations since its cultivation has low labor requirements in relation to the calories it provides. Even today, cassava is associated with poverty and dependency in coastal East Africa (Kinshella, 2014). Though clove intensification has been more historically noted, the intensification of cassava on the island may have been more demographically impactful in shaping the settlement system of the rural areas.

Another impact of clove intensification that is visible on the archaeological landscape was the development of plantation estates with stone architecture. Three examples are the sites of Mkataleni (32), Kibirikani (40), and Mwanakombo (06) (see Figs. 4 and 6). This was the first time residents of the inland region built in stone, which differentiated them socially from Swahili people building in earth and thatch and linked them to the elite mercantile class that resided in stone buildings in Zanzibar Stone

Town. These stone structures in inland areas are evidence of the plantation aristocracy, but sites with stone architecture were not the only sites where plantation owners lived. Conversations with residents suggest that other sites recorded were former plantation settlements, though no stone architecture was recovered (Alders, 2022, p. 82–126). This accords with findings by Croucher (2006, p. 363–368), who also located non-descript artifact scatters near the modern town of Mahonda that residents recalled as the sites of former plantation houses. Bishara (2017, p. 225) noted that many smaller plantation owners lived in modest earth and thatch houses, not overly distinct from the residences of enslaved people. He argued that the British historical sources expressed confusion over the disparity between the region's wealth and the relative material austerity of many plantation owners, who were Ibadi Muslims. Ibadi plantation owners did not value opulence or grand architecture like plantation owners in other parts of the world that the British were familiar with (Bishara, 2017, p. 225). Instead, many were satisfied with lives of leisure and religious devotion, subsisting off the produce that enslaved

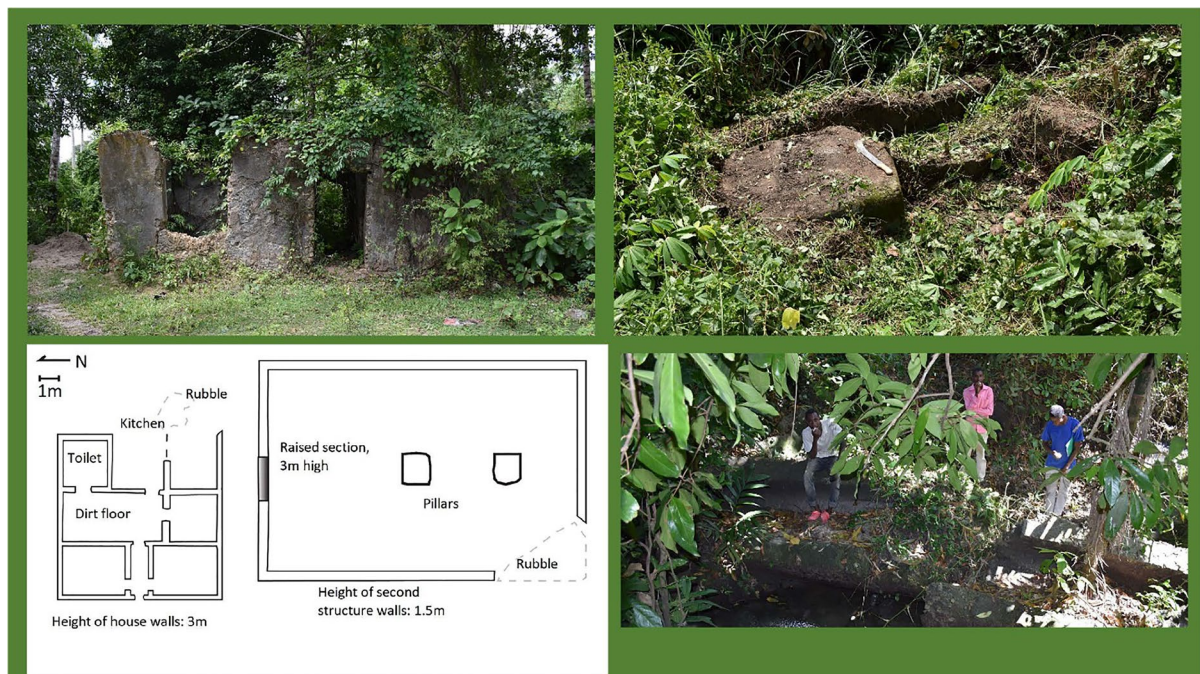


Fig. 6 Nineteenth-century stone features at the Mwanakombo site. Top left: stone house. Top right: waterwheel foundation, for processing sugarcane. Bottom left: plan map of the stone

house and stone enclosure. Bottom right: collapsed sluice gate, upstream from the waterwheel. Plan map and photos by the author (see Alders, 2022)

people farmed on their estates. Nevertheless, the presence of three plantation sites with stone-built architecture attests to the fact that some plantation owners did reinvest their wealth into architectural forms that socially distinguished them from other residents of the rural areas.

The stone architecture was not limited to domestic spaces; at Mwanakombo, a stone sluice gate and waterwheel foundation (Fig. 6), likely for processing sugar cane, were permanent investments in agricultural production. Furthermore, residents at the site described a large stone enclosure (Fig. 6) as an abortive attempt to create a chicken “factory” or *kiwanda* (Alders, 2022, p. 173). These stone features may represent late nineteenth- or early twentieth-century attempts by plantation owners to diversify production when clove prices fell globally following the boom of the mid-nineteenth century (Bishara, 2017, p. 116).

A third correlation with social transformation was the widespread proliferation of imported ceramics in the survey region, specifically European industrially-produced whitewares and Chinese blue and white porcelain (Fig. 7) in quantities that exceed precolonial

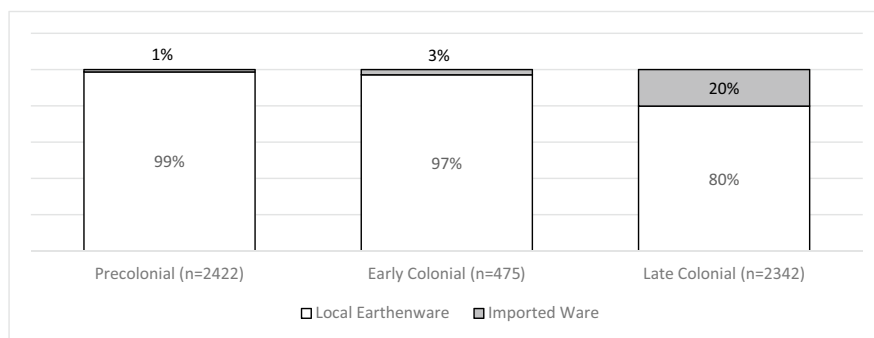
and early colonial local/import ratios (Fig. 8, see also Alders, 2022, p. 354–378). These ceramics and glass appeared in sites dating to the late colonial period. The widespread availability of European whiteware in the west and central areas of Zanzibar attests to the wealth produced by clove production, to the increasing cheapness of European industrial wares for global export, and, as Croucher (2014, p. 199–203) argues, to norms of reciprocity in Swahili culture that involved lending and gift-giving of fine ceramic wares across social classes.

These processes became entangled in the emergent global commodity networks of the nineteenth century. European whitewares, specifically transfer-printed ware, polychrome hand-painted whiteware, and sponge-decorated ware, became common export wares around 1830, replacing pearlware globally (Croucher, 2014, p. 205–206; Majewski & O’Brien, 1987; Samford, 1997). English and Dutch potteries produced decorative printed, painted, or sponge-impressed designs from the late eighteenth century onward, but these decorations were used predominantly on creamware and pearlware prior to the

Fig. 7 Imported and local wares of the late colonial period (1830–1964). **1** Chinese blue and white porcelain with chrysanthemum pattern. **2** Chinese blue and white Dehua plate. **3** European polychrome hand-painted whiteware. **4** Red-painted Indian earthenware. **5** Dipped or annular whiteware. **6** European whiteware painted to imitate Chinese blue and white porcelain. **7** Edged ware. **8** Sponge-decorated ware. **9** Green transfer printed whiteware. **10** Dark blue transfer printed whiteware, roe egg pattern. **11** Black transfer printed whiteware, willow pattern. **12–14** Local, everted rim carinated cooking pots with incised and impressed decorations. Photos by the author (see Alders, 2022)



Fig. 8 Ratio of local earthenware to imported wares recovered, by period



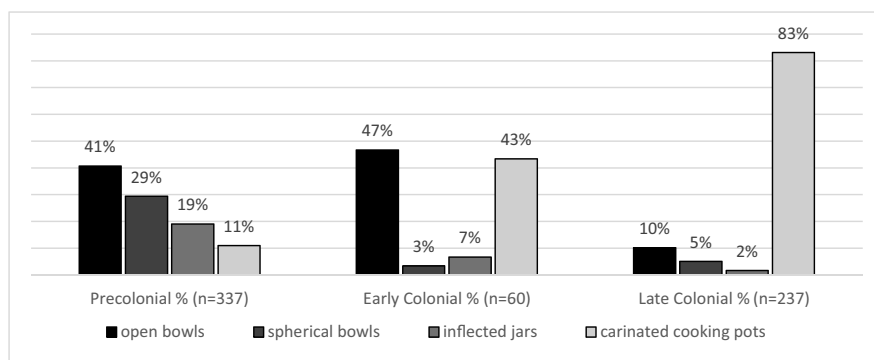
1830s. These earlier wares are absent from the assemblage in Zanzibar. In contrast, whiteware abounds across the survey region, suggesting that large quantities of imported European ceramics did not enter Zanzibar's consumer markets until after creamware and pearlware had been phased out of circulation. Considering that sites with European whiteware are more numerous and larger than any previous settlement type in the survey region, it is likely that the presence of European whiteware in the survey area is strongly associated with the period of clove expansion and intensification that began around 1830.

Finally, research documented local ceramic changes starting in the late colonial period, likely related to changes in the social system of the island (Alders, 2022, p. 313–353). Cooking pots with everted rims and carinated shoulders were the dominant form, a result also recorded by Croucher (2014, p. 214) at Mgoli on Pemba. These cooking pots replaced open bowls as the dominant local vessel type on the island (Fig. 9). This may reflect the substitution of locally made open bowls with readily available imported European whiteware and Chinese blue and white porcelain or changing food preparation

practices, perhaps related to the introduction of cassava on the island starting in 1799 (Hillocks, 2002). A final possibility is that the shift to carinated cooking pots reflected increased cooking and eating in the social contexts of mass labor that first developed during the nineteenth century outside of domestic spaces. As a comparison, food vendors today in Zanzibar Stone Town use carinated clay pots for cooking large stews (*urojo*) that they sell to urban dwellers during the workday. This shift toward food production for many people outside the home may have occurred in the late colonial period when mass labor on plantations and elsewhere developed. Future research comparing local nineteenth-century ceramic assemblages from domestic contexts with contexts associated with mass labor would help clarify this dynamic further.

Overall, multiple lines of archaeological evidence attest to widespread and dramatic changes across rural landscapes in northern Zanzibar during the advent and development of the plantation system in the late colonial period. Once again, specific rural areas within fertile *kinongo* soil zones were entrained within social transformations, and agricultural production in these landscapes directly enabled the

Fig. 9 Distribution of four local ceramic vessel forms across periods



dizzying accumulation of wealth by elites in urban centers.

Discussion

This article has proposed that certain rural spaces in Zanzibar were instrumental in producing locally and globally salient forms of value, resulting in transformative changes to Swahili society over the last millennium. The basis for this was the combination of land and labor in fertile *kinongo* soil zones across northern Zanzibar. As bases of agricultural surplus production, these areas produced the conditions for social transformation alongside urban centers where wealth accumulated. The tightly constrained settlement history of the inland region and associated lines of artifactual evidence attests to the strong correlation between occupations in specific soil zones and historically contingent demands for agricultural surplus.

The framework of social and economic demand helps explain the lacunae in Zanzibar's rural inland settlement during the late first millennium and the early colonial period. In the early second millennium, the inland region was settled for the first time by village communities who likely produced millet bread in *mofa* ovens and did not consume marine resources. These village communities were settled and abandoned during the same period as the urban landscape of Tumbatu and Mkokotoni and had access to foreign ceramics acquired through trade networks. The impetus for occupying agriculturally fertile inland regions far from the rich marine resources of the coast may have been the social demand for grain, related to attempts by nascent Swahili elites to legitimize power through feasting (c.f., Fleisher, 2010a, 2013, 2019; Fleisher & Wynne-Jones, 2010; Walshaw, 2010, 2015). Archaeobotanical research like that of Walshaw (2010, 2015) in Pemba at these newly recorded rural sites may be a future avenue for gaining insight into rural foodways, complementing archaeobotanical work recently completed at Tumbatu and Mkokotoni (Rødland, 2021, p. 185–190). Following the abandonment of the urban landscape to the north, these inland villages were abandoned as well, and Swahili people appear to have returned to living on the coastal fringe.

Kinongo soil zones in rural inland areas were only reoccupied again when demands for agricultural

surplus production returned in the early to mid-nineteenth century. Omani settlers created plantations in the same agriculturally fertile zones that had been left fallow since the end of the fourteenth century. This disjuncture in settlement chronology produced a complicated colonial interaction. Omanis may not have directly evicted indigenous Swahili people from these lands, but they did create exclusionary zones within areas that were previously kept as traditional reserves for agriculture, hunting, herding, and gathering by indigenous groups. This deep archaeological history may help explain the context of historical disputes about land rights that produced competing racialized narratives about dispossession and conquest in the mid-twentieth century (Glassman, 2011, 2014).

Ceramic evidence from rural late colonial sites reflects the agency of local and enslaved communities in shaping ceramic production and consumption in ways that differed from previous patterns on the island. However, further research might more explicitly clarify the bottom-up strategies of collective action, leverage, and resistance (c.f., Furholt et al., 2020) that social dependents and enslaved people in nineteenth-century rural Zanzibar employed to alter and shape how plantation owners could convert agricultural production into prestige and economic wealth. A similar theoretical approach might also be employed to understand the social dynamics of production in precolonial Zanzibar. This study contributes to the new theoretical frameworks for understanding labor and slavery in East Africa and the Indian Ocean (Haines, 2020, 2021; Lane, 2014, 2021; Marshall, 2021; Rødland, 2021; Rødland & Wynne-Jones, 2020; Rødland et al., 2020).

In comparison with other studies of colonial East Africa, the nineteenth-century evidence from Zanzibar (ceramics, settlement patterns, and architecture) suggests a greater degree of social transformation compared to mainland sites associated with the caravan trade (Biginagwa, 2012; Biginagwa & Lane, 2021; Fleisher & Wynne-Jones, 2010). On caravan routes, Biginagwa & Lane (2021) have argued that historical models emphasizing universal disruption and transformation because of intensified caravan trading are not supported by archaeological evidence, which suggests continuity and resilience across multiple centuries in specific times and places. The nineteenth-century evidence from Zanzibar detailed here similarly supports the idea of specific continuities,

like the continued use of agriculturally fertile soil zones in rural areas. However, starting around 1830, the reoccupation of inland zones for agricultural production involved the mass importation of enslaved populations from mainland East Africa to the island. This demographic shift is visible on the archaeological landscape as an explosion in site size and site count compared to previous periods. Other traces of social transformation during this period are the first occurrences of stone architecture on plantation estates in inland areas, a significant increase in the quantities of imported European and Chinese ceramics, and a shift to carinated cooking pots as the dominant local ceramic vessel form. These changes suggest that transformative changes occurred suddenly at multiple scales of rural Zanzibari society. Taken together with other evidence from nineteenth-century East Africa, this research supports Biginagwa & Lane's (2021, p. 244–245) argument for regionally diverse, rather than universal, responses to East Africa's integration within emergent nineteenth-century economic systems. In Zanzibar, the center through which commodified wealth flowed in and out of East Africa in the nineteenth century, rural communities were significantly entrained within global economic and social developments.

Archaeologists in East Africa have consistently reckoned with the independent and regionally diverse patterns of urban–rural interaction across Swahili social landscapes (Fleisher, 2010b; Kusimba et al., 2013; LaViolette & Fleisher, 2018; Wynne-Jones & Fleisher, 2016). These investigations into rural, non-elite Swahili regions have reshaped understandings of African urbanism and contributed to debates around power dynamics and urban and rural complexity globally. This research has built on these studies by reconstructing a rural settlement system to better understand rural complexity and the factors and consequences of social transformation. As the base of intensified agricultural surplus production, rural areas in Zanzibar helped produce social transformations over the last millennium.

Conclusion

This article has presented the results of systematic archaeological field surveys across a region of inland Zanzibar, reconstructing settlement patterns from

the earliest occupation to the end of the late colonial period. The results show chronologically constrained but intensive phases of occupation in the agriculturally fertile *kinongo* soil zones on the island. Swahili people settled in villages in these areas from 1000 to 1400 CE, during the same period that the urban landscapes to the north developed at Mkokotoni and Tumbatu. These village communities acquired luxury ceramics through trade, baked bread in clay ovens, and do not appear to have consumed marine resources for subsistence. The agricultural basis for these communities and their close correspondence in time with elite urban landscapes to the north suggests that social demands for grain may have compelled Swahili people to settle inland, away from access to marine resources and trade on the coast. These communities were abandoned simultaneously with the stone town of Tumbatu in the fourteenth or early fifteenth century, and inland zones lay fallow for centuries. Around 1830, economic demand for cloves led to the reoccupation of these areas. The development of the plantation system and the mass importation of enslaved East African mainland populations shaped rural landscapes and impacted settlement patterns and ceramic production and consumption. Elites used rural spaces as venues for the constitution of social power across the last millennium. However, the late colonial era saw emergent dynamics whereby commodification and the East African slave trade allowed elites to convert the labor of enslaved people into economic, commodified wealth. Mobilizing this evidence, this article has argued for a consideration of the significance of rural spaces in shaping social transformations in coastal East Africa and the western Indian Ocean.

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