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Pre-oil Globalization in a Rural Community: The Late Islamic Village of Sahlāt in the Ṣuḥār Region

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This article aims to study whether the increase of agricultural settlements in the Sultanate of Oman during the Late Islamic period (c. 1500–1950) was related to pre-oil globalization, as attested in the wider Gulf region. This is done by analysing the archaeological dataset of the agricultural village of Sahlāt, with a focus on the ceramic material, located in the Ṣuḥār region. The assemblages collected by the Wadi al-Jizzi Archaeological Project, point to its occupation from c. 1750 to 1930. During this time period, the coastal towns of southeastern Arabia were heavily influenced by globalization processes, but the effects and reach of trade on rural communities remains poorly known. In this paper, Sahlāt is compared to two contemporary sites connected to the same *falaj* system, and two other sites in the Gulf region. The results indicate that pre-oil globalization did not only impact coastal towns, but that rural settlements such as Sahlāt experienced similar transformations. It is suggested that pre-oil globalization was not only linked to the pearling trade, but that the export of dates should also be taken into consideration when studying this topic.

Introduction

It has been argued that southeastern Arabia became increasingly involved in long-distance trade networks during the Late Islamic period (c. 1500–1950).[1] These networks initially spanned much of Asia, but soon widened to include Africa and eventually the Americas (Carter 2009; Hopper 2015; Jones and Ridout 2015). The question we want to tackle in this article is how these long-distance trade networks of especially the 18th to 20th centuries impacted rural agricultural communities instead of the more cosmopolitan coastal towns of the Sultanate of Oman and the United Arab Emirates. We will do so by focusing on the village of Sahlāt, situated in the hinterlands of the port town of Ṣuḥār (Figure 1), a port of crucial importance from the Middle Islamic period onwards (Kervran 2004; Williamson 1973).

1. Based on Power 2015.

Keywords: Late Islamic period, southeastern Arabia, Suhar, ceramics, coins, pre-oil globalization

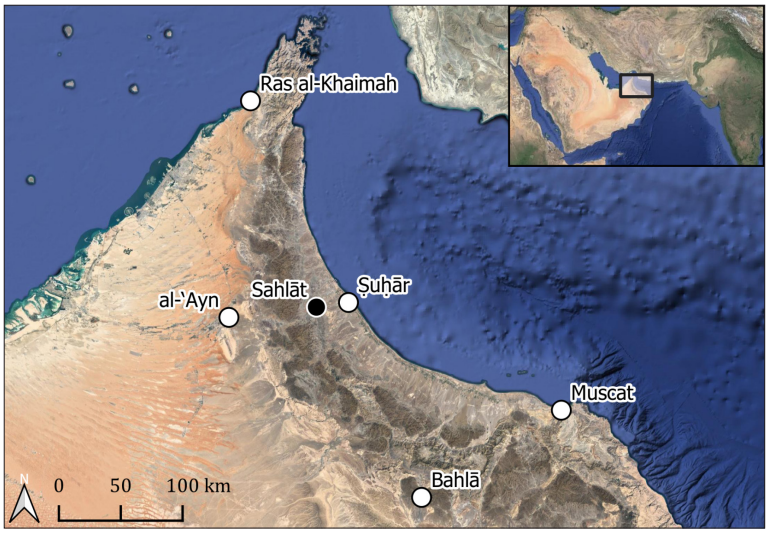


Figure 1. Overview of the main sites mentioned in the text (after © Google earth).

Historical sources indicate that southeastern Arabia had trade links with Europe and America through the export of dates and pearls in the Late Islamic period. To facilitate the production of dates and pearls, the slave-trading network connecting East Africa and Oman (including the current United Arab Emirates) became increasingly important in the 18th to 20th centuries (Hopper 2015; Jones and Ridout 2015). In this period, a series of pearling towns emerged along the coast of the Emirates, which appear to have relied on trade for their subsistence, rather than their hinterlands, presaging the modern situation in much of eastern Arabia (Carter 2009, 2012).

By contrast, along the al-Bāṭinah coast of Oman we see an upsurge in population levels that were probably fed mostly by agricultural produce from the more amenable hinterlands with greater agricultural affordances (Costa and Wilkinson 1987; Düring and Olijdam 2015; Kennet *et al.* 2016). Across the al-Bāṭinah and beyond, there is a marked increase in site numbers and artefact densities in the Late Islamic period pointing to an increase in pastoralism and farming in the rural areas of Oman (Al-Jahwari 2008).

Is this increasing agricultural use of rural landscapes part of the pre-oil globalization processes occurring in the Oman peninsula at the end of the Late Islamic period, and if so, what materials can we find in small rural settlements to demonstrate this? Can we detect changes in consumption and lifestyles of non-urban communities? We will try to address these questions by focusing on the assemblages found, and in particular the ceramics documented at the village of Sahlāt.

Location

The village of Sahlāt is located along the Wādī al-Jīzzī corridor through the Ḥajar al-Gharbī mountain range, which runs parallel to the coastline (Allen 1978, 8). This corridor is the main passage through these mountains in northern Oman and leads from Ṣuḥār to the key oasis of al-Buraymī/al-ʿAyn, which was a major town in the Middle and Late Islamic period (Power *et al.* 2015). Sahlāt is situated some distance from the mountains and therefore lacks nearby water sources. When Colonel S.B. Miles travelled here around 1875 along the tracks used by camel transport, he passed by the village of Sahlāt, and scathingly noted: "a village picturesquely situated on top of a hill, and having at a distance a somewhat imposing appearance, though a closer view dispelled the illusion" (Miles 1877, 42). So clearly, in times of Colonel Miles, Sahlāt was considered to be a rural village of no interest to a man of the world such as himself.

The village was irrigated by the diversion of water from an ingenious *falaj* system running on top of an old river terrace due south of Sahlāt. This system, known as the *falaj* al-Muʿtariḍ, was first constructed in the 10th century CE, during a period in which Ṣuḥār was one of the main ports in Western Asia, and some of the profits of trade were diverted into the agricultural development of the hinterland (Costa and Wilkinson 1987; Williamson 1973). The impressive *falaj* system measured about 36.5 kilometres and is possibly the longest in all of Eastern Arabia. It includes impressive tunnels, a siphon to pass under a wādī, water mills, and a pipe section of some kilometres, as well as basins to supply water to travellers and pastoralists. The *falaj* al-Muʿtariḍ seems to have fallen out of use fairly quickly after it was built, possibly because the agricultural surpluses that it could supply were no longer needed. In the 18th century CE the upper part of the *falaj* system was put back into use (Figure 2), now known as *falaj* al-Mleihe, at which time it supplied the villages of Milleyeneh (al-Mulayyanah) (WAJAP-Site 1), a second village (WAJAP-Site 18) from where the water was led down over a very steep slope to the fields of Sahlāt (WAJAP-Site 65). Each of these Late Islamic sites (all to be dated to c. 1750–1930 CE based on the surface ceramic evidence), comprised of a dispersed settlement, one or more field systems, and had a cemetery. However, among these villages, Sahlāt was clearly the most important: it had larger field systems, and more non-domestic buildings, which included three towers and a mosque. In addition, the assemblages retrieved from Sahlāt were denser, more diverse, and richer, than those from the other two Late Islamic settlements investigated.

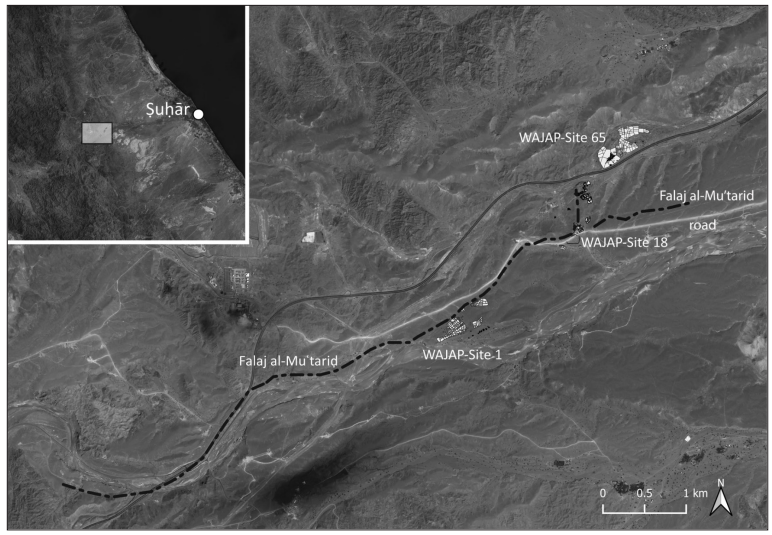


Figure 2. Late Islamic re-use of the *falaj* al-Muʿtariḍ, with associated sites (WAJAP-Site 1, WAJAP-Site 18 and Sahlāt) (after Jordy Aal).

The Sahlāt Dataset

As was already noted, the site of Sahlāt was visited by Colonel S.B. Miles in 1875 when the village was still occupied. In the late 1970s, Costa and Wilkinson (1987) investigated the site as part of their survey of the Ṣuḥār hinterlands. They produced a short description of the site and sketch map of its buildings. Sahlāt was described as a village with a roughly triangular shape, with a tower at each of the corners (Costa and Wilkinson 1987, 215). They counted 12 to 15 domestic buildings and estimated a population of 70 to 100 people. The ceramics identified were Islamic underglaze wares, Bahla wares, Chinese blue and white wares, storage jars and blue-grey painted porcelains, which were dated to the 16th/17th centuries and later (Costa and Wilkinson 1987, 216). A later date of occupation for the site is suggested in this paper, based on more recent investigations of the Late Islamic ceramic assemblage (see below).

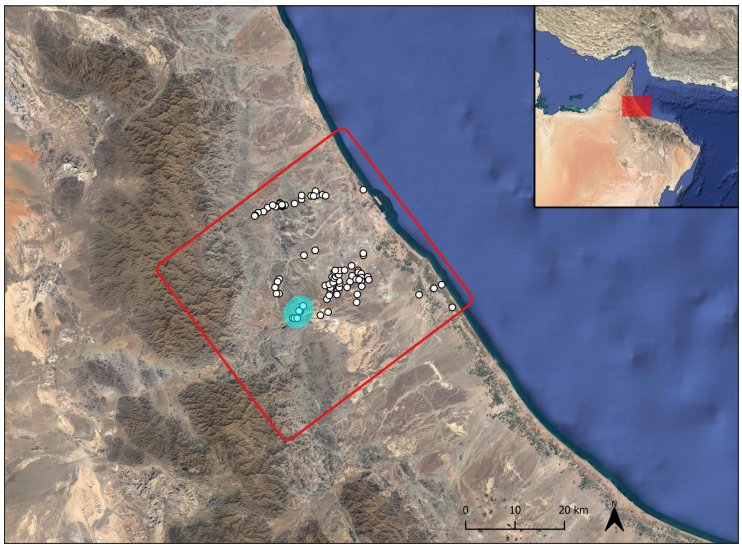


Figure 3. The WAJAP research area. Focus area of this article is indicated by the light-blue oval (after © Google Maps and WAJAP.nl).

Sahlāt and its surrounding field systems were most recently and systematically surveyed by the Wādī al-Jīzzī Archaeological Project (or WAJAP). This multiperiod surface survey started in 2014 and has so far run for six seasons. The research area consists of the region around the city of Ṣuḥār, Oman (Figure 3). This region is very rich in archaeological remains, which are, however, rapidly being destroyed by urbanization and industrialization. To document this endangered heritage, the WAJAP has started documenting all archaeological structures in the research area in detail, maps the extent and densities of artefacts and slag concentrations, and collects diagnostic artefacts and samples that might help us to better date or understand sites.

During the 2017 campaign of the WAJAP, Sahlāt and its field systems have been surveyed and documented (Figure 4). Four field systems are associated with the site. Two are located on the north-eastern side of the village, one on the north-western side of the site, and the last one on the south of the site (also known as WAJAP-Site 19). The field systems are 9.1 hectares in size and contained Late Islamic assemblages. In some cases, fields were demarcated by low stone walls. Additionally,

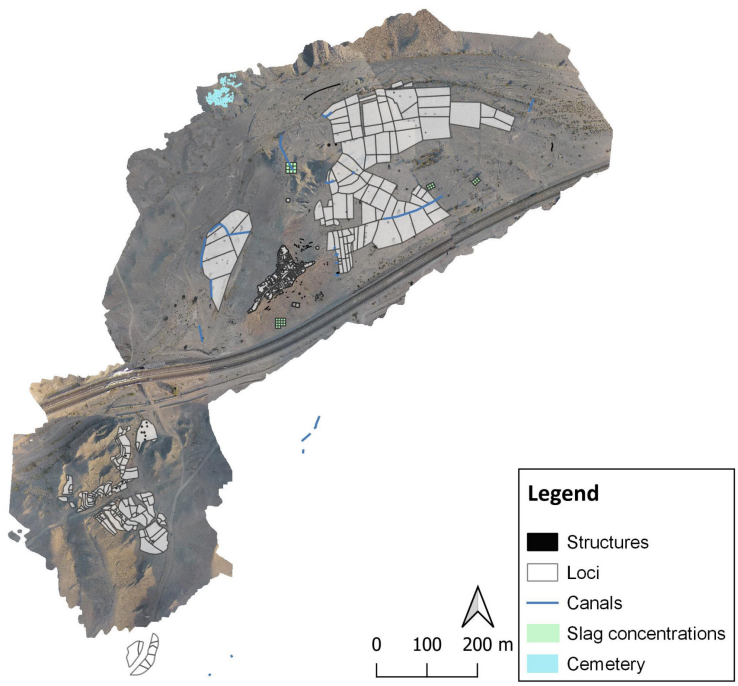


Figure 4. Sahlāt (outlined in black) and its surrounding field systems (grey). Slag concentrations are indicated with a grid (green). The cemetery is located north of the village (blue) (after Jody Aal).

stone circles with the diameter of c. 1 metre were present in some fields, possibly indicating the locations of some of the date palms present in the field systems.

Some distance to the north of the village, an Islamic cemetery has been documented, where a minimum of 199 graves can be distinguished. Additionally, four slag concentrations are documented to the north, east and south of the village. The concentrations consisted of fragmented slags and some furnace fragments. No crushing mortars or smelting installations were discerned. Nevertheless, these concentrations do provide evidence for copper metallurgy during the Late Islamic period (see dating section below). The evidence of the slag concentrations also shows that there is evidence for copper smelting on a larger scale than Costa and Wilkinson argued (1987, 218). The size of the village and the slag concentrations in the field systems indicate that Sahlāt was not only an agricultural settlement, but that other types of activities took place as well.

The village itself is situated on a steep hilltop, with the three watchtowers at its corners, as Costa and Wilkinson had previously noted. WAJAP has documented about 47 domestic structures on the hilltop, which are almost all connected to two main streets. This building count is significantly higher than the 10–12 structures of Costa and Wilkinson (1987, 216), who produced a sketch map during a brief visit, whereas we mapped out the site in much more detail. The south-western part of the villages consists of mostly sunken-structures, whereas the rest of the site has multi-roomed structures, sometimes with a courtyard. The multi-roomed structures were bounded by a heavy wall from the area with sunken-structures. Thus, within the small settlement of Sahlāt there appear to be differentiated neighbourhoods, and it is possible that these neighbourhoods with dissimilar building types also reflect a different moment of construction or differing functional uses (Figure 5, also Biezeveld 2020).

On the edge of the village, parts of a terrace wall encircle the settlement. There is no evidence to suggest that this served as true fortification, but it did demarcate the settlement in a clear manner and it channelled access into it. The location of Sahlāt on top of a hill suggests that security might have been a concern. Further downstream along the Wādī Sūq, at WAJAP-Site 53, another Late Islamic village is likewise perched on a steep hill, adding credence to this idea.

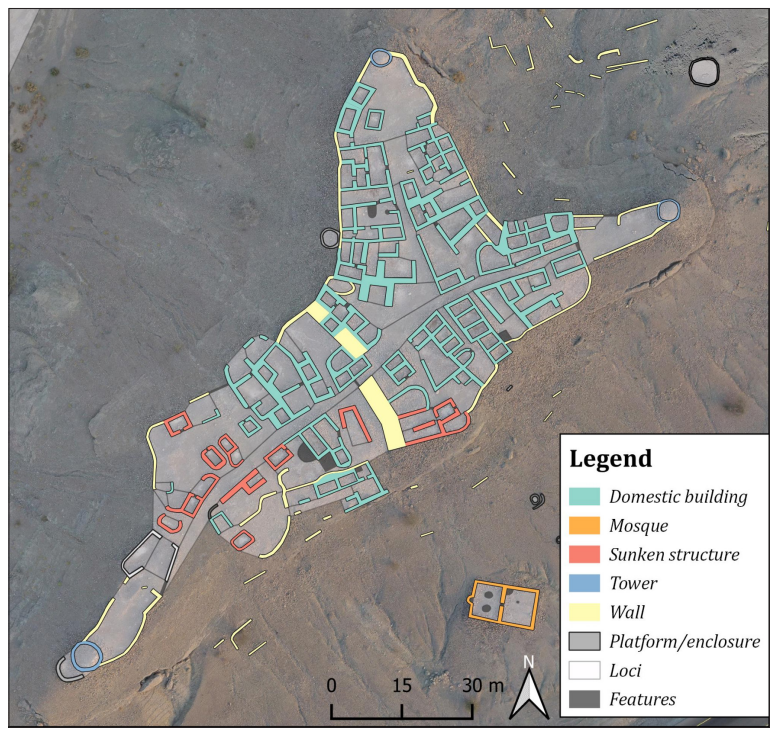


Figure 5. Close-up of the village of Sahlāt as documented by the WAJAP during the 2017 season.

On the south-eastern side of the village, a water cistern and a mosque are situated side by side on the slopes of the hill. These are structures without a parallel at other Late Islamic settlements in the WAJAP research area.

Overview of the documented finds

At Sahlāt and the surrounding field systems, an estimated 139.000 finds were present based on our counts. Of these, 1532 have been collected and documented, thus about 0.11% of the estimated assemblage. The largest category of collected finds are ceramic sherds (n=1471). The other collected artefacts include glass (vessels and bangles), metal (coins and unidentifiable objects) and stone (chipped stone, grinding stones, whetstones, beads, and loom weights) (Figure 6). These finds were collected by selecting unique diagnostics (thus if similar rims, handles, or bases were present only one was taken) per survey locus, which were surveyed either in intervals of 10 or 5 metres (in the fields), or by full inspection (in the settlement). All the sherds visible were counted (and for the interval units calibrated). The focus of this article will be on the documented ceramics and the coins.

To obtain an idea of what ceramics the inhabitants of Sahlāt used, the whole ceramic assemblage has been analysed. This might tell us which ceramic types were popular and which ones were less common. The ceramics are divided into the following categories: unglazed Arabian Gulf wares; glazed Arabian Gulf wares; Far Eastern wares; and European wares. This classification was based on Bystron's study on the ceramics of al-Zubārah (2019). The sherds have been characterised based on previous publications of Late Islamic ceramics in the region (Carter 2011; Carter and Naranjo-Santano 2011; Kennet 2004; Mitsuishi and Kennet 2013; Power and Sheehan 2012; Priestman 2005; Priestman and Kennet 2002).

To see whether the assemblage of Sahlāt is comparable with contemporary sites in the *falaj* al-Muʿtariḍ, the ceramic assemblages of two other Late Islamic sites in this *falaj* are used for comparison. These are WAJAP-Site 18 and WAJAP-Site 1, which are located upstream along the same *falaj* as Sahlāt (Figure 2). At both sites, the village as well as the field systems have been surveyed by the WAJAP. Site 1 has a total of 495 collected Late Islamic sherds and site 18 has a total of 477 collected Late Islamic sherds. The percentage of the above-mentioned ceramic types per site are shown in Figure 7.

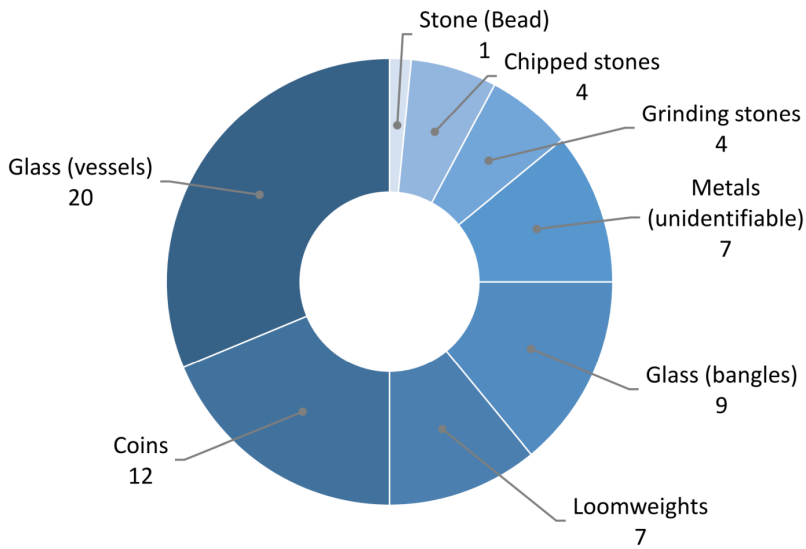
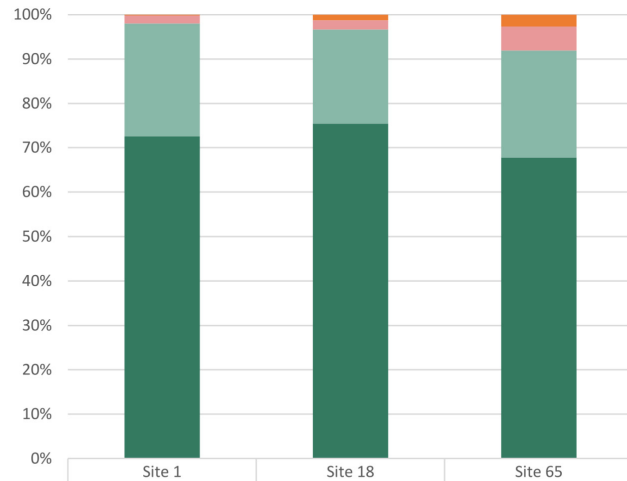


Figure 6. All non-ceramic finds documented at Sahlāt and its field systems by find count.

Unglazed Arabian Gulf wares

Figure 7 shows that at all three sites, roughly 70% of the assemblage consists of unglazed Arabian Gulf wares. These consist mainly of storage vessels, cooking pots, and water jars/jugs. The largest part of the coarse ware assemblage is unidentifiable. Either these unidentifiable wares are made locally, or no parallels could be found in the literature. Julfar ware (Figure 8, 1) makes up 16-30% of the assemblages of the sites. This ware was produced at multiple kiln sites in the Ras al-Khaimah region (UAE) between the 12th to 20th centuries, and thus presumably transported over c. 170 kilometres as the crow flies (Kennet 2004, 53–56). This transport will be further discussed below. Incised Buff ware (Figure 8, 2) made up 7–14% of the assemblages of the sites. Incised Buff ware (IBW) is similar or identical to White ware (WHITE) (Kennet 2004; Power and al-Kaabi 2011). Where the IBW was produced is uncertain. The common appearance on the Oman Peninsula suggests that it was produced at multiple production centres (Power 2015).



	Site 1	Site 18	Site 65
European wares	0,2%	1,3%	2,7%
Far Eastern wares	1,8%	2,1%	5,4%
Glazed Arabian Gulf wares	25,5%	21,2%	24,2%
Unglazed Arabian Gulf wares	72,5%	75,5%	67,8%

Figure 7. Graph and table showing the percentages "Unglazed Arabian Gulf wares," "Glazed Arabian Gulf wares," "Far Eastern wares," and "European wares" of the Late Islamic ceramic assemblages of WAJAP-Site 1, 18, and 65.

1 2

Figure 8. 1. Julfar sherd found at Sahlāt. Julfar sherd found at Sahlāt (WAJAP 2017); 2. Example of IBW found at Sahlāt (WAJAP 2017).

Figure 9. 1. Example of Bahla ware found at Sahlāt. Very similar example was found at al-Zubārah (Bystron 2019, 44, figure 10) (WAJAP 2017); 2. Example of Manganese Underglazed Painted ware found at Sahlāt (WAJAP 2017).

Glazed Arabian Gulf wares

The percentage of glazed Arabian Gulf Wares in the site assemblages is also similar, between 21% and 26%. Within the project, all of these sherds were documented as table wares. However, other functions for these wares are also known (e.g. the use as water containers (Heard-Bey 2004, 193 in Power 2015, 28)). At all three of the sites, the Bahla ware is the most prominent glazed ware (Figure 9, 1). The provenance of Bahla ware is currently a topic of debate, and is discussed below in more detail. It is generally assumed that the ceramics were made at the village of Bahlā (Oman), c. 170 km south of the *falaj* al-Muʿtariḍ as the crow flies. Another ceramic type that occurred frequently in the glazed ware category, was Manganese Underglazed Painted ware (MGPAINT) (Figure 9, 2). It is suggested that this type originates in Iran or Iraq, however there is no solid evidence for this (Carter and Naranjo-Santano 2011, 47).

Far Eastern wares

The Far Eastern wares are most evident at Sahlāt with 5% of the collected ceramic assemblage, and least present at WAJAP-site 1, with 1,8% of the collected ceramic assemblage. These wares covered the longest distance together with the European wares, since they were presumably manufactured in China. These were all table wares, mainly cups and small bowls. At Sahlāt, Chinese Blue and White ware (CBW) is the most frequently occurring porcelain type (4% of the total ceramic assemblage) (Figure 10).

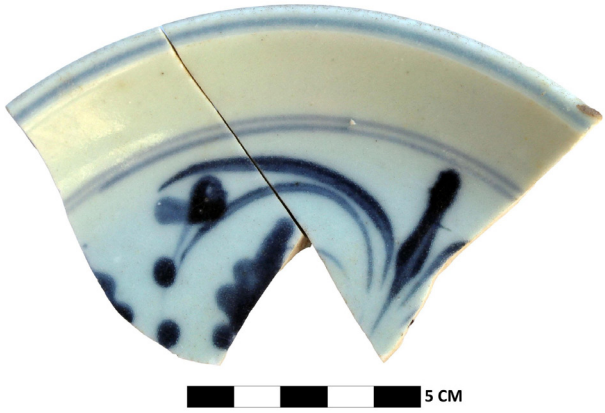


Figure 10. Example of Chinese Blue and White found at Sahlāt (WAJAP 2017).

European wares

The European wares are represented best in the Sahlāt assemblage, especially by the semi-porcelain coffee cups (named JCCC within the project for comparison with other publications), which were presumably produced in Europe and made specifically for the export market to the Arab world (Carter and Naranjo-Santano 2011, 59), and the Polychrome Painted White ware (PPWW). The PPWW were manufactured in the Netherlands (Petrus Regout & Co., and Société Céramique) and in the United Kingdom (Carter and Naranjo-Santano 2011, 61). WAJAP-site 1 and 18 clearly had less European wares in their assemblages, as Figure 7 shows.

A comparison of the sites in the *falaj* al-Muʿtariḍ

Thus, if we compare the ceramic assemblages of Sahlāt with WAJAP-site 1 and WAJAP-site 18, the assemblages are roughly similar. So, on a very local level, the ceramic assemblages of the Late Islamic settlements seem comparable. Based on its long-distance import wares, it seems that Sahlāt had better access to these ceramics, where the other sites had better access to regional wares like Bahla ware. However, this is a very tentative hypothesis, while this analysis is only based on c. 2500 sherds that were collected during the survey. The diversity and the long-distance import wares in the ceramic assemblage of Sahlāt makes the village stand out from the other Late Islamic villages in the *falaj* al-Muʿtariḍ and mirrors the overall complexity of the village. It seems that Sahlāt had a different and more complex function as a settlement and may even have acted as a local centre within the *falaj* al-Muʿtariḍ.

Dating Sahlāt

Two charcoal samples were taken from the slag concentrations in the field systems surrounding Sahlāt. These samples yielded the following radiocarbon dates, dating these slags to the Late Islamic period; between 1500 and 1954 Cal CE at 95.4% probability and between 1680–1740 / 1640–1700 Cal CE at 68.2% confidence (Table 1) (GrM-10998, radiocarbon ages have been calibrated to calendar years with software program: OxCal, version 4.3).

In addition, several coins were found at Sahlāt. These include Qājār coins (n=9) and an ānā coin (n=1). The coins have been extensively researched by M. van Stiphout in his master thesis (2019). Eight of the Qājāri coins were corroded to such a degree that it was not possible to suggest a date or mint. The ninth Qājāri coin shows an eight petaled flower (Figure 11, 1), which has parallels in an early 19th century Afghan coin (van Stiphout 2019, 65). The ānā coin, is a quarter anna from the British East Indian Company (Figure 11, 2), which was minted in Mumbai in 1830 (Stiphout 2019, 66).

Figure 11. 1. Coin with eight petaled flower (WAJAP 2017); 2. ānā coin collected at Sahlāt (WAJAP 2017).

The presence of coins at Sahlāt and at other Late Islamic settlements in the region (including WAJAP-sites 1, 3, 5 and 58) informs us about the monetization of rural communities which is at odds with the idea put forward by Hopper (2015, 40) that exchange took the form of barter, that is goods versus goods, and that money did not really play an important role at this time.

In Table 2 an overview is provided of the number of sherds per type and to which time period they date. The sherds that could not be dated to a very specific time range with current knowledge (n=532) are left out of consideration in this table. Most of the sherds (n=757) in table 2 can be dated between 1650 and 1950, indicating that this was presumably the main occupation phase of Sahlāt. The data clusters mainly in the later centuries, between about 1800 and 1950, to which 63% of the collected sherds date. Thus, the economy of the village was probably centred on the international demand for dates in the 19th century. For the final occupation, the porcelain imitations provide secure dating. Especially the European wares and the semi-porcelain coffee cups, which were produced in the late 19th century and exported well into the 20th century, indicate that the site was in use until at least the turn of the 20th century. The structures that have been documented at the site show different states of preservation, indicating that the abandonment of the site might have been a gradual process. The ultimate cause for the abandonment may have been the decline of the date trade. This began in the 19th century and the date trade came to an end in the 1930s. At the same time, the pearl industry declined from World War I onwards and further in the Great Depression in 1929, taking away another main export product of southeastern Arabia.

There are only a few (n=4) sherds that might pre-date the Late Islamic period, namely the Turquoise Glazed ware and the Soft Black Burnished ware. Perhaps these were wrongly identified. The Turquoise Glazed ware is a ceramic type of which its manufacture and chronology is heavily debated (e.g. Carter 2011, 38; Carter and Naranjo-Santano 2011, 39; Kennet 2004, 35–36; Power and Sheehan 2012, 297; Priestman 2005, 234–239; Rosendahl *et al.* 2015, 93). The Soft Black Burnished ware could be wrongly identified as well. In the 2018 field season, a high number of SBBW 'imitation' wares were collected at the Late Islamic site of WAJAP-Site 3. It is likely therefore that these sherds should be dated to the Late Islamic period.

There were also two wares that date to the Middle to Late Islamic periods; Celadon porcelain and Blue and White Earthenware (Kennet 2004, 57). These are presumably background scatters

Table 1 Results of the radiocarbon dating. Both samples were charcoal (AAA). Calibrated program: OxCal, version 4.3 (Bronk Ramsey, 2017). Calibrated with IntCal13 curve (Reimer *et al.* 2013).

Sampling name	Radiocarbon age | (^{14}C years BP) ± 1σ	Calibrated dating result (95.4% probability)
WAJAP, 17 65-04-02-01	240±30	1525–1555, 1630–1680, 1740–1800, 1937–1954 calAD
WAJAP, 17 65-06-09-01	280±30	1500–1600, 1615–1665, 1785–1795 calAD

Table 2. Overview of the ceramic types that can be dated, based on Vroom, pers. comm.

Typology	Date	Collected at Sahlāt
TGW	300 BCE-1000 CE	2
SBBW	600–1200 CE	2
CELA	1300–1700 CE	2
BWEARTH	1300–1800 CE	5
REDYEL	1600–1900 CE	4
WPORC/CUW	1650–1750 CE	6
ENAM	1650–1750 CE	7
CHOC	1650–1800 CE	7
CBW	1650–1925 CE	63
JULF	1650–1950 CE	184
RGW	1700–1800 CE	3
BAHLA	1800–1900 CE	212
FSBW	1800–1950 CE	4
GMONO	1850–1950 CE	2
MGPAINT	1850–1950 CE	112
LGREEN	1850–1950 CE	8
PYGW	1850–1950 CE	2
TPWW	1870–1910 CE	4
PPWW/WWPS	1875–1925 CE	21
JCCC	1900–1950 CE	14
IBW	1875–1950 CE	108
TOTAL		772

from earlier occupations that have been picked up during the survey.

Discussion

The ceramic assemblage of Sahlāt consists of local and imported ceramics. Some types are imported over a great distance, through land- and/or sea-routes. Looking at ceramics that were traded over these routes can provide insights in the economy of both the place of manufacture and the place of deposition, but also on how certain trade networks might have operated. Figure 12 shows the (suggested) origin of the 627 non-local ceramics documented at Sahlāt. A distinction is made between regional ceramics that were manufactured on the Arabian Peninsula, and non-local ceramics that were manufactured beyond.

There have been a few previous ceramic studies into the Indian Ocean trade networks (e.g. Kennet 2004, Priestman 2005, Carter and Naranjo-Santano 2011). However, the understanding of these networks is far from complete. To better explain the difference between local, regional, and global patterns, making good inter-site comparisons is essential. Therefore, more data from different sites related to the Indian Ocean trade networks is needed. Here we will investigate what the data of Sahlāt can add to this issue.

Local ceramics

Certain ceramic types have not been encountered in other archaeological fieldwork on the Arabian Peninsula. Therefore, these are considered local ceramics. One specific type that is documented abundantly at Sahlāt, and on more Late Islamic sites in the WAJAP research area, is named Islamic coarse ware 3 (ISL.CW3) within the project (Figure 13). It is described as "Plain Coarse Ware with impressed textile pattern" or "Textile impressed ware." Eighty-four of these sherds were documented at Sahlāt and its field systems, which was 19% of all the Islamic coarse wares that were documented at the site. It is suggested from field observations that ISL.CW3

Figure 12. Origin of the Islamic ceramic assemblage of Sahlāt by sherd count. Dark-green bars indicate regional ceramics from the Arabian Peninsula, light-green bars indicate non-local ceramics outside the Arabian Peninsula.

dates to the 19th and 20th centuries. Its description by the Islamic ceramic specialist of the project is:

> The impressed 'textile' pattern is very fine, indicating modern manufacture techniques. The textile pattern is probably an indication of some sort of method to keep the unbaked pot in shape. Vessels often have a ridge, indicating stacking in kiln.

(Vroom pers. comm. 2017; Van Nieuwkoop 2017).

The sherds are mainly classified as handmade storage jars or cooking pots.

Figure 13. Islamic coarse ware 3 sherd with textile impressions, found at Sahlāt (WAJAP 2017).

The manufacture of these vessels is suggested to be local, since only very little similar vessels found outside the WAJAP research area. Within the WAJAP research area, 90% of ISL.CW3 sherds are found at sites that are adjacent to the *falaj* al-Muʿtariḍ (e.g. site 1, site 18, and site 65). The concentration of sherds at the *falaj* al-Muʿtariḍ might indicate that the production centre was close by, but nothing like a kiln, wasters or potters' tools have been found during the survey. It could have been the case that a kiln has not been found because the ceramics were fired in an open fire, but the lack of wasters is still an important aspect (Rye 1981, 97). C. George (in Costa and Wilkinson 1987, 219), who conducted ethnoarchaeological fieldwork in a village located 10 kilometres northwest from Sahlāt, mentioned that there were two kilns within an hour's walk of the village. This suggests a possible manufacture close by.

It is difficult to conduct further research on this topic, because the origin of the most important resource of these ceramics is unknown; clay. How and where the clay was obtained provides much information on the manufacturing processes and on the potter(s) itself (Gosselain and Livingstone-Smith 2005; Rice 2015, 130). Knowledge of potential clay sources in the area, as well as a possible production site, combined with chemical analysis could provide more information on this subject.

Regional trade networks

The distribution of ceramics throughout the Gulf regions provided an insight in regional trade networks. The largest regional ceramic groups found at Sahlāt are the Bahla and Julfar wares which are assumed to originate from the Arabian Peninsula. As mentioned above Julfar ware was manufactured in Ras al-Khaimah in the United Arab Emirates (Kennet 2004, 53–56; Živković *et al.* 2019).

In the past, two production places have been suggested for the manufacture of Bahla ceramics; Khunj, in Iran, and Bahlā, in central Oman (Priestman 2005, 269–270; Whitcomb 1975, 129). A recent study on the topic of production technologies of the Bahla sherds of al-ʿAyn (UAE) has been conducted by Živković *et al.* (2019). In this research, 44 Bahla samples were used, dat-

ing between the mid-17th century and the early 20th century. Based on ceramic petrography and WDXRF (wavelength-dispersive X-ray fluorescence analysis), the authors argue that the village of Bahlā seems a more likeable production centre than Iran for the sherds from al-ʿAyn (Živković *et al.* 2019, 11). The little technological variability that has been detected in Bahla ceramics, appears to have occurred in the 18th-century layer, suggesting that there might have been different workshops at that time (Živković *et al.* 2019, 12). Within the WAJAP, preliminary P-XRF (portable X-ray fluorescence) analyses have been conducted on a small sample of Bahla sherds by Dr. D. Braekmans. These results seem to indicate the possibility of multiple production centres. This research is however still in progress (Braekmans in prep.).

At Sahlāt, 25 sherds had evidence of repair holes, of which 20 sherds are Bahla ware. By making drill-holes, a broken vessel could be re-used by using a wire or clamps. This could indicate that the Bahla sherds were valuable for the people living at Sahlāt, and that it was relatively difficult to obtain these vessels. Only the open and the undetermined shapes have repair holes. Especially large bowls could be linked to communal meals (Sasaki and Sasaki 2012, 230–231).

The combination of the use of repair-holes and the occurrence of the locally, handmade, crude "textile ware" could suggest that even though the site was clearly more cosmopolitan than the other sites in the *falaj*-al Muʿtariḍ, and seems to have better access to different ceramic types, ceramics were still worthy of repair after breakage, and thus of considerable value.

Reconstructing Arabian trade routes in the Late Islamic period

Power and Sheehan (2012) argue that from the 17th century onwards, after the Portuguese were expelled in 1643, the imported ceramics of al-ʿAyn arrived via Ṣuḥār (Power and Sheehan 2012, 302). A very likely route would be through the Wādī al-Jīzzī (Petersen 2009, 317), which is a good road for travel (Kemball 1856, 118–119). On this route, ceramics could be sold or traded with the villages between al-ʿAyn and Ṣuḥār. For example, at Sahlāt, as the largest settlement in the *falaj* al-Muʿtariḍ. From here, the ceramics could have been distributed to the other villages in the neighbourhood.

Julfar ware occurs frequently at the Late Islamic sites in the *falaj* al-Muʿtariḍ. Its provenance is suggested to be Ras al-Khaimah. Two of the possible routes of Ras al-Khaimah to Sahlāt are over land and over sea. Since the transportation of ceramics is not easy via overland routes, a sea route should not be excluded. With a ship it is more cost-effective to transport the ceramics than on an overland route. Since both Ras al-Khaimah and Ṣuḥār were coastal sites, it is very plausible that a sea route was used.

However, not all imported ceramics had to come to Sahlāt via Ṣuḥār. As discussed above, the provenance of Bahla ware is still uncertain. If we assume that the village of Bahlā was indeed the main production centre of the ceramics, then there are two possible routes by which the ceramics could have come to Sahlāt; overland to al-ʿAyn, to be distributed to other sites from there. Or over sea via Ṣuḥār, then the ceramics had to be taken overland through a mountainous area to Muscat first, and then moved by ship to Ṣuḥār.

Ceramics imported via Indian Ocean trade networks

Iran

Next to ceramics that were imported from other places at the Arabian Peninsula, ceramics that were imported from overseas are also evident at Sahlāt (Figure 12). Most sherds (n=85) seem to

be manufactured in Iran. The largest group (n=79) are Manganese Underglazed Painted wares (MGPAINT). Kennet (2004) cautiously suggest that they were produced in Iran (Kennet 2004, 51–52). Priestman (2005) suggests that the earlier types of MGPAINT (11th to 14th century) were manufactured in Bahrain, but that the later classes were manufactured in southern Iran (Priestman 2005, 261–262). However, there is no direct evidence for this (kiln sites, wasters, etc.).

What is also noteworthy, is the absence of certain Iranian vessels at Sahlāt. Persian frit-ware, Chinese Imari and Batavian ware, which are all present at the sites in Qatar, Bahrain and al-ʿAyn are absent in this dataset. These wares are typical 18th century materials. However, they are rare (Grey in Carter and Naranjo-Santano 2011, 97). The absence of these wares at Sahlāt, could indicate that the other sites predate Sahlāt, but that seems unlikely since the other sites also had evidence of long-distance imported wares which were securely dated to the late 19th century. Another explanation could be that there were different trade networks at play, resulting in different ceramic assemblages. But since these wares are rare, it is most likely that they did not show up in the relatively small dataset.

China

Sixty-seven sherds have their origin in China. This group mostly consists of Chinese Blue and White (CBW) ceramics. From the 16th century onwards, this was the most important Chinese import (Kennet 2004, 98). The CBW sherds were almost certainly manufactured in China. Kilns have been found in Southeast Asia, which produced Chinese ceramics that have been found in large numbers on the Arabian Peninsula, indicating extensive trade contacts (Sasaki and Sasaki 2003, 258). When looking at the ceramic assemblages of the different sites in the *falaj* al-Muʿtariḍ, Sahlāt clearly has the highest percentage of Chinese imports, possibly indicating that Sahlāt was more integrated in trade systems than other nearby settlements.

The Chinese imports were brought in during the 18th century by the Dutch East India Company (VOC) through Canton, Batavia and Indian ports like Surat. The British East India Company imported porcelain via Canton and Bombay, India. From ports in the Gulf, like Bandar Abbas, the import wares could be transported by Arab dhows to the settlements of the southern Persian Gulf (Grey 2011, 350). Thus, these wares presumably arrived in the Gulf through the circulation of multiple shorter-distance trade networks.

North-western Europe

The ceramics from north-western Europe (n=31) are mainly mass-produced products. As described above, the Japanese Chinese Coffee cups (JCCC) and the Polychrome Painted White ware (PPWW) are probably manufactured in north-western Europe.

Carter and Naranjo-Santano (2011) argue that at al-Muḥarraq (Bahrain) the influx of the wealth of the pearling boom between c. 1900 and 1929 can be seen by the abundance of (mainly) European manufactured ceramics (Carter and Naranjo-Santano 2011, 65). These decorated imports seem to have supplanted the Chinese porcelains at the beginning of the 20th century. As a result of the First World War, the pearling revenues dropped drastically. It is suggested that this influenced the ceramic imports of north-western Europe and that only the richer people would have access to these ceramics. In addition, they argue that the end-date for the import of these ceramics is in the 1920s (Carter and Naranjo-Santano 2011, 65). The fact that these north-western European finds are more abundant at Sahlāt than at the other sites in the *falaj* al Muʿtariḍ (Sahlāt: 2% of the total ceramic assemblage, WAJAP-Site 18, 0,2% of the total

assemblage) could indicate that Sahlāt was longer in use than the other sites, or again that Sahlāt had better access to these ceramic imports.

India

Trade between the Arabian Peninsula and South Asia has been evident since the Bronze Age (Chakrabarti 1990, 99-102). Indian imports have been found at different sites in the Gulf and East Africa (Kennet 2004, 94). However, no good overview of Indian ceramic circulation in the Gulf has been created, because these imported wares were rarely securely dated or well provenanced (Kennet 2004, 94). Kennet (2004, 95) argued that based on evidence of multiple sites in the Gulf, Indian wares in the Western Indian Ocean ceased after the 14th century. Additionally, in the south of Oman, at al-Balīd, in Dhofar, Indian wares that dated to the 14th and 15th centuries were also documented, while the presence of Indian wares decreased strongly in the 17th to 18th century (Fusaro 2019, 138; 143). The situation in Late Islamic Ṣuḥār is unclear with respect to Indian wares because of the lack of secure publications. The lack of Indian imports at Sahlāt is nevertheless interesting.

Comparison with other Late Islamic sites in the region

From the previously presented data, data it seems plausible that the villages adjacent to the *falaj* al-Muʿtariḍ could have functioned as autonomous agricultural settlements, as was suggested by Costa and Wilkinson (1987, 218). There was evidence for regional and long-distance ceramic imports, which indicates interaction with the wider region, presumably the port of Ṣuḥār. Here the Sahlāt data will be compared to contemporary sites in southeastern Arabia. This will provide a framework for the interpretation of Sahlāt and the pre-oil globalization patterns that were at play during this time period and whether the boom of coastal and rural settlements during the Late Islamic period is part of that process.

The sites used for comparison are the al-ʿAyn oasis, c. 70 kilometres in a straight line to the west, and al-Zubārah (northern Qatar). It must be noted that both are urban sites, in contrast to the rural site of Sahlāt.

Al-ʿAyn

The al-ʿAyn–al-Buraymī oasis covers an area of approximately 6 km by 9 km and includes a number of settlements, one of these is known as al-ʿAyn (Petersen 2009, 309). The Late Islamic assemblage (c. 1650-1970) of al-ʿAyn has some similarities with the ceramic assemblage of Sahlāt. The local wares, mainly the "Textile ware" (ISL.CW3) that are found at Sahlāt are not documented at al-'Ain. The regional wares like Bahla ware and Julfar ware, but also the Incised Buff ware, are found abundantly at both al-ʿAyn and at Sahlāt.

In total, both al-ʿAyn and Sahlāt have the same percentage of long-distance imported wares (8%), only at al-ʿAyn this category consists more of European imports (7%), while at Sahlāt this category consists more of Far Eastern wares (5%).

Additionally, at al-ʿAyn there is evidence for 18th century ceramic wares like Chinese Imari and Batavian ware (Power 2018, 229), which have not been identified at Sahlāt. If there was indeed a trade route from Ṣuḥār to al-ʿAyn, it could be suggested that these ceramics would have passed through Sahlāt, and it is therefore interesting to notice that not all the imported wares that reached al-ʿAyn, also reached Sahlāt.

Al-Zubārah

Al-Zubārah was founded in the 1760s by different tribal groups, under the collective name of Bani ʻUtub (Walmsley and al-Naimi 2014, 13). Al-Zubārah lacked access to fresh water, one of the most precious resources to sustain life. To solve this problem, a fort and a settlement were built 2 kilometres east of the town to exploit and control access to water (Walmsley and al-Naimi 2014, 18).

The ceramic assemblage of Late Islamic al-Zubārah, as published by Bystron (2019), consisted of c. 14.500 sherds. Here, the largest ceramic group were the unglazed Arabian Gulf ware ceramics (88% of the total ceramic assemblage). The most common ware within this group was Creamy Sandy ware, or ʿAli ware, which accounted for a total of 35% of the total assemblage, which was completely absent at Sahlāt. Julfar ware was also present in a relative high percentage, namely 21% of the total ceramic assemblage, which is a little more than at Sahlāt, where Julfar makes up 18% of the total ceramic assemblage (Bystron 2019, 36). The Far Eastern wares are also quite similar to the Sahlāt assemblage, which were 7% of the total assemblage, which is a little more than at Sahlāt (5% of the total assemblage), consisted mainly of Chinese Blue and White ware (2,3% of the total assemblage). The rest of the ceramics in this category were Chinese Porcelain, Chinese Porcelain Batavian, Chinese Porcelain Imari, Chinese Porcelain Blue, and Chinese Porcelain Celadon (Bystron 2019, 43, 46).

The Glazed Arabian Gulf wares consisted mainly of Manganese Underglazed Painted wares and Bahla wares, the former made up c. 2% of the total assemblage, where the latter made up c. 3% of the total assemblage (Bystron 2019, 39). The glazed wares were much less prevalent at al-Zubārah than at Sahlāt, where the Manganese Underglazed Painted wares and the Bahla wares are respectively 8% and 15% of the total ceramic assemblage. The European wares comprised only 0,22% of the total ceramic assemblage and they were only recorded in the 19th–20th century phase (Bystron 2019, 46–48). At Sahlāt, the European wares make up 2% of the total ceramic assemblage. However, it must be noted that at the survey of Sahlāt, only the diagnostic sherds were collected, which could have resulted in a positive bias for glazed or decorated sherds.

Comparing Sahlāt with al-ʿAyn and al- Zubārah

There are some differences between the ceramic assemblages of al-ʿAyn, al- Zubārah and Sahlāt, but in general the same ceramic types occur in similar quantities. Thus, it could be said that the assemblage that is recorded does not appear to be atypical for a Late Islamic site in the region, and this can be further illustrated with additional sites not discussed here (Biezeveld 2020).

There appear to have been changes in consumption habits evident at the studied sites. At Sahlāt, there was a shift from large bowls to small cups. The Far Eastern and European wares found at Sahlāt were mainly cups and small bowls, which are ceramic shapes that do not abundantly occur in the earlier ceramic types like the larger glazed Bahla bowls and Julfar cooking pots. The Bahla bowls might have indicated the custom of communal dining (Sasaki and Sasaki 2012, 230), while the smaller cups and bowls could indicate new dining habits like drinking Arabic coffee. A similar trend seemed evident at al-Zubārah and al-ʿAyn. The influx of the Far Eastern and European wares could indicate a change in consumption and lifestyle of the non-urban community at Sahlāt, as well as other sites in the region.

There were also regional trends that did not seem to have reached Sahlāt. The most evident one, is the growing addiction to smoking, as has been testified al-Zubārah from the 19th century onwards. Walmsley and al-Naimi (2014, 18) suggested that at other places in the southeastern Arabia and Iran, this upcoming social habit of smoking was accepted even more reluctantly. At Sahlāt there was almost no evidence for objects related to smoking, indicating that the habit was not accepted as eagerly as at al-Zubārah, or that not all the trends of pre-oil society were incorporated as easily, or even reached Sahlāt.

Conclusion

It is argued by Professor Robert Carter that the pre-oil globalizing world of the 19th and 20th centuries had an important impact on the coastal towns of the Gulf region through its pearling economy, creating what we know nowadays as the cosmopolitan coastal Gulf towns and the different Gulf states (Carter 2009; 2012).

From the ceramic evidence of Sahlāt, it becomes clear that not only these coastal towns were part of these long-distance trade networks. The demand for dates was also felt in rural agricultural communities, such as Sahlāt. Pre-oil globalization thus appears to have caused an increase in the agricultural use of the rural landscape. Since Sahlāt was already in existence before this time, it seemed that its inhabitants were open to the new opportunities that these long-distance trade networks brought with them.

Especially the influence of Chinese porcelains and north-western European ceramics are a good indicator for these trade networks, because it is well-researched where and when they were manufactured. These ceramics at Sahlāt date mainly to the later part of the 19th and the early part of the 20th centuries. This corresponds with the economic rise of southeastern Arabia that can be attributed to the pearl and date industries and the involvement of Oman in the globalizing world. These ceramics found at Sahlāt are mainly cups and small bowls, which are ceramic shapes that do not abundantly occur in the earlier ceramic types like the larger glazed Bahla bowls and Julfar cooking pots. Thus, the influx of the Chinese porcelains and northwestern European semi-porcelains indicates a change in consumption and lifestyle of the non-urban community at Sahlāt. The monetization of this rural community was most likely part of this development as well, enabling Sahlāt residents to acquire new products.

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