

Ports of the Ancient Indian Ocean



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The Citadel of Tissamaharama: Urban Habitat and Commercial Interrelations

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The Sri Lankan-German cooperation at Tissamaharama looks back to two decades of archaeological fieldwork in Mahagama (Tissamaharama), the residence of the old kingdom of Ruhuna in the south of the island. The Archaeological Department of Sri Lanka and the Commission for Archaeology of Non-European Cultures (KAAK) of the German Institute of Archaeology began excavations in 1992.¹ Three sites of the citadel measuring an area of 1.515 m² had been explored.²

The ideal plan of the early Singhalese cities is square or rectangular. The citadel of ancient Tissamaharama is probably the nearest to this ideal among all the ancient cities on the island. It lies in a flat open landscape that is covered by paddy fields or banana plantations. From this plain rises a shallow and rectangular hillock, the citadel. It is 600 × 200 m. and 5–8 m. above the water level of the reservoir tank nearby. The tank was built west of the citadel in the second century BC. The ancient reservoir is probably only the northern part of modern Tissawewa that was designed by British engineer Henry Parker (1884), who took great interest in the archaeology of the site. The nearest harbour is Kirinda, about 12 km. off at the coast of the Indian Ocean.

According to the chronicle *Mahavamsa*, King Mahanaga built the citadel around 270 BC. The excavation, however, revealed that the first urban structures date to around 400 BC,³ built atop a rural settlement with houses of wattle and daub.

New settlers arrived from north India in the fifth century BC. This is in line with the results of the fieldwork. The excavation showed that they had

iron tools and brought horses that are unfamiliar in a tropical South Asian environment. They built a well-organized citadel, surrounded by a rampart that was made up of different layers of soil and pebbles. Noble families lived in the western part, bordering an artificial lake and the south of the Citadel was a Workmen's Quarter.

Most of the oldest buildings were made of brick foundations, the attached terraces were paved with fired bricks and the roofs were thatched with tiles (Plate 21.1). Behind the rampart was an open space of 5–8 m., that served as a public area. A house that faced the lake stood nearby. It was destroyed by fire twice in the third and second centuries BC. The inhabitants left behind bronze items of a cosmetic set and necklaces of flat red beads (Weisshaar & Dissanayake 2010; here Plates 21.1–3).

In the second century BC, two narrow streets joined each other in the centre of the excavation area. Their grey and muddy soils were easy to distinguish from the red-brown areas of the dwellings. Long brick walls bordered both lanes and enclosed square or rectangular-shaped properties. Most of the houses had brick foundations and wooden posts held up the roofs.

Contemporary workmen's quarters were in the south of the citadel. Several long battery furnaces for bronze production are proof of a busy craft area of the citadel with pre-industrial mass production (Weisshaar et

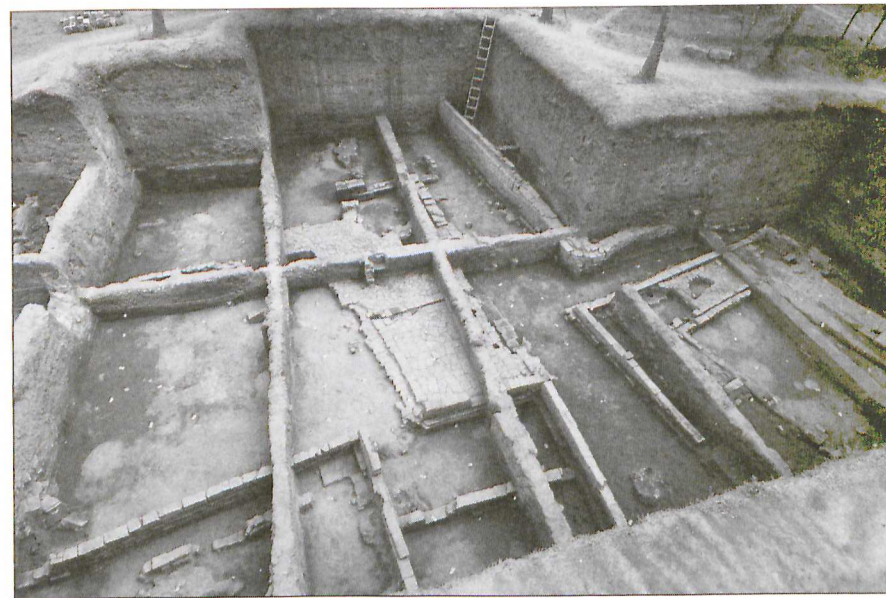


Plate 21.1: Tissamaharama: the earliest brick architecture of the Citadel, fourth century BC (Photo: H. Wittersheim).



Plate 21.2: Tissamaharama: moulds from the Citadel. No scale (Photos: H. Wittersheim).

al. 2001b: 17–25). The longest furnace was preserved over 11 m. with 18 working places. The furnaces—so far unique in South Asia—demonstrate a high level of handicraft in Ruhuna. The size of crucibles is an argument for small items that have been manufactured. Moulds were absent in the Workmen's Quarter but several for rings or pendants (Plate 21.2, 1–3) were found in different layers of the western citadel.⁴ Two moulds for medals from the second century BC depict an elephant spraying water (Plate 21.2, 4–6). Both medals reproduce a motif from the railing of Stupa 2 at Sanchi.⁵

The narrow streets in the settlement of the noble families were not only meant as pathways but also for funnelling rainwater down the slope. They were the main sewers of the community. The streets were on a lower level than the living areas on either side. And, they must have been very muddy (even nowadays one notices a foul and unpleasant smell at the junction on a wet day). The settlers had placed several bricks as stepping stones in the mud to improve passage. The walled areas remained unchanged and were looked after over a long period. They are an indication of private property that was passed on for several generations.

A small pit underneath a house of the first century BC contained a hoard of about 820 tiny *lakshmi* plaques and fragments (Walburg 2010). The

plaques are all of the same size, some are poor but others are of a superb quality. Numismatics still argue whether these objects are truly coins and Walburg pleads for a votive character.

On occasion, a house was destroyed by fire in the citadel, but the main obstacle faced by the settlement was the torrential monsoon rains (Weisshaar & Dissanayake 2010).

Many shafts filled with pebbles and bricks were scattered across the excavation area. The shafts were meant as drainage to allow the water to trickle away more easily. Small covered channels directed surplus water from the private areas to the streets. The flow of rainwater in the streets must have been considerable during the rainy season and the settlers had to take care of their terrace walls. Eventually, all precautions were in vain. The subsoil of the streets was too muddy due to heavy rain, foundations dislocated and the walls leaned towards each other, gave way and fell into the streets. As a last resource, the families decided to leave the dwellings and they moved to other places of the citadel.

The site was abandoned, though not for a long time. The character of the area changed after levelling. Several small structures of the first and second centuries AD belonged to the oldest hospital of South Asia excavated so far (Plates 21.3 and 21.1). In fact, the *Mahavamsa* provides details about hospitals even in BC times. The one from the citadel is about six to seven hundred years older than the well known hospitals of Polonnaruwa and Mihintale. Excavations revealed the foundation for a medical basin and large urinals. An enormous number of grinding stones, saddle querns and mullers were used to produce herbal medicines (Weisshaar & Wijeyapala 2005).

The main building of the hospital had a clay floor that was preserved at several places. It covered a shallow pit with a foundation deposit [Plates 21.3 (A) and (B)]. Three saddle querns and four mullers were arranged on top of a small vessel. The grinders and mullers were manufactured of different stone material in pairs.

The seasonal heavy rainfall did not affect the hospital as much as it affected the dwellings a hundred years before. The hospital was built on a higher level due to backfill and levelling and a number of new sewers and covered water channels were built. These facilities of Tissamaharama are an early archaeological proof of the long medical tradition on the island.

Further structural changes with minor architecture of wattle and daub were observed in the third and fourth centuries AD. A small hoard of punch-marked coins that was deposited in a textile bag was published by Reinhold Walburg (2008: 28–9, 192–4, 241).

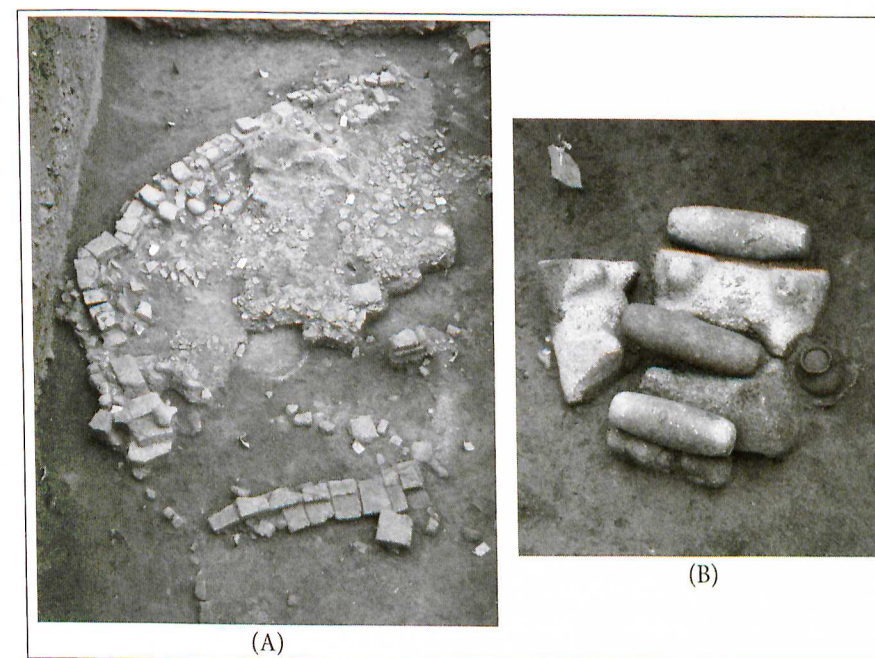


Plate 21.3: Tissamaharama: (A) main building of the hospital, first century AD; (B) foundation deposit of the hospital with saddle querns and mullers (Photos: H. Wittersheim).

A large brick mansion with several rooms was set up around AD 400. It was rebuilt once but finally collapsed around AD 500 (Weisshaar & Wijeyapala 2005: 355, Fig. 8). Many pits were dug to retrieve bricks that were reused shortly after. In the last layer of the building and especially in these pits, were found innumerable Roman coins from the end of the fourth to the close of the fifth century AD, the latest being two coins of Leo I (457–74).

The recycled bricks had been used for a small monastic building of poor quality that was raised most probably by a monastery south of the Tissawewa (Weisshaar & Wijeyapala 2005: 355). It was erected on top of the last brick mansion after many settlers had left the area. However, it did not last long. Stone pillars collapsed and the clergy gave up the place.

The evidence from excavation sites of Tissamaharama suggests a decline of settlement after AD 500. Royal power collapsed. The citadel, however, was never completely abandoned. We do have finds up to the ninth century AD, and the monasteries south of the Tissawewa still flourished. Yet, many people left the area.

Tissamaharama with its citadel is the southernmost city of a development in South Asia that is called 'Second Urbanization'. To plan and build these

early cities needed authority. Peter Eltsov (2005: 322) lists indicators for authority or, in other words, indicators for a structured society. Seals and sealings are one of such indicator. However, seals and sealings are also an indicator for commerce. Therefore, along with the development of authority and cities followed the development of organized trade. Sealed trading goods give an allusion for a marketplace and commercial centre. Sealing a parcel prevented access by unauthorized persons and enabled taxation. Jain literature gives hints in this regard. The *Silappadikaram* reports (Chandra 1977: 159): ‘*Putabhedana* was that market where the bales of the goods coming from all over the country had their seals broken.’

Much of early society in Sri Lanka was agricultural. They had a developed system of agriculture and made use of irrigation works. However, from the southern province of Sri Lanka, in the kingdom of Ruhuna, emerged traders and trading houses, and therefore a well-to-do commercial establishment. This is illustrated by numerous seals and clay sealings that were found during the excavations (Plate 21.4). The reverse of sealings with string marks and other impressions demonstrate that a considerable variety of goods or containers needed to be sealed: large flasks or *amphorae*, parcels, boxes or doors and letters or documents.⁶

Today many scholars argue that Taprobane was not directly linked to the long distance commerce before around AD 300. One obstacle was the



Plate 21.4: Tissamaharama: clay sealings from the Citadel. No scale (Photos: H. Wittersheim).

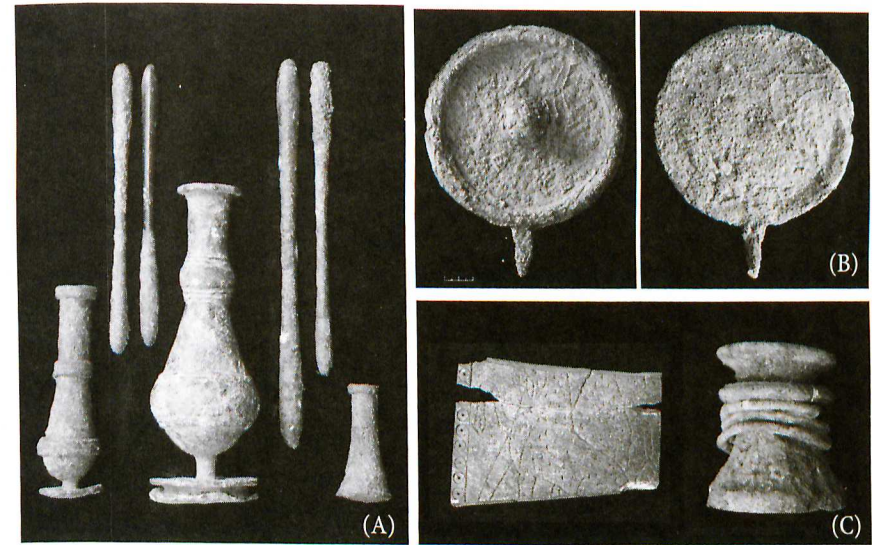


Plate 21.5: Tissamaharama: luxury goods from the Citadel, first century BC—first century AD. (A) cosmetic items; (B) bronze mirror; (C) small ivory panel depicting leopards (left), ivory stand for a mirror (right). No scale (Photos: H. Wittersheim).

difficult sea route. When the ships set sail from the south Arabian ports or the Red Sea, they had to catch the suitable wind to carry them across the Indian Ocean. After they passed Bab-el-Mandeb they had to turn southwards towards the Somali coast or the island of Socotra. The Monsoon from the south-west took them to the Malabar Coast. But it would have been very time consuming to head for the region south of Muziris, let alone for Sri Lanka if they wanted to take in time the reversed wind for their voyage home. And, the vessels had to meet their destination on the spot as it was dangerous to ship along the Malabar Coast. In particular, the waters around Muziris held a good chance to meet pirates (Groom 1995: 182), and Pliny (nat. 6: 101, 104) reports that big cargo vessels had a group of archers on board to combat the buccaneers (Bianchetti 2002: 283).

There is a sharp contrast between the Workmen's Quarter of the southern citadel and the noble families that lived at the western border. The small dwellings of the workers were of wattle and daub, and besides some fragments of Indian Rouletted Ware, there are no imports.

In contrast, the community in the western citadel was a prosperous one that lived in brick architecture. It does not matter, whether the families were provided with luxury goods by direct or indirect trade (Plate 21.5). The majority of imports came via ports at the Malabar Coast like Muziris (Pattanam). But single merchants may have found their way to Taprobane.

Two main pottery groups at Tissamaharama testify to long-distance trade at Tissamaharama. The first group has its origins on the Subcontinent and the best known are 'Rouletted Ware' (RW) and 'Red Polished Ware' (RPW). The second group, where Roman *amphorae* belong to, comes from the West.

Out of the first group at Tissamaharama, the earliest is denominated as 'Fine Grey Pottery of North Indian Origin' (Schenk 2006). The various members, among them the significant dish of RW (Plate 21.6, 1-3), are of different dating, for which new results will be presented later in this essay.

The group originates from a definable source region in the Ganges river valley (Gogte 2001)—an origin that is still under discussion (Schenk 2006: 134-6). Gogte's analysis, however, is based on samples of this distinct and significant clay, which is the main characteristic of the above group (Schenk 2006: 128; Fig. 2). And, it is this uniformity that should be fundamental for a commonly agreed definition, but which was not considered in the most recent analysis on RW (Magee 2010). He pointed out a production of RW at Anuradhapura. This is certainly true for local imitations of RW. Apparently samples of genuine RW of fine grey paste were analysed together with those of local fabric. In fact, such local imitations are not confined to Anuradhapura. The characteristic shape belongs to the regional pottery production all over southern India and Sri Lanka. This is exemplified in the local pottery sequence of Tissamaharama and at Arikamedu (Schenk 2006; Pavan/Schenk 2012). The latest results in Tissamaharama show that the local version emerges almost simultaneous to the genuine RW (Plate 21.6 b.d.e.)

The distribution of genuine RW shows a dense pattern in India along the east coast and inland routes via natural transportation routes of river courses. This, in turn, also connects the island of Sri Lanka (Schenk 2006: Figs. 3-4). It represents early relations across the subcontinent. Their discovery in South-East Asia and in Arabia proves an early stage of Indian Ocean long-distance exchange. More detailed evaluation since the close of fieldwork at Tissamaharama has confirmed a previously suggested limited production period for 'Fine Grey Pottery'. According to this, all finds of RW and Wheeler Type 10 and 18 must have arrived during the third-second centuries BC regardless of their later dated context (to be clarified later in the essay).

So-called 'Indian Red Polished Ware' (RPW) also belongs to the first group of pottery that originates in South Asia. This too reveals long-distance connections. This pottery, of a distinct fine fabric, represents the regional pottery manufacture of Gujarat and Maharashtra. A catalogue of RPW (Orton 1992) displays two functional groups with opposing significance

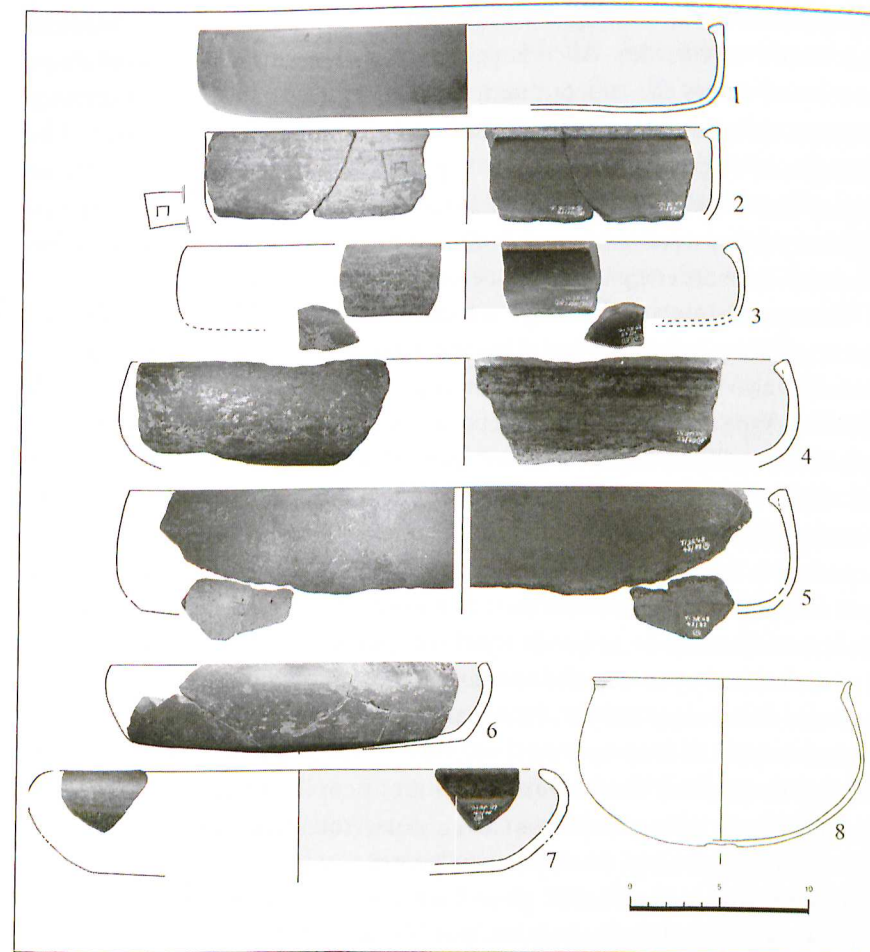


Plate 21.6: Tissamaharama: 1-2. early group of RW and imitation; 3-4. late group of RW and imitation (phase c1); 5. RW-imitation (phase c2); 6-7. Tissa Form G, rim type 11 (phase c2); 8. bowl of 'Fine Grey Pottery' with funnel-shaped oblique rim (phase b). (Scale 1:3).

and distribution. The first group contains the very characteristic Sprinkler jar⁷ and a narrow-necked spouted jar with highly bulging shoulders and with a ledged shape of the rim.⁸ Together with a monk's begging bowl with an internally thickened rim (Orton 1992; Figs. 4.1.2; 4.22.6), they form a set of ritual function at Tissamaharama. This set appeared not before AD 600. In a kaolin-like fabric,⁹ the spouted jar emerges already in the late fifth century AD (Schenk 2005). A kiln from a site in Thailand produced spouted jars and sprinklers in a similar fabric (Srisuchat 2003: 253; Fig. 17.2). At Tissamaharama, the complete set is recorded with different fabrics and paste, covered only by the highly polished and usually red

slip (Schenk 2001: 133, Fig. 9). Such vessels are used in ritual Buddhist and Hindu ceremonies. All this points to different regional workshops distributed across the subcontinent and in South-East Asia, reflecting a common religious bond. The second functional group displayed in the catalogue of 'Red Polished Ware in Gujarat', including common utilitarian pottery like cooking pots, is more frequent. They certainly are part of a regional pottery development. It is this pottery that is usually identified at Western sites bordering the Indian Ocean (to be discussed later).

The second group evidencing long-distance contact belongs to container jars originating from the West. They brought luxury goods like wine most probably also to local South Asian elite (Ray 1994: 69; Tomber 2008: 148–50). Type Dressel 2-4 produced in Egypt (Tomber 2007; 2008: 144) and Parthian Green Glazed Pottery from Mesopotamia (Schenk 2007) are the earliest that arrived in Tissamaharama. They were produced almost a century before in the first century AD and their broken remains were deposited in the area of the citadel in the second century AD. This gap might have been caused by repeated use or carefully handling of jars that arrived via intermediate trade, as goods from far countries. This distinctiveness is also underlined by re-use and re-work of fragmented pieces—a frequently recorded feature not only at Tissamaharama (Tomber 2008: 150–1). This applies to most of the amphora sherds and to the above 'Fine Grey pottery'. Very different from the local coarse ware, people fancied the fragments as polishers or skin scrapers in later times too. Late Roman *amphorae* and torpedo jars from Mesopotamia prove a continuous access to long-distance trade, as do Islamic glazed ware and Chinese potteries of later time. However, at Tissamaharama, just like at further sites, such imported finds are rare in terms of statistics.

The bulk of potteries from Tissamaharama were locally produced for common household purposes. This also applies to many finds of South Asian pottery reported from excavations around the Indian Ocean: in the West (Arabia, Egypt) as well as in the East (Indonesia). They were no luxury goods and not traded in them by merchants. They were only used for cooking and storage purchased by sailors or merchants at the ports of embarkation. We do not have much written information as maritime commerce was of no great interest for South Asian authors, contrary to their Greek and Roman counterparts. However, among the active players were also Indians, because some of the Indian jars found in Arabia bear graffiti with Indian script (Tomber 2008: 73–5). Similarly, the many names of sailors written in Brahmi on the walls of Cave Hoq in Socotra have shown (Strauch & Bukharin 2004, Strauch 2006, Strauch in this volume), that South Asians were much more numerous as sailors than previously

thought. It might have been their pottery of daily use that they took along on their voyage. Establishing the origin of such domestic pottery might give us information about ports of destination over the centuries.

For this, better chronological differentiation of this common pottery and of imported wares too is needed. Evaluation of the stratigraphic situation at Tissamaharama provides some indications in this regard. A preliminary pottery sequence based on defined contexts is published (Schenk 2001). An update is in preparation. The sequence ranges by now from the fifth/fourth centuries BC to the eighth/ninth centuries AD, supported by radiocarbon dating. The beginning of the sequence, in the late fifth century BC is also confirmed by similar pottery found at a Megalithic burial site at Ibbankatuwa near Sigirya. Material from two small excavations in the neighbourhood meanwhile allows an extension of the sequence to around the twelfth century AD. Their earliest pottery forms an overlap with the last phases of g (sixth/seventh centuries AD) and h (eighth/ninth centuries AD) of Tissamaharama (Plate 21.7).

Let us turn to the chronological differentiation of 'Fine Grey Pottery of North Indian Origin', for which RW and Wheeler Types 10 and 18 are especially relevant for Indian Ocean research. Fragments of these have been discovered at various sites all over the Indian Ocean region (Schenk 2006: 131, Fig. 4). 'Plain Grey Ware' was the first to arrive at Tissamaharama along with the first settlers. The first fragments of NBP appear in layers of the fourth/third century BC. Already prior to RW emerges a small bowl with bent rim and obliquely smoothed on top (Plates 21.6 and 21.8). Parallels are known from Arikamedu (Begley 1996: 370; Fig. 8/1–3); Amreli (Rao 1966, Fig. 12) and from Pakhanna, West Bengal (IAR 1997–8: pl. 145). Interestingly, this applies also to Wheeler Type 18. The first fragments of RW were discovered in strata directly below Tissa phase c1. Wheeler Type 10, the small cup with the significant stamps on the interior, is the latest of the group of 'Fine Grey pottery' that reached Tissamaharama. It is recorded in the upper layers of phase c1 at the earliest.

The layers of the second century BC are peak time for 'Fine Grey Pottery' to be buried as broken pieces in the soil. At that time this group is largely represented by RW and Wheeler Types 18 and 10. Within this stratum, they are found in high proportion and in the highest quality of preservation. This includes almost complete large fragmented pieces that can be fixed together. From the first century BC onwards, the fragments are found randomly scattered as singled-out pieces, worn and often re-worked. The same observation applies to NBP and Plain Grey Ware. From the first century AD onwards, their numbers are almost completely reduced. This could be observed at Tissa 3, which is characterized by a high level of

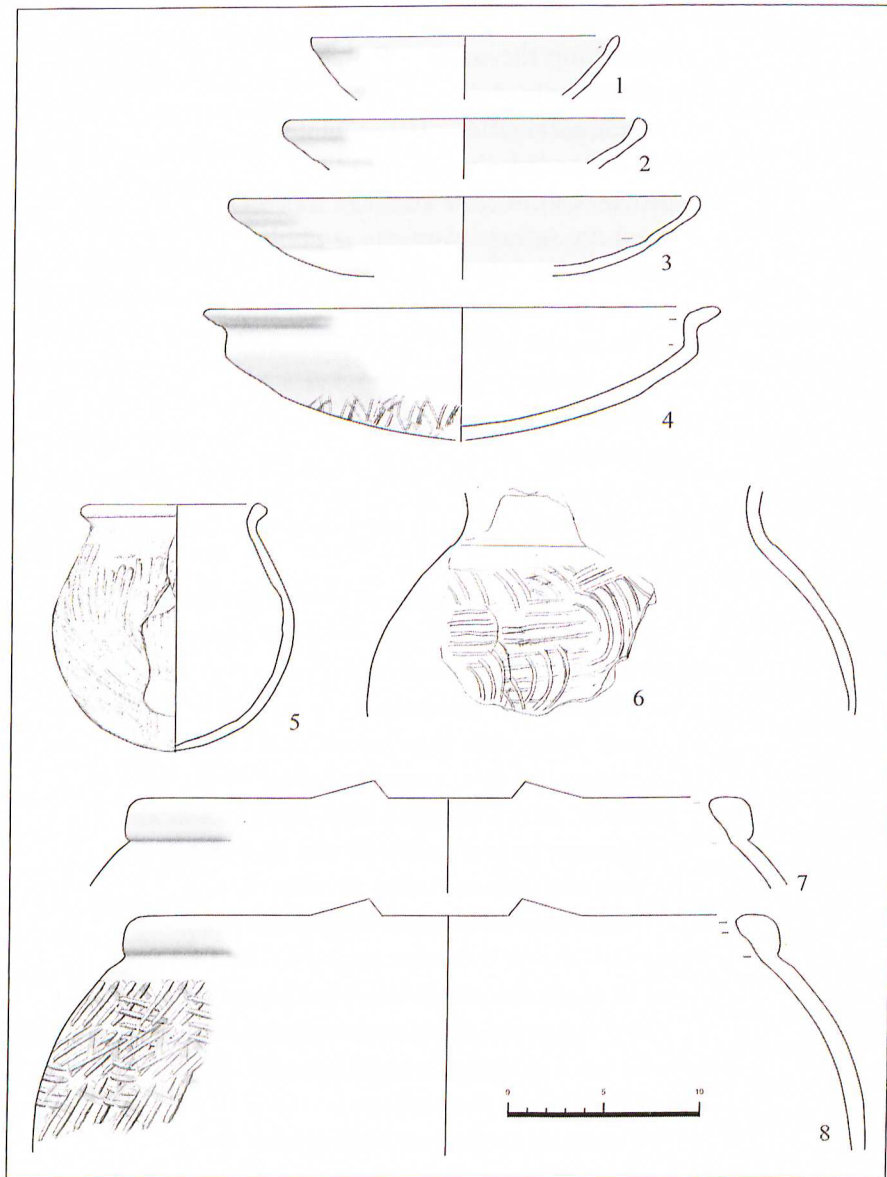


Plate 21.7: Tissa Maharama: selection of types from a context of phase g2 (late sixth/seventh centuries AD). 1-8. Coarse Red Ware; 1-3. with additional red slip. (Scale 1:3).

preserved in situ walking levels and undisturbed deposits. This is in stark contrast to Tissa I, where these finds appeared in a relative high frequency also in the uppermost layers, displaying the state of high disturbances by later intrusions of this site.

The characteristic dishes of RW were held in high esteem, as evidenced by several examples of broken dishes that were mended by way of riveting (Schenk 2006: 124 Fig. 1c). The production of 'Fine Grey Pottery' seems to have ceased by the end of phase c1 (around 100 BC). If this is true, the discovery of RW and all related types evidence the existence of sites at least in the second century BC. Fragments found in later contexts would then be residual only.

Recent observations demonstrate that this is not just a peculiar situation at Tissamaharama based on a cessation of supply alone. Now that the fieldwork is complete, the study of pottery at Tissamaharama continues with more detailed stratigraphic evaluation. This has revealed the differentiation of genuine RW into three chronologically successive groups. The local imitation follows this modification as well. In the first century BC, these chronologically relevant modifications were terminated. Change of outline is the prominent difference of these groups. RW and the imitation from earlier contexts of Tissamaharama phase c1 (second century BC) have straight wall shapes (Subtype A: Plate 21.6, 1-2). In later contexts of this phase, exemplars of both, RW and the imitation, appear with an inverted shape (Subtype B: Plate 21.6, 3-4). All RW-imitations of this phase are made in the Black and Red firing technique. In the subsequent phase c2 (first century BC), the main bulk of pottery is red-fired, which includes newly emerging types. This new preference of firing applies also to the RW-imitation, now as red-fired a key type of phase c2 (Plate 21.6, 5). Additionally, the earliest layer of phase c2 contained also a few fragments of a simplified shape of genuine RW (Subtype C). All three subtypes can be as well identified in the pottery catalogues of Arikamedu.

With regard to BRW, the RW-imitation of phase c2 is one of the last appearances of this formerly abundant firing technique. From the fifth to third century BC, pottery production was mainly made of BRW and Fine Red Ware. However, in the second century BC, BRW started to decrease. Besides the RW-imitation, Tissa Form G with significantly bent-out shape is the last development of BRW. This is a key type of phase c2 as well (Plate 21.6, 6-7). Thereafter, BRW is almost non-existent and the phase witnesses a total cessation. These results stand for Tissamaharama, though the chronological sequence needs to be cross-checked at other sites.

Fortunately, such a cross-check was possible due to a combined pottery study from Sumhuram (Khor Rori), Oman and Tissamaharama (Pavan/Schenk 2012). The earliest settlement layers of Sumhuram contained RW and RW-imitation and further potteries related to South Asia. These sherds showed stylistic parallels to shapes of the Tissamaharama sequence. Besides subtype B of RW and its imitations, it includes further exemplars

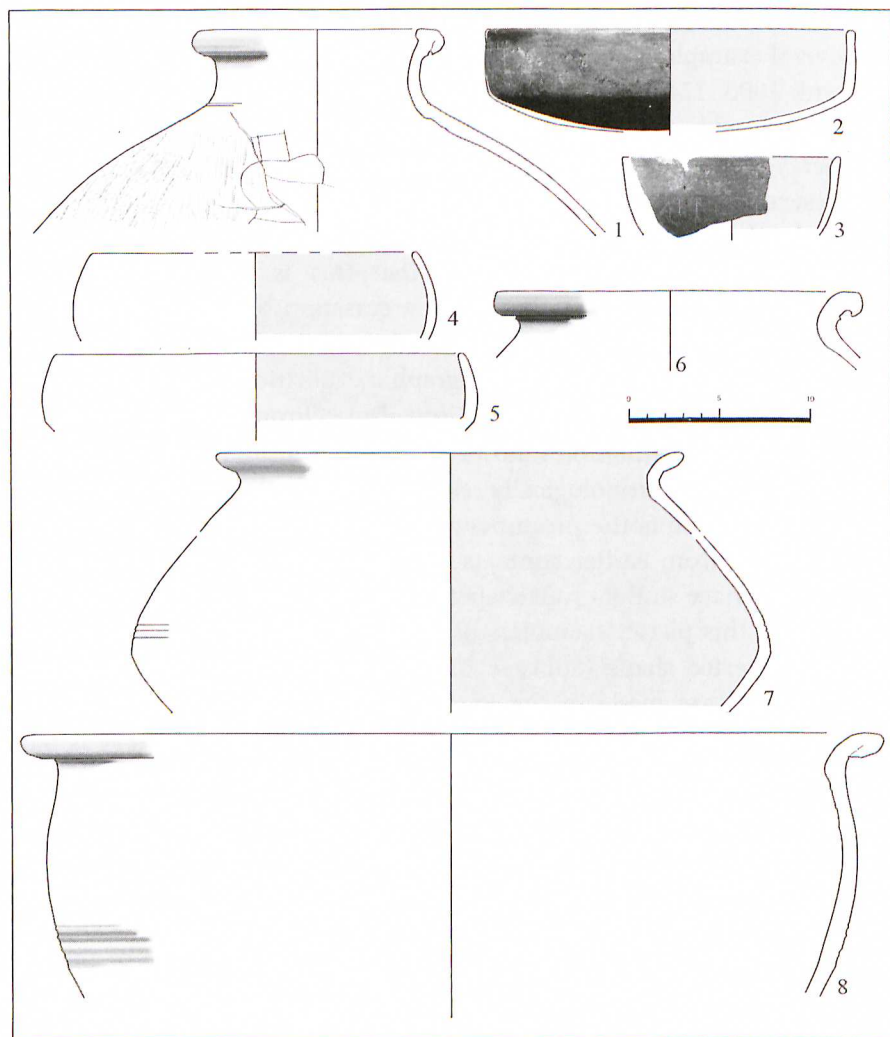


Plate 21.8: Tissamaharama: selection of types from a context of phase b (third century BC). 2–5.7 BRW; 1.6.8 Fine Red Ware (Scale 1:3).

of BRW and typical shapes of common household pottery. They matched the pottery forms of later contexts of phase c1 (second century BC) in Tissamaharama. They are made, however, of slightly different fabrics pointing to various regional workshops on the southern subcontinent yet to be located.

In particular, domestic potteries should be regarded as the best witnesses of time. Frequent use in a daily routine certainly leads to more breakage and litter and to a frequent replacement over more valuable pots. Accordingly,

they reflect a more immediate and contemporaneous pattern. A better chronological differentiation of common local potteries would contribute to a more genuine reconstruction of the changing interactive structure of Indian Ocean trade in the course of time.

From comparison of such utilitarian pottery from Tissamaharama with material from other sites on the subcontinent indicates a widespread correspondent idea of vessel forms in pottery production.

As an example, pottery from Kodumanal, Tamil Nadu (Rajan 1998) dated to the third century BC could well match an assemblage of the same phase (Phase b or even Phase a) at Tissamaharama (Plate 21.8). From there, a storage jar in situ in the subsequent second century BC (Plate 21.9, 3) corresponds well to a jar from Kondapur, Andhra Pradesh (Ahmad 1950 pl.VI–VII). This is the peak time of RW finds at Tissamaharama, and such fragments also accompany jars from Kondapur (Ahmad 1950 pl.VIII.a). Likewise, similar shapes also occur among the South Asian potteries from Sumhuram from the earliest settlement layer that matched contexts of the later phase c1.

In this early period, the widespread occurrence of Black-and-Red firing technique in south India and Sri Lanka reflects popular methods of pottery making. However, details in fabric point to regional workshops. The spread of such common ideas certainly attests an intensive intercontinental network.

Storage jars with pointed base are known in situ from the third century BC until the second century AD in Tissamaharama (Plate 21.9). With regard to the form, variations in the neck and rim area have been found course of time. Already in the first century AD, they start to have a narrow mouth opening with an increasingly band-shaped outer rim (Plate 21.9, 1–2). Rim fragments from Ras Hafun, Somalia and assigned as Indian (Smith/Wright 1988: 132 Fig.6b.e; 136 Fig. 9a.d.g), correspond to this first century ad appearance. A fragment with a ridge inside the rim could fit well to a storage jar with rounded bottom of the same period at Tissamaharama (Smith/Wright 1988: 136, Fig. 9b).

With regard to 'Indian Red Polished Ware' illustrated in Orton's catalogue, many forms are reminiscent of the medieval period, according to the reappraisal of Arikamedu by Vimala Begley (1996; 2004; Schenk 2006). This refers to a certain lid with internal flange (Begley Form 17) and a pot with a carinated body.¹⁰ At Arikamedu, the latter has a grooved outer rim, a feature that is also typical for rather medieval forms and is existent at Ras Hafun (Smith/Wright 1988, 134 Fig. 8c-f). This applies also to a water jar (Smith/Wright 1988, 134 Fig. 8a) and its parallels at Arikamedu (Begley 2004: Fig. 3.253–6). The grooved rim and the sharply carinated body are

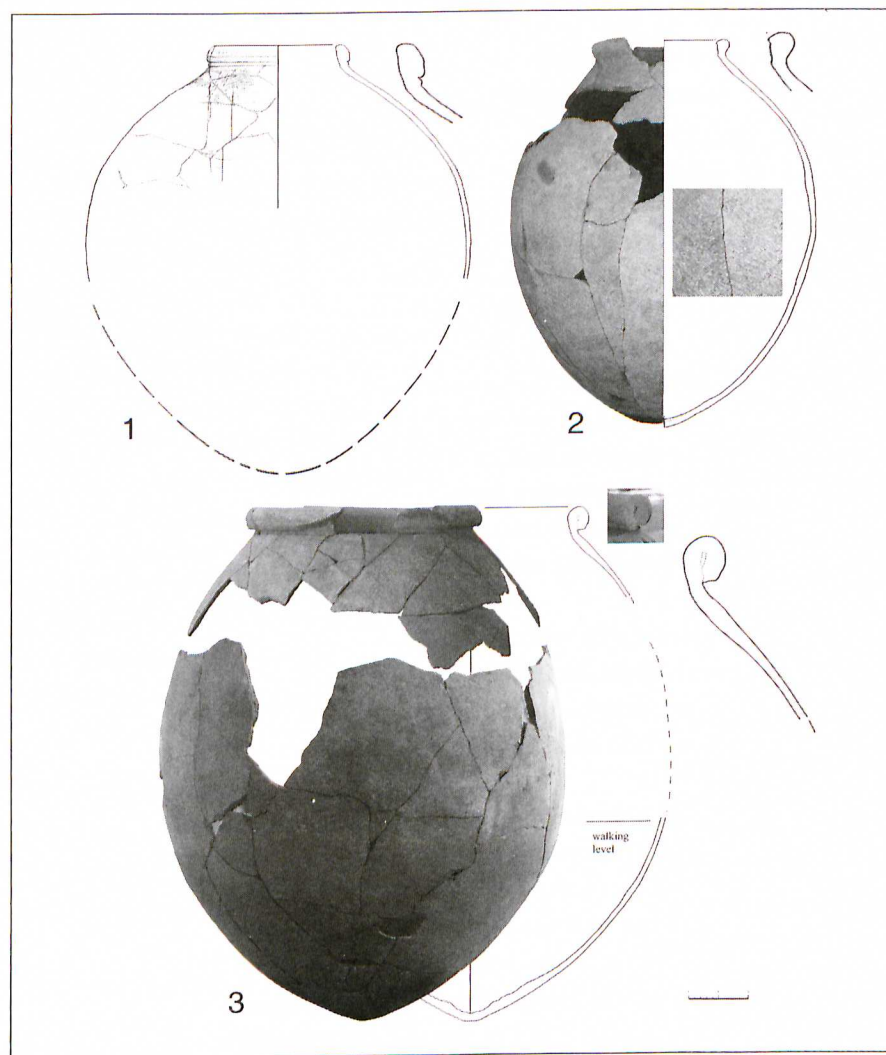


Plate 21.9: Tissamaharama: storage jars with pointed base found in situ. 1-2. phase d1 (first century AD); 3. phase c1 (second century BC) (Scale 1:12).

also typical among pottery compiled by Orton (Schenk 2007: 66–7; Orton 1992: Fig. 4.6.2). This also applies to Sanjan, Gujarat (Gupta et al. 2001–2). The site also contains Chinese and Islamic pottery and dates to the eighth–eleventh centuries AD. The flanged lid Begley form 17 also belongs thereto (Gupta et al. 2001–2: 197 Fig. 7, 17).

Interestingly, such late forms are not among the finds of Sravasti, a site in Uttar Pradesh. Numerous finds remind one of key types for Tissa phase g2 (Plate 21.7), assigned to the late sixth/seventh centuries AD.¹¹ Types later than Tissa phase h (eighth/ninth centuries AD) like the grooved rim and the

distinctly carinated bowl do not exist in Sravasti. However, Sravasti seems to have a long history and the earliest types correspond to Tissamaharama of BC periods, among them the earlier mentioned storage jar of second century BC (Plate 21.9c, 3) and Tissa form G made of BRW.¹²

The carinated-shaped wide bowl serves as a concluding example for the spread of a common form in south India and Sri Lanka (Plate 21.7d, 4). It has parallels in Nevasa, Arikamedu (Begley 1996; 2004) and in the catalogue for ‘Red Polished Ware’ (Orton 1992; Fig. 4.6.2). It emerges for the first time in the fourth/fifth century AD at Tissamaharama.

So far, correlations of common form tradition were mostly discovered in the early periods of third to first centuries BC and again in the later periods from the seventh century AD onwards. It indicates varying intensities of contact during the time.

Different fabrics, clay textures and surface treatment, however, pinpoint regional potter workshops. They certainly have their own product development in addition to the shown cross-cultural commonalities of vessel shapes.

‘Indian Red Polished Ware’ (RPW) is one of those many fabrics that exist on the subcontinent and represents such a regional workshop tradition. The compilation by Orton shows many types that are not similar to the Tissamaharama sequence. This regional manufacture is defined by the fine paste that was mistaken for *terra sigillata*, and derives from clay sources genuine to Gujarat and Maharashtra only. Across the subcontinent, there certainly are many more of these regional workshops. Roberta Tomber has recently recognized another fabric from Gujarat region among the South Asian-related pottery at Berenike, Egypt. In addition, she has found a match to the pottery from Pattanam, Kerala as well (Tomber 2008: 46–9; Tomber et al. 2011). This demonstrates the dynamic of relations. Further studies of common potteries with independent site-by-site research and based on context evaluation will enhance the reconstruction of changing interrelations. The Tissamaharama sequence demonstrates that chronological differentiations of common wares are possible for RPW and other regional potter traditions in South Asia.

Notes

1. For preliminary reports see: Weisshaar & Wijeyapala 1994; 2000; 2005; 2008; Weisshaar et al. 2001a; Weisshaar et al. 2001b; Weisshaar & Dissanayake 2010.
2. Tissa 1 (‘Workmen’s Quarter’) is an industrial area; Tissa 2 (‘Court’s Garden’) a large house of wattle and daub (first and second centuries AD) and Tissa 3 (‘Sarvodaya Area’) a quarter of noble families.

3. The phases of the settlement are as follows: phase a (fifth/fourth century BC), phase b (third century BC), phase c1 (second century BC), phase c2 (first century BC), phase d1 (first century AD), phase d2 (second century AD), phase e (third century AD), phase f1 (fourth century AD), phase f2 (fifth century AD), phase g1 (late fifth/sixth century AD), phase g2 (late sixth/seventh century AD), phase h (eighth/ninth century AD). As we expect more radiocarbon dates, the preliminary chronology might be subject to minor changes.
4. The moulds are from phase a/fourth century BC (Figs. 21.2 and 21.5), phase c1/second century BC (Figs. 21.2 and 4.6), phase c2/first century BC (Figs. 21.2 and 21.1), phase d2/second century AD (Fig. 21.2) and phase f2/fifth century AD (Figs. 21.2 and 21.3).
5. Marshall & Foucher 1913–14: Pl. 74, 4a; 75, 8b; 77, 15b. We are grateful to Harry Falk who drew our attention to the railings of Sanchi.
6. The reverse of a clay sealing with a swastika-motive (Fig. 21.4, no. 1) shows a fastening of twine that wrapped a thin board (Müller 2001: 246, Fig. 184). The board could well be the cover of a palm leaf manuscript.
7. Orton 1992: Fig. 4.1.6; 4.29.4; for a more complete shape see Rao 1966: Fig. 11.
8. Orton 1992: Fig. 4.15.1; 4.21.3; 4.29.2–3; for a more complete shape see Schenk 2001: 133, Fig. 9; Schenk 2007: 81 Fig. 7.
9. Further examples for this Kaolin-like fabric see Begley 2004: 109–10.
10. Begley 1996: 32 Fig. 1.18–19, 128, Fig. 4.13; later in 2004: 259 the flanged lid (Form 17) is dated from the first century AD to medieval times and is considered as continuing form. Ras Hafun: Smith/Wright 1988: 128 Fig. 5, l; 136 Fig. 9.i.k.
11. Sravasti: Takahashi et al. 1999–2000: Fig. 3 RP 1011–1022 (Tissa form C); Fig. 6 RP 1166 (Tissa Form D3); Fig. 7 RP 2011 (Tissa Form H rim type 16). Tissamaharama: Schenk 2001: 82 Fig. 76; 117 Fig. 99; 121 Fig. 103.
12. Sravasti: Takahashi et al. 1999–2000: Fig. 3 RP 1031 (Tissa Form I); Fig. 3 RP 1001–10; Fig. 5 1089–94 (Tissa Form G); Fig. 7: RP 2032–6 (storage jar); RP 2026 (lid).

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