

Archaeological Explorations of Kalingapatnam, Dantapur and Salihundam on the East coast of India

Sila Tripathi, R. Mani Murali, Rudra Prasad Behera*

CSIR-National Institute of Oceanography

Dona Paula, Goa 403 004, India

Email: sila@nio.org

*Dept. of Archaeology, Govt. of Odisha, Bhubaneswar 751 004

Abstract

There are several coastal sites along the east and west coast of India right from the Harappan period onwards which served as port and trade centres. Among ancient ports along the east coast of India, Kalingapatnam, Dantapur, Dahranikota, Masulipatnam, Motupalli and Kottapatnam of Andhra Pradesh coast played a considerable role in spreading Indian culture to overseas countries. Explorations were carried out at Kalingapatnam, Dantapur and Salihundam along the River Vamsadhara. The results are discussed in this article. The ceramics found include Knobbed ware sherds, Red Polished ware, dish on stand, incense burner, hopscotch, legged saddle quern, pestle.

Keywords: Knobbed ware, Ports, Buddhism, Maritime contacts, Andhra Pradesh

Introduction

Andhra Pradesh, the coastal province on the eastern littoral has a nearly 974 km long coastline, and the northern Andhra coast had many ports and harbours which played a leading role in the maritime history of India right from the Buddhist period onwards. The major rivers of Andhra Pradesh were navigable and had suitable landing facilities. Therefore, several ports and trade centres have been reported along the banks, and those provided the opportunity to establish their contacts across the oceans and other parts of the Indian subcontinent. *Periplus* (Schoff 1912; Casson 1989), Pliny, Ptolemy (McCrinkle 1985) and the archaeological discoveries, art objects, numismatic sources, Brahmi and Kharosthi inscriptions and Sanskrit, Prakrit (including Telugu) literature mention the existence of a regional network of internal trade along the Bengal, Odisha and Tamil Nadu coasts, together with Andhra coast, much more than 2000 years ago which also led to the beginning of the international maritime trade in the Indian Ocean region (Sila Tripathi 2017).

Among other evidences of maritime trade of Andhra Pradesh, the single and double mast ship motif coins issued by (Vasisthiputra Pulumavi 145-152 CE and Gautamiputra Yajnasri 165-194 CE) the Satavahana rulers, and their successors the Salankayana rulers (Sarma 1980) and Bhattiprolu and Amaravati inscriptions mentioned the names of the guilds associated with trade and industries (Buhler 1984; Chanda 1982). Earlier archaeological researches along with the coastal sites of Andhra Pradesh namely at Kalingapatnam, Dantapur, Salihundam, Amaravati, Bavikonda, Thotlakonda, Sankaram, Kottur, Dharanikota and Adurru brought to light several Buddhist establishments (Fig. 1). Besides Buddhist establishments, some of these sites also served as port and hinterland trade centres and had contacts with Masulipatnam, Motupalli (Reddy 2001) and Kottapatnam (Rao 2001; Sila Tripathi *et al.* 2014). The above sites have been explored and excavated by the Archaeological Survey of India (ASI), Department of Archaeology, Government of Andhra Pradesh, and many other research organisations including universities. In continuation of previous excavations and explorations of the Andhra coast, the focal point of present investigation was to explore Kalingapatnam, Dantapur, and Salihundam to record the archaeological remains and study the findings such as pottery with a new perspective, and to understand the role of the River Vamsadhara in the maritime trade of Northern Andhra coast.

Previous studies

Kalingapatnam

Kalingapatnam, the port and trade centre of Kalinga (modern Odisha), is situated along the mouth of the River Vamsadhara in Srikakulam district of Andhra Pradesh. In ancient times Kalinga extended

between the Rivers Ganges and the Godavari and several dynasties ruled over the region in different periods of history. Indravarman and Hastivarman, the Eastern Ganga kings, have referred to Kalinganagara as the capital city of Kalinga situated near the sea in their respective Chicacole grant and Narasingapalli plates (Fleet 1984; Majumdar 1984). From this evidence, it can be inferred that Kalingapatnam, the capital of Kalinga, was situated along the sea coast. Scholars have postulated different places as Kalingapatnam (Rao 1971-72). While Fleet suggested the location of Kalingapatnam on the bank of the River Vamsadhara, Andhra Pradesh and the *Raghuvamsa* and *Dasakumara Charitra* narrates the capital of Kalinga situated on the seashore (Singh 1972; Sree Padma 1991).

In order to trace the antiquity of Kalingapatnam, excavations were carried out by the Archaeological Survey of India (ASI) in the stupa mound of Kalingapatnam between 1977-78, 1978-79 and 1979-80 and the excavations brought to light a 26.5 m diameter brick built stupa with hub and wheel plan, and 3.5 m wide *pradakshinapatha* paved with bricks and plastered with lime, but without railing. There was an entrance on the west side where post holes were found which suggest either a doorway or wooden frame was provided to the entrance (IAR 1979-80: 11). The stupa of Kalingapatnam (Fig. 2a) can be dated to the first and second centuries BCE based on architectural features, and the stupa is comparable with Bhattiprolu (IAR 1977-78: 14) and Nagarjunakonda. The other finds include Megalithic Black and red ware, red ware, dull red ware, chocolate slipped ware, Black polished ware, Rouletted ware (RW) (IAR 1961-62: 96), Knobbed ware (KW), etc. (IAR 1978-79: 66). The pottery consists of bowls, dishes, carinated vases, cups with wide mouth and sprinklers. The findings of pottery of Kalingapatnam suggest that the pre-stupa occupation could be dated between 3rd century BCE and 4th century CE, and there were no other remains below the stupa level. Most of the findings of Kalingapatnam are confined between Kalingapatnam site and Nagarlapet village.

Dantapur

Dantapur, variously known as Dantapura, Dantapuram, and Dantavarapukota, is situated on the southern bank of the River Vamsadhara, approximately 7 km from (Amadalavalasa) Srikakulam Road Railway station, in Srikakulam district of Andhra Pradesh. Dantapur was a fort with four entrances which are completely damaged without leaving any traces, except the western entrance where some remains can be noticed. The height of the rampart could be approximately 7 to 8 m (Fig. 3a). The Kornil Plates of Anantavarma Chodaganga (1077-1150 CE) refer to Dantavarapukota as the capital of Kalinga situated on the banks of the River Vamsadhara (Sitapati 1926; 1926-27). Dantapur was a famous port as known from the Natural History of Pliny (Melmoth 1945) and also from the *Mahavamsa*, the Buddhist Chronicle (Geiger 2003). Pliny speaks of a town called Dandaguda or Dandagula (Dantapur) which is said to have stood at a distance of 625 miles south of the mouth of the River Ganges (Bostock and

Riley 1855-57; Cunningham 1963; Saletore 1973). Ptolemy refers to the Apheterian immediately to the south of Palur, where the vessels bound for Khryse, the Malay Peninsula ceased to follow the littoral and entered the high seas (McCrinkle 1985).

Dantapur (Dantavarapukota) was excavated three times between 1994, 1998-99 and 2002-03 by the Department of Archaeology, Government of Andhra Pradesh which yielded two distinct periods of settlement namely early historic (2nd-1st century BCE) and early medieval period (9th-10th century CE) (Subrahmanyam and Reddy 2002). The early historical period discoveries include RW, black and red ware, black polished ware, red slipped ware and highly polished KW including a row of four brick built stupas (Fig. 3b) datable to the pre-Christian era. The early medieval period findings comprised of dull red ware, grey ware and black ware. The other findings of the excavations include carnelian, jasper, agate, glass beads, shell bangles, comb and stylus made of bone, iron nails, terracotta figurines, stone artefacts such as querns, grind and muller (Subrahmanyam 1999; Subrahmanyam 1994; Subrahmanyam and Reddy 2002).

Salihundam

Salihundam is located 7 km west of Kalingapatnam on the Riverbank of Vamsadhara. A. H. Longhurst excavated Salihundam in 1919 (Longhurst 1919-20), followed by T.N. Ramachandran in 1943-47 (Ramachandran 1949-50) and lastly by R. Subrahmanyam (Subrahmanyam 1964; Subrahmanyam 1994). The excavations yielded occupational remains which include Megalithic Black and red ware, inscribed pottery with Brahmi characters, RW, Red Polished ware (RPW) which consists of bowls, lamps, dishes, glass and terracotta beads, Punch Marked Coins (PMC), Roman coins of Tiberius (14 - 37 CE), Satavahana and Puri-Kushan coins, and brick structures. These finds indicate that Salihundam port had trade relations with the Romans (Subrahmanyam 1994; Subrahmanyam 1999), and Southeast Asia, including inter-regional contacts. The occurrence of inscribed potsherds mentioning names of persons and places from all levels of excavations is also a significant feature of Salihundam. For instance, two conches inscribed as *Salipasaka* or *Salipatakah* have been recovered during excavation. Probably these two terms denote the ancient names of Salihundam. *Sali* means 'rice' and *pataka* or *vataka* or *pasaka* means town or place. The name signifies 'the place where rice is stored' (Ghosh 1989). Besides bigger and smaller stupas, apsidal chaitya grihas, vihars, pillared mandaps, votive stupas, Buddha images, Buddhist sculptures namely *Tara* and *Marici* (Fig. 4a-b) datable from 3rd century BCE to 8th century CE (IAR 1953-54: 11) have been reported from Salihundam. Interestingly, three phases of Buddhism, such as the Hinayana, Mahayana and Vajrayana have been documented at Salihundam, which were influenced by both north and south India (Ghosh 1989).

Findings of recent onshore explorations

Explorations were carried out at the stupa site, the adjacent area including rain gullies of Kalingapatnam, and various types of pottery such as KW (Fig. 2b), stamped ware, black and red ware, red polished ware, black slipped ware (Fig. 2c), burnished ware sherds were found. The shapes of pottery include bowls, dishes, dish on stand (Fig. 2d), plates, carinated vases, sprinklers, incense burner, hopscotch with and without holes. The number of sherds of dishes on stand is highest, followed by black slipped ware bowls. Stamped ware sherds belong to red ware.

A large number of KW sherds were found, which include black slipped ware, black and red ware, burnished ware and red slipped ware. All the sherds have concentric circles and knob, and some sherds have graffiti marks on the back. The number of concentric circles of KW varies from sherd to sherd, and the height of the knob also varies. Among all the KW sherds, one has a knob but without concentric circles. Most of the sherds belong to bowls, and some are sherds of dishes. It is noticed that some of the KW is not appropriately fired. Black slipped knobbed ware are more in number in Kalingapatnam. All the KW sherds belong to medium fabric. The dish on stand belongs to red and black slipped ware, but red slipped dish on stands are more in number. One of the black slipped ware dish on stand has a hill pattern graffiti mark. Two corrugated stem parts of dish on stand were found, probably these belong to grave goods of the Iron age of megalithic period, therefore they are often ill-fired (Fig. 2e).

Other than the pottery, during exploration, a broken piece of terracotta pipe, broken granite legged saddle quern and pestle was also found (Fig. 2f). The terracotta pipe tapers on one side; finger impressions can be noticed in the inner side. The saddle quern is broken in the centre, and its maximum length and width are 14, and 15 cm, as well as thickness at the centre, is 4.5 cm. From its shape, its maximum length could be 30 cm. Its legs are small in height, the surface is smooth, but its centre part is much smoother than the edges. The pestle is also 15 cm in length. Its two ends are round and thicker than the centre. Finger impressions are distinct at one end of the pestle, which suggests that it was used for grinding. Its surface is not smooth, and minor cracks are present on the surface.

A layer of pottery was found in the section of a cultivated land nearer to the stupa site (Fig. 2g), the potsherds found during the exploration resemble the pottery found in the section of the cultivated land. The findings of Kalingapatnam are mostly from the surface collection; all the pottery are mixed up because they are found in cultivated land; therefore, it is difficult to put them in any sequence. During the recent visit, it was noticed that brick kilns have come up at the site, surprisingly not a single potsherd was found, and the whole area has been completely destroyed.

Explorations were carried out adjacent to the stupa site of Dantapur. Varieties of potsherds namely red slipped ware, black slipped ware, burnished ware and stamped ware were found and the pottery comprised of bowls, dishes, jar/handi, carinated vases and dish on stand. KW sherds belong to black slipped ware, and burnished red ware and the fabric is very thin (Fig. 3c). All the KW sherds of Dantapur are smaller in size, thickness of one sherd is 2.2 mm, and some of them are even ill fired. In Dantapur only one sherd of a dish on stand was found, whereas sherds of bowls, jars and dishes are more in number. Hopscotch of different sizes with and without holes were also recovered from the site (Fig. 3d).

Salihundam explorations brought to light sherds of bowls, dishes, carinated jars with incised designs which belong to black and red ware and red slipped ware including hopscotches (Fig. 4c). The pottery can be classified into medium to coarse fabric, and the mixture of well and ill-fired. The Buddhist structures are located on the hill. The finding of the pottery at Salihundam is less because there is thick growth of vegetation and trees, including cultivated land, even washing out of pottery into the river cannot be ignored. That is why the quantity of pottery found at Salihundam is much less than in Kalingapatnam and Dantapur. Further, several Kharoshti inscriptions were noticed on the stone boulders and dressed stone blocks which are used in the steps leading to the stupa site (Fig. 4d).

Discussion and Conclusions

The recent exploration of Kalingapatnam, Dantapur and Salihundam brought to light pottery of analogous types. The findings of KW at Kalingapatnam are more significant in number, and the sherds are bigger in size and fabric is thicker. In all twenty-two, KW sherds were found in Kalingapatnam which comprised of bases and sherds. In the case of Dantapur, nine KW sherds were found, which are considerably smaller, and the fabric is much thinner (Fig. 3c). The finding of KW is more at Kalingapatnam and Dantapur because of the existence of close networks with the ports and Buddhist centres of Odisha. In comparison with other parts of the Indian subcontinent, the concentration of KW sites in coastal Odisha and northern Andhra coast is highest, probably KW might have also originated in this region; therefore, it would not be unfitting to term the KW as 'Kalinga ware' and this region was known as Kalinga in ancient times. Moreover, KW is associated with the finding of NBPW and RW in this region. KW was not found during explorations at Salihundam; local people say that they have seen KW pottery at Salihundam. It is challenging to find specimens of this type of pottery during exploration at Salihundam because of bushes, mango farms and other agricultural activities. The stamped ware findings at these sites are also very minimal. Dish on stand is common among the pottery generally found at the Buddhist sites of India, in case of Kalingapatnam it is reported more. Similarly, large numbers of pestle, mortar and saddle querns have been reported from

many early historical sites of India and more are from northern and western India (Ghosh 1989). But the pestle of Kalingapatnam might have been used for grinding, and finger impressions also suggest the same, but the saddle quern probably not meant for grinding, because it is smaller in size (Fig. 2f), expectantly it might have been used as a headrest. Saddle querns used for headrest have also been found from the Godavaya shipwreck of Sri Lanka (Devendra and Muthucumarana 2015). Limited information is available on the dimensions of the pestle and saddle querns which were found in different sites of India; otherwise an appropriate comparative study would have been possible on them.

Archaeological exploration and excavation findings of the northern Andhra coast suggest that Buddhism played a significant role, in addition to Hinduism, in spreading Indian culture to overseas countries. The discovery of well-fortified settlement remains and Buddhist establishments along the northern coast of Andhra Pradesh, together with the east coast of India, recommends the existence of a network among the mariners and traders, accessibility of ports and trade and cultural centres for undertaking maritime trade between the Ganges and Kanyakumari and beyond. Both the Buddhist and Hindu mariners and merchants living in the coastal region might have been involved in maritime activities.

Earlier, it was believed that Dantapur and Palur were identical (Ganguly 1975; Pattanayak and Pattanayak 1994). The excavation and exploration of Dantapur (Dantavarapukota) have resolved the confusion which was outstanding about the location of Dantapur and Palur. Now it is certain that Dantapur and Palur were certainly two separate ports and contemporary to each other. Even the descriptions on location is given by Pliny and Ptolemy on Dantapur (Dantavarapukota) and Palur confirms that these were two different ports (Saletore 1973). Dantavarapukota of Srikakulam is the ancient Dantapur, whereas Palur was located near Chilika Lake of Odisha (Subrahmanyam and Reddy 2002; Sila Tripathi 2000). Salihundam also equally played a significant role along with Kalingapatnam and Dantapur. Probably Salihundam might have functioned as a beacon for the ships anchoring at nearby Kalingapatnam, even today the Bay of Bengal can be seen from Salihundam hilltop.

All these three sites are contemporary, but during the study, it has been observed that references in literature are more to Dantapur than Salihundam and Kalingapatnam. There are more Buddhist establishments such as stupas, chaitya grihas, vihars and monasteries at Salihundam than at the other two sites. Both Dantapur and Kalingapatnam were ports and Buddhist centres, but Kalingapatnam continued as a port for a much longer period than Dantapur. Both Dantapur and Kalingapatnam were capitals of Kalinga; Dantapur was a fortified city, and rampart remains can be seen, as such

Kalingapatnam does not have fortification, even the spread of Dantapur site is larger than Kalingapatnam. These issues need to be studied in detail because no published sources add any light on them.

The archaeological discoveries and other evidence undoubtedly suggest that Kalingapatnam, Dantapur and Salihundam were ports and trade centres besides Buddhist establishments. So far, no detailed study has been undertaken as to how these ports declined, but both man-made and natural factors might have contributed to the decline of these ports and Buddhist establishments. Among others, it is critical to understand whether the River Vamsadhara caused the decline of these sites.

In order to understand the reasons, the oldest available toposheet published by the US Army corps in 1935 (the US Army corps Sheet No: NE45-5, Series U502), hydrographic charts (NHO 2001) and remote sensing images (1973 and 2018) of this region were used in this study. The US Army corps map is the authentic source of the region, and it is available with a proper scale. This map shows the course of the River Vamsadhara and the waterbody near Kalingapatnam very evidently. Further, the map shows that the flood plain region of the River Vamsadhara extended up to Dantapur, which implies that in ancient times River Vamsadhara was flowing close to Dantapur. Subsequently, from the satellite images, it is observed that the river plains have reduced, probably this could be a reason for the decline of Dantapur (Fig. 5a).

Rao (1987) and Sree Padma (1991) have referred to the remains of a wharf at Kalingapatnam, and the old port existed opposite to the stupa. However, no details are available on the location of the port and other remains. Presently the River Vamsadhara is flowing far away from the stupa site. The study of these maps throws light on the degree of river course change and suggests that there is not much change in the course of the River Vamsadhara (Fig. 5b). Therefore, the toposheets (1935) and Hydrographic survey charts (2001) of Kalingapatnam area were referred in order to understand the possibilities of the location of the wharf. Some inlets were observed in the 1935 toposheet map, nearby to the stupa site, and the wharf could have been present adjacent to this area (Fig 5c-d). However, currently, inlets are not seen due to anthropogenic activities. It has been covered with plants and human activities. But, the shape and pattern of the same water body is visible from the recent satellite image, which is comparable (Fig. 5d). It is about 550 m away from the stupa site. Further, it can be stated that Kalingapatnam port was probably not located on the River Vamsadhara bank, no such signatures noticed on the maps, charts and remote sensing images on the other hand port was situated near the inlets close to the stupa. Stupa of Kalingapatnam is approximately 1.24 km away from the River Vamsadhara.

The British period records suggest that during the rainy season the River Vamsadhara was navigable up to 100 km and in the river mouth area a kind of a dock is formed with maximum 4.5 m water depth where ships sought refuge (Deloche 1994). Presently, the area is named as Vadapalem, which denotes the halting place of vessels during the British period (Rao 2002). The signatures of change of river course and reduction in the flood plains can be noticed at Dantapur but not at Kalingapatnam, and the port Kalingapatnam was never on the bank of River Vamsadhara. In view of the above, seaward excavations of Kalingapatnam on the eastern side of the stupa may bring to light the submerged port installations, which would shed more light on the maritime activities of Andhra Pradesh and contacts with Southeast Asian countries.

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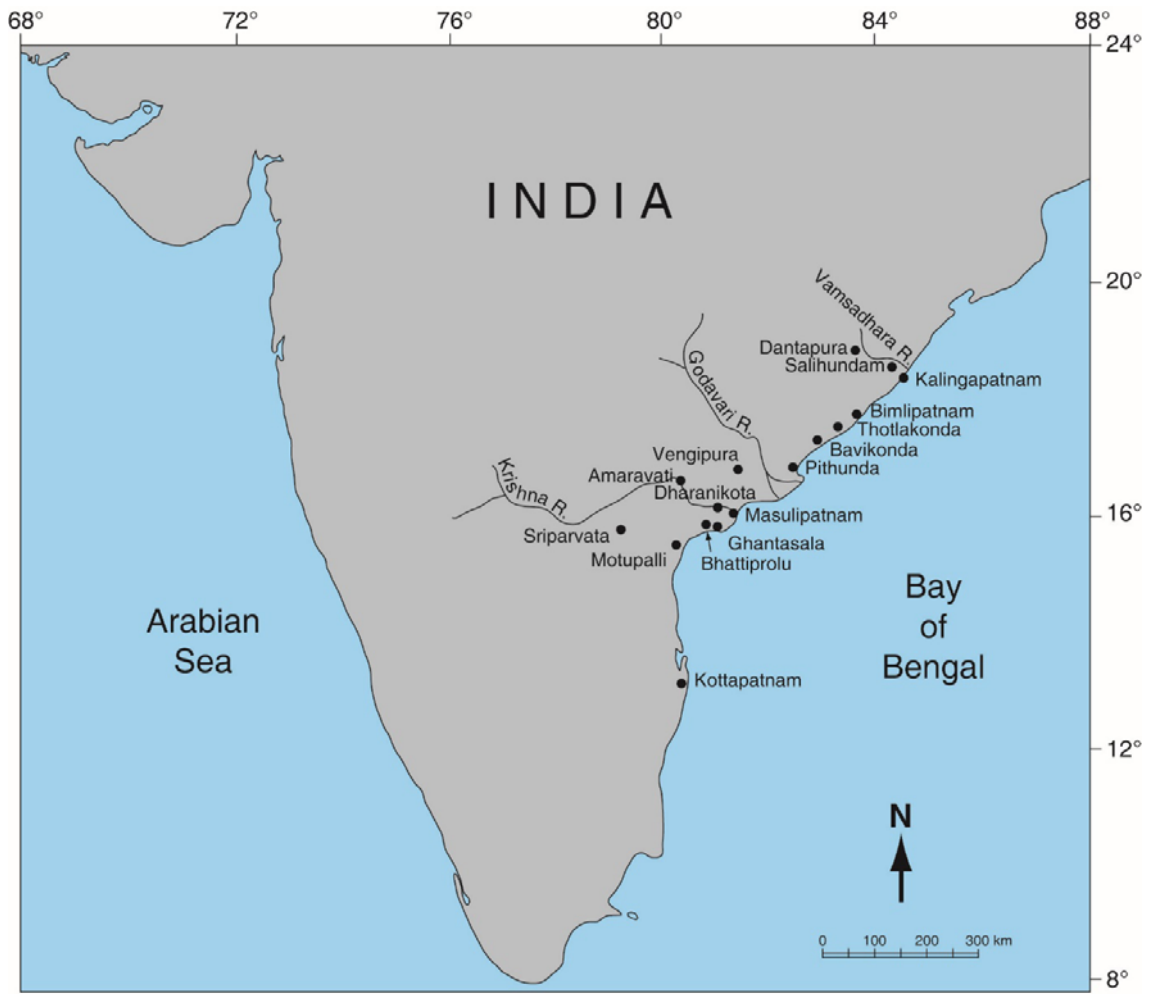
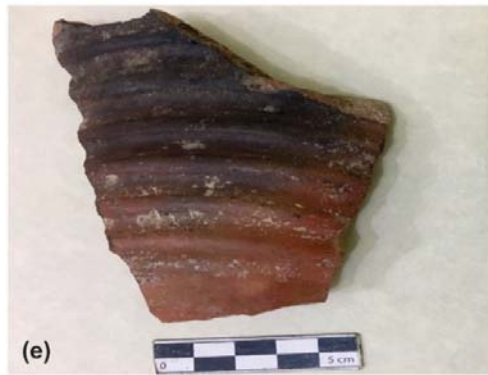


Fig. 1. Ports and trade centres of Andhra Pradesh



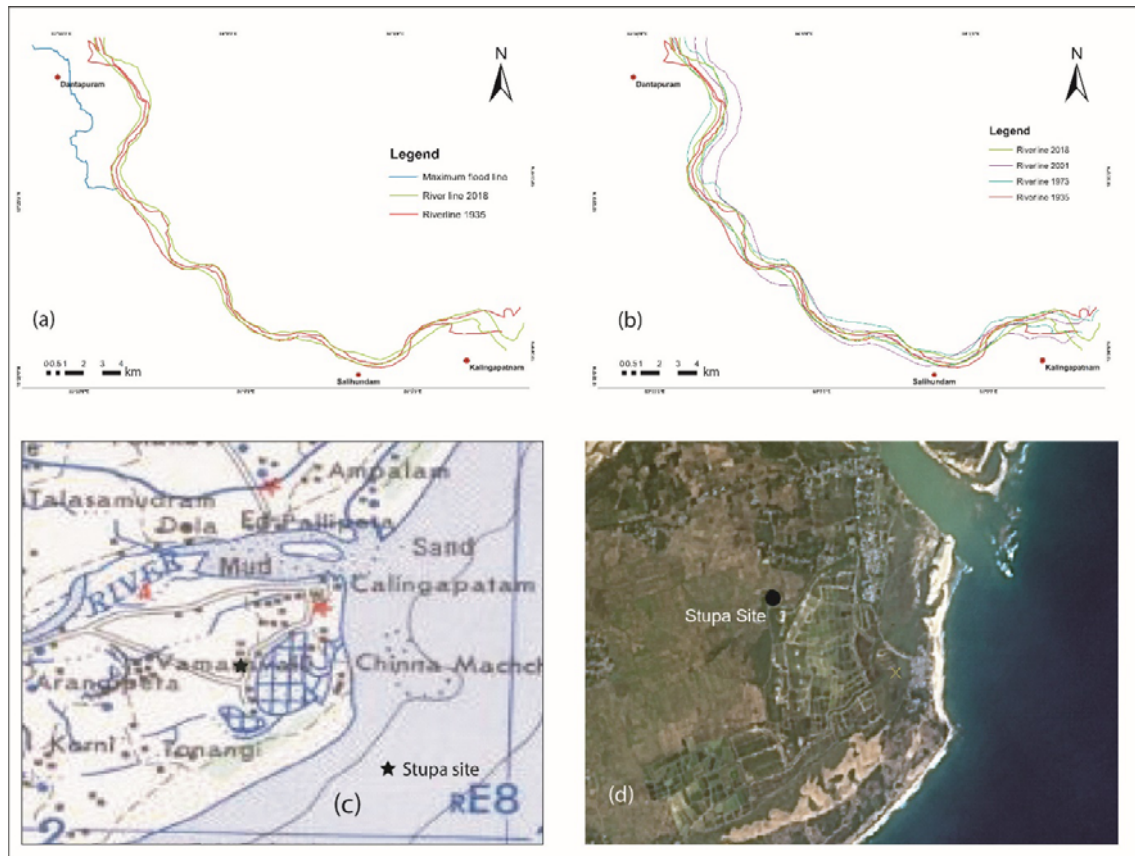
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