

Study of Chinese Porcelain sherds of Old Goa, India: Indicators of Trade Contacts

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Abstract

Chinese ceramics has a long history of evolution and distribution. Chinese ceramic has been discovered from habitational, ports, trade centres and shipwrecks sites which facilitated the precise dating of sites and associated findings. The paper deals with the Chinese porcelain sherds found during explorations at Old Goa. The role of Chinese ceramic in maritime history between Goa and Portugal, their period and kiln are described and compared with similar sherds which were found at the St Augustine Church of Old Goa.

Keywords: Chinese porcelain, Maritime trade, Ming and Qing dynasty, Jingdezhen kiln, Old Goa, Portugal, Shipwrecks

Introduction

Archaeological artefacts provide information on development of a culture and the study of ceramic contributes to an understanding of the progress made in the field of science and technology. Over a period of time numerous changes have been noticed in selection of clay, firing techniques (from hearths to kilns), paintings to designs and decorations of Chinese ceramics. The finding of ceramics from habitational sites, trade centres and shipwrecks indicate the role played both in inland and maritime trade. Ceramics of different periods have been identified on the basis of painting, texture, design, etc. If the evolution of ceramic is taken into account i. e; from clay ware to celadon ware, stone ware and Chinese ceramic; Chinese ware are considered the best in terms of their fabric, quality and durability. Chinese ceramic sherds never disintegrate like other perishable material; because they are hard, sturdy and fired over 1300°C. Hence ceramics are extreme importance for archaeologists to date their sites and findings.

Chinese ceramics have been reported from many sites of India, more commonly from the early medieval period onwards and there is hardly any site in India without Chinese ceramics (Muhammed 1994). During explorations at Old Goa, Chinese ceramic sherds collected and those have been detailed in this paper along with their kiln and period. The sherds are also compared with those found from St. Augustine Church at Old Goa and their role in the maritime trade contacts between Goa and Portugal is discussed.

History of Chinese Ceramics

Chinese ceramics has a long history. The production of deluxe porcelain ware started during the Tang dynasty (618-907 AD) onwards. The Tang dynasty ceramic has two most innovative characters viz. fine white earthenware covered with a lead glaze of glowing yellow and green tints and the other was thin, delicate bowls and vases with clear, bluish or greenish glazed porcelain. Buddhism continued to be a major influence during this period. Sulaiman (851 AD), the Arab merchant has mentioned about the manufacturing of Chinese porcelain in China (Shen 1996). During the Tang dynasty ceramic were exported to India, Southeast Asia and the Muslim Empires.

Blue and white porcelain came into light during the Yuan dynasty (1279-1368 AD) but this ceramic reached its highest water mark during the Ming (1368-1644 AD) and Qing dynasties (1644-1911 AD). The quality of the Ming blue and whites is indisputably superior to those of other periods and the production was enormous (Lion-Goldschmidt 1978). The most popular decorative motifs of the Ming dynasty were dragon and phoenix. The decoration on the blue and white and polychrome wares included plants such as peony, prunus, chrysanthemum, pine, lotus, birds and butterflies, dragons, deer

and other animals. A study of these motifs provides an insight into the socio-cultural life and religious belief of the contemporary Chinese society. Most of the decorative elements and symbols have originated from Chinese folklore, history, mythology, religion traditions and each symbol carries some messages. The marks and seals on the Chinese porcelain have been classified into six groups (Bushell 1985). The marks of date are inscribed, six characters indicate the reign of an emperor and four characters denotes dynasty; hall marks represent the factory; marks of dedication and good wishes symbolise good luck, longevity, long life, honour, etc; pictorial marks are related to Chinese lore, Buddhist symbols, Taoist symbols, the hundred antiques, etc and potters' mark signifies manufacturers' symbols. During the Ming dynasty Jingdezhen near Nanking was the main centre of production of porcelain ware and exported to different parts of the world (Savage 1961). During the Qing dynasty (1644-1911 AD), the Chinese porcelain was enriched with the innovation of five coloured wares which gained the highest recognition in the West (Calvao 1999). The quality of Chinese porcelain began to decline after the end of the Qing dynasty, however revived in the later period. **Finding of Chinese ceramic from Trade Centres and Shipwrecks**

The overseas export of Chinese ceramic started from the 8th-9th centuries onwards and it increased in manifolds during the rule of the Song and Yuan dynasties from the 13th century onwards (Karashima 2004). Chinese merchants brought Chinese porcelain, carpets, saffron, paper, ink, silk and tin and in return they carried textiles, pearls, corals and aromatic wood and jasmine flowers from India and the Indian Ocean region (Mathew 1983). The Chinese Junks visited the Persian Gulf and other regions and articles brought from Sri Lanka, Malacca, Pegu and western Mediterranean countries were sold at the Malabar Coast. Chinese travellers Wang Ta Yuan (1330-1349 AD), Fei-Hsin (1436 AD) and Muhuan (1451 AD) have mentioned the trade of blue and white Chinese porcelain to Kayamkulam, Cochin and Kozhikodu of South India (Shastri 1939). During the reign of Wan Li (1573-1620 AD) large quantities of blue and white pottery were exported to different parts of the world and the excavations at Fatehpur Sikri has yielded sherds of the same ware (Muhammed 1994). John Carswell carried out explorations in the year 1976-78 at twenty five port sites of India and twenty nine sites of Sri Lanka to record Chinese materials. Carswell (1978) has opined that the destination of Chinese ceramics was at the capitals and small principalities. Recently, the joint explorations carried out by the Indian and Japan scholars along the port sites of Kottapatnam, Krishnapatnam, Motupalli of Andhra Pradesh; Kayal, Kulashakarapattinam, Periyapattinam, Pulicat, Sadras of Tamil Nadu; Kollam, Pandalayini of Kerala and Anuradhapuram, Mantai and Polonnaruwa of Sri Lanka coast has yielded Chinese ceramics datable between the 12th-13th and 17th-18th centuries (Karashima 2002, 2009). Moreover, Chinese pottery found from other sites of India is not being properly studied.

With the increase of popularity of Chinese ceramics gradually the maritime trade of China grew. Ceramic trade advanced from caravan to water transport (from camels to ships) in which bulk transport was possible. Ceramics were exported to the markets of India and Sri Lanka then to the Persian Gulf, and along the East African coast (Gerritsen 2009) either in Arab Dhows or Indian ships. Moreover the Indian Muslim mariners were engaged in the distribution of Chinese ceramics throughout the Indian Ocean region. China dominated in the maritime trade until 15th and 16th centuries, consequently, the Portuguese, Dutch and British began to dominate world trade. Vasco Da Gama carried a piece of Jingdezhen blue and white porcelain to Portugal for King Manuel. Similarly, Pedro Alvares Cabral presented to King Manuel porcelain and other exotic items which he had purchased from a ship sailing from Cambay to Mecca (Pinto de Matos 1999). Afterwards Portugal procured porcelains directly from the manufacturers in Jingdezhen (Finlay 2005). Afterwards, Chinese pottery and other artefact gained a widespread popularity throughout Europe.

Many shipwrecks have been identified and dated on the basis of the Chinese ceramics. Chinese porcelain has been reported from shipwrecks of Southeast Asian region later than 7th-8th centuries AD, for instance, the Belitung ship sunk around 826 CE off Sumatra, Indonesia carrying the Tang dynasty ceramic (618-907 AD), which is the earliest known shipwreck on the Maritime Silk Route which had extended from the Southeast China coast through Southeast Asia to the Middle East (Flecker 2000, 2001, and 2008). Thousand of Chinese ceramics were recovered from *Intan* shipwreck (10th century AD) 10 miles off the Java Sea, (Flecker 2002). An enormous quantity of Chinese porcelain manufactured at Jingdezhen in Jiangxi province of China has been salvaged from *Geldermalsen* shipwreck off South China Sea/Indonesian waters (Delgado 1997, and Miller 1992). The salvaged blue and white porcelain was auctioned in Amsterdam in 1986 as 'Nanking Cargo', which sold at a record breaking price. Similarly, numerous shipwrecks such as the Ko Kradat (Green and Harper 1982), *Sea Venture* (Wingood 1982), *Spanish Armada* (Martin 1979), *Nossa Senhora dos Mártires* (Castro 2005, and Desroches 1998) *Santo Antonio de Tanna* (Piercy 1979, and Sassoon 1981, 1991) and many other shipwrecks have yielded Chinese porcelain. The Portuguese shipwreck in Sunchi Reef off Goa coast has also yielded blue on white Chinese ceramic sherds (Sila Tripati et al. 2006).

Old Goa as a port

The early historical ports of Goa namely Chandor (Chandrapura) and Gopakapatana (Gopakapattana) (Fig. 1) were disused because of sedimentation and frequent foreign attacks. Surveys at Chandore (IAR 2001-02) and Gopakapatana (Costa 2002) have brought to light Chinese ceramics which are yet to be studied. The capital of Goa was shifted from Gopakapatana to Ela, (the present Old Goa) in 1472 AD during the Bahmani rule. Yusuf Adil Shah of Bijapur conquered Goa in 1490 AD and Old Goa

became the capital and port and trade centre of the Indian Ocean maritime trade. During this period Goa had contacts with Arabia, Hormuz and Persia and was chiefly involved in horse trade (Kamat 2000, Moraes 1990). After Portuguese occupation in 1510 AD the maritime trade of Goa entered into a new phase. Old Goa had many bazaar streets (Fig. 2) dealing with varieties of commodities including Chinese porcelains (Fonseca 1986). Explorations between the bank of the River Mandovi and adjoining areas brought to light Chinese porcelain sherds of bowls, cups and dishes (Fig. 3 I-IV). Majority of sherds belongs to the Ming and Qing dynasty (16th and 17th centuries) (Table -1). Moreover all these sherds belong to Jingdezhen kiln and only one sherd (Fig. 3I) is of 'Kraak ware'. During this period Old Goa was the flourishing ports and trade centres of the west coast of India.

Description of Chinese sherds of Old Goa

1. A shallow bowl sherd with medium fabric, straight rim with a plain inner side. On the outer cavetto near the rim, a flower with leaves is decorated at intervals between two bands. A circular medallion design is depicted with spreading wings, probably an insect, with rays coming out from the body. The wings and the body are designed with a criss-cross pattern. A residue of the over glaze brown/gold served as a border (Fig. 3a).
2. Base part of a dish with a thin fabric. A male and female deer served as central decorations. Both are depicted with dots on their body, looking at each other with playful passion and bordered by a bamboo fence. The moon is decorated with a beautiful tree branch shading both the deer. Below the deer are two cactus plants with branches. All these depictions are encircled with two concentric lines. The base is bordered by two concentric lines that encircle eight Chinese characters. Six characters denote the reign mark of emperor Chia Ching (Jiajing) (1522-1566 AD) of the Ming Dynasty period and two characters bear the mark of Emperor Cheng Hua (1465-1487 AD) (Fig. 3b).
3. A sherd of a cup, an over glaze maroon rose flower with stem and leaves are bordered by blue concentric lines. The outer cavetto is an elaborate design of maroon colour roses with stems and small branches with over glaze green leaves. In some areas, traces of over glaze gold can be seen (Fig. 3c).
4. A sherd of a cup with a ringed base. A lotus flower or a peony with leaves serves as the central decoration and bordered by a single concentric line. This type of 'Lotus Blossom' is known as Lien Hua. An ochre-coloured slip has been applied on the outer cavetto while the inner cavetto is plain white. The surface treatment is very fine compared with the other sherds and the glaze is thin and shiny (Fig. 3d).
5. A base of a bowl with a foot ring. The over glaze blue decorations in the centre consist of outline and wash design of creepers and grass roots bordered by a thick blue line. The cavetto has geometric designs with dots (Fig. 3e).

6. Sherd of a plate with thick foot ring and medium fabric. The coarse outline and wash design features the tip of a long leaf along with a flower stem along with three small leaves. The outer cavetto is plain (Fig. 3f).
7. A fragment sherd of a bowl with a foot ring. Varieties of plants and trees are decorated behind the hills, with three flags fastened on a bamboo. Two other bamboos are attached in the form of a cross with a circular object placed on top of the bamboo. Etched on the outer cavetto are floral or 'classic' designs. A band of creepers with leaves are decorated on the foot ring encircled by a band (Fig. 3g).
8. Base of a bowl with foot ring. The inside and outside of the bowl is designed with Polychrome (green, yellow and gold) combinations cover. A square mark has been shown on the base which is further subdivided into small four square. Some marks could be missing that precludes it from identification as either a potter's mark or some Chinese epitaphs (Fig. 3h).
9. Base of a small bowl with a fine fabric and foot ring. A mythical animal, Qilin (or Kylin in some literature), dominates the central decoration. The outline and wash design shows the qilin rearing its head. Its flying wings and tail is also represented. A Chinese mark, presently unidentified, is present in the base (Fig. 3i).
10. A fragment of a dish with thin fabric and clear glaze. Flower stems, leaves and glass roots are decorated on the outer cavetto while the central decoration is a flower/plant design surrounded by two blue concentric lines (Fig. 3j).
11. A small rim sherd of a flat round dish with fine glaze and thin fabric. Flower and stem with leaves are shown in running pattern on the inner side whereas the outer side is plain (Fig. 3k).
12. A rim fragment of thin fabric with wavy pattern on its upper part, a rectangular drum like object has been depicted on lower side having geometric designs. Several horizontal lines are drawn on either side of the drum. Potter's mark, possibly one of the eight precious things as explained by Fang-Sheng, a Lozenge (symbol of victory) is encircled on the outer surface of the sherd with two uneven bands. It is possible a sherd of the 'Kraak ware' (Fig. 3l).
13. A sherd of a dish. The outer cavetto is decorated with possibly floral scrolls in an unending style with wavy pattern (Fig. 3m).
14. It is thin and fine fabric ring base sherd of a bowl. An elaborated flower with leaves, buds and a stem is encircled with two bands on the base. An unidentified stamp mark is designed inside the ring base (Fig. 3n).

15. A rim sherd of a medium-sized bowl. The rim is foliated and has two small perforations on its surface which were used for rebating the broken sherd with copper wire. On the inner rim is a running 'classic scroll design' while the outer rim has also a floral design. On the outer cavetto is a flying horse poised in a leap bordered by a circle (Fig. 3o).

16. A base sherd of a bowl with a foot ring. A running horse depicted in a landscape with rocks and bushes. On the outer cavetto are equidistant decorations of hills, flowers, bushes and straight horizontal lines. There are four visible Chinese characters arranged in two columns although some characters could be missing which could probably date to the Chinese emperor Hsuan Te (1426-1435 AD) during the Ming Dynasty (Fig. 3p).

17. It is foot ring base sherd of a small bowl with thin fabric. Two concentric lines border the foot ring. The base has four Chinese characters, among them two letters resembling Chinese emperor Cheng Hua's mark (1465-1487 AD) (Fig. 3q).

18. A sherd of a dish with a thin fabric. A landscape consisting of trees and bushes represent the central decoration. Full-grown flowers and stems are shown at intervals on the rim. Two leaves with a long stem is visible on the outer rim surface (Fig. 3r).

19. A sherd of plate with a rim and a base with a foot ring. The central decoration consists of lotus flowers, stems and petals. The 'SHU' denotes a pair of books is on the outer cavetto. This mark is one among the eight treasures of Buddhism (Fig. 3s).

20. This is foot ring sherd of a round plate. The central decoration consists of a flower in full blossom with petals and filled lines of hatching design. On the base has 'Hua' mark that denotes one of the eight treasures of Buddhism (Fig. 3t).

21. A bowl base sherd with medium fabric. Flowers and grasses are depicted in the centre and encircled with two bands along with dotted designs. The outer cavetto is plain but a small trace of a stamp mark can be seen (Fig. 3u).

22. A sherd of a shallow bowl with a foliated rim and a grooved cavetto. Traces of leaves that could be the central decoration are found and encircled with two concentric lines. A thick band of wavy lines is shown along with dots and thin lines on the rim. In the outer cavetto just below the rim have flowers with creepers (Fig. 3v).

23. A sherd of a small bowl with straight sides. The central decoration consists of a flower with two shoots coming out of it and a dot is depicted between the two shoots. At the outer cavetto are flowers

and leaves which are spread all over the body. Two concentric lines are present on the upper side and at the ring base (Fig. 3w).

24. A base sherd of a bowl. Four anonymous letters are stamped encircled by a band on the base. Another concentric line can be found above the foot ring (Fig. 3x).

25. It is a tiny sherd with thin fabric. The lotus flower with stems and leaves on the inner surface denote 'Hua', meaning happy augury, is one of the eight Buddhist emblems. The symbol on the outer side could be 'SHU' meaning a pair of books and is one of the eight precious things of Buddhism (Fig. 3y).

26. Ring base of a small bowl with thin fabric. A three legged decorated basket is depicted on the centre which is filled with fruits and leaves. Hatched marks represented on the outer cavetto (Fig. 3z).

Discussion and Conclusions

One of the contributions of China was the invention of porcelain. Initially Chinese pottery is fired at limited temperature. Over a period of time the clay fired at high temperatures between 1250° and 1400° degree until it hardens into an entirely new substance which is popularly known as ceramic. Firing ceramics at high temperature enhances their durability and impermeability and changes their surface colour. Since ancient times earthen vessels were used in ships to carry consignment to distant countries, however slowly the shape, size and design of ceramics changed. Al-Biruni (973-1050 AD), also detailed how the Chinese potters took care in the preparation and maturing of the clay (Lane 1950). China was engaged in ceramic trade in the world more than 2000 years ago. The designs and motifs on Chinese pottery communicate some denotation related to Chinese culture, history or folklore. Chinese pottery of different dynasties has been identified on the basis of painting, texture, design, even the kilns. Chinese ceramics started coming to India from 8th-9th century onwards, but tangible evidences indicate that maritime contact between India and China continued from the Ming dynasty (1368-1644 AD) onwards. The first blue and white porcelain was imported to India by the rulers of Bijapur, then the Nawab of Arcot. The Ming porcelains were an indelible high water mark in the history of world art.

The explorations at Old Goa did not yield a single unbroken piece of porcelain, reasons are not known and probably excavations only may yield intact ones. The identification of sherds confirm that they belong to the 16th and 17th centuries and during this time the Portuguese had a strong hold of maritime trade with Goa and her colonies. None of the sherds belong to the pre-Portuguese period. The explorations and excavations of Chandor and Gopakapatana have brought to light Chinese sherds. Chinese porcelain similar to that in Old Goa is seen even today in many houses of Goa. Comparable Chinese sherds have also been recovered from the St Augustine Church of Old Goa. The Augustine

church complex has unearthed approximately 22,000 Chinese sherds and most of them are blue on white. These are also called under-glazed cobalt blue and commonly known as 'Kraak ware'. These sherds classified on the basis of their design, surface treatment, symbols and inscriptions and about 200 sherds have been identified based on their designs and belong to large bowls, plates, pots, vases, etc. It appears that Europeans were unaware of this ceramic until the Portuguese began to sail to the Far East in the 16th century. Until this time Chinese pottery dominated in the markets of Africa, Near East and Southeast Asia. Once Portuguese established contacts with China, they became the major importer of porcelain, silk, musk, camphor and alum, in return China received pepper and incense in huge quantity. Maritime trade contacts sprang up between China and Portugal and countless crates of porcelain were brought from China to Lisbon then sent to Europe. Further, EDXRF, ICP-MS trace element and Raman spectra analysis of these sherds would provide more information.

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List of Figures

1. Figure showing ports and trade centres of Goa.
2. Figure showing Old Goa and surrounding area.
3. Chinese ceramics collected from Old Goa.

Table - 1: Table showing name of the Dynasty, Period and Kiln of Chinese ceramic sherds.

Table. 1 showing name of the Dynasty, Period and Kiln of Chinese ceramic sherds

Sherd No	Dynasty	Period	Name of the Kiln	Remarks
1	Ming	Middle to Late 16th century	Jingdezhen	
2	Ming (Jiajing Period)	Middle to Late 16th century	Jingdezhen	1522-1566
3	Qing	Late 17th century	Jingdezhen	Over glaze Enamels
4	Ming	Middle to Late 16th century	Jingdezhen	
5	Ming-Qing	17th century	Jingdezhen	
6	Ming-Qing	17th century	Jingdezhen	
7	Ming	Middle to Late 16th century	Jingdezhen	
8	Qing (Kangxi Period)	Late 17th century	Jingdezhen	
9	Ming	Middle to Late 16th century	Jingdezhen	
10	Ming	Middle to Late 16th century	Jingdezhen	
11	Ming	Middle to Late 16th century	Jingdezhen	
12	Ming-Qing	17th century	Jingdezhen	Kraak ware
13	Ming-Qing	17th century	Jingdezhen	
14	Ming	Middle to Late 16th century	Jingdezhen	
15	Ming	Middle to Late 16th century	Jingdezhen	
16	Ming-Qing	17th century	Jingdezhen	
17	Ming-Qing	17th century	Jingdezhen	
18	Qing	Late 17th century	Jingdezhen	
19	Ming	Middle to Late 16th century	Jingdezhen	
20	Ming	Middle to Late 16th century	Jingdezhen	
21	Ming	Middle to Late 16th century	Jingdezhen	
22	Ming	Middle to Late 16th century	Jingdezhen	
23	Ming	Middle to Late 16th century	Jingdezhen	
24	Ming-Qing	17th century	Jingdezhen	
26	Ming	Middle to Late 16th century	Jingdezhen	

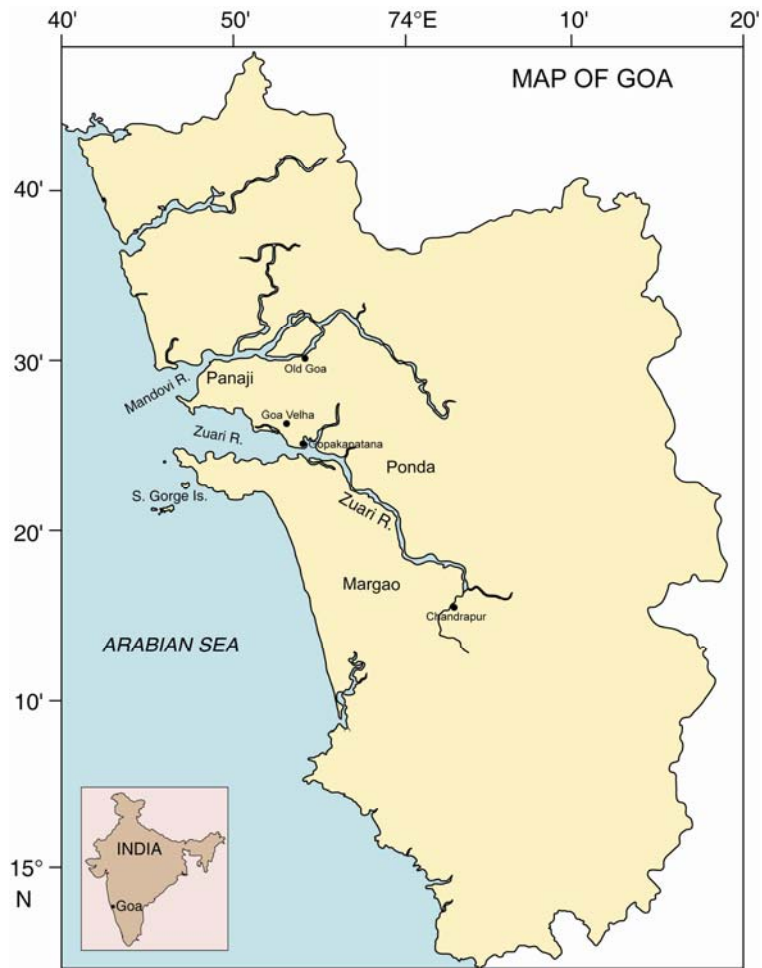
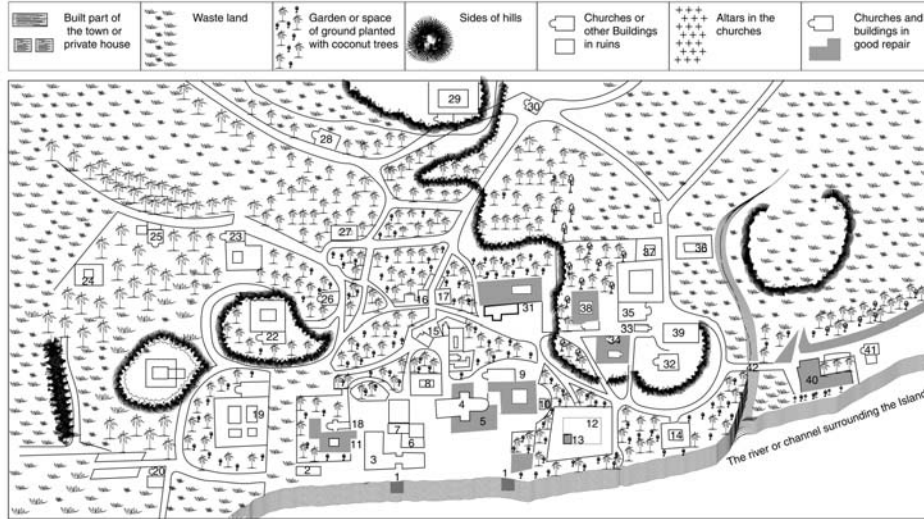


Figure-1

Plan of the city of Goa

Comprehending a space of ground of about one mile and a half from East to West and three quarters of a mile from North to South



- | | | | |
|--------------------------------------|--|--|---|
| 1. Landing stairs | 11. Aljuvar or Archbishop's prison | 21. Church and house of Nossa Senhora de Monte | 31. House and church of Bom Jesus |
| 2. Custom House | 12. Arsenal | 22. Convent and church of Carmelites | 32. Parochial church of the Rozary |
| 3. Palace of Viceroy | 13. Chapel of five wounds in the arsenal | 23. College and church of St. Paul | 33. Chapel of St. Antony of Padua |
| 4. Cathedral | 14. College of St. Bonaventure | 24. Hospital of St. Lazarus | 34. Nunnery of St. Monica |
| 5. Archiepiscopal Palace | 15. Houses and churches of Misericordia | 25. Parochial church of St. Thomas | 35. Convent and church of St. Augustine |
| 6. Senate House | 16. Slaughter House | 26. Parochial church of St. Alexius | 36. College of the Augustinians |
| 7. Old Senate House | 17. Bazar | 27. Old city hospital | 37. Novitiate of the same |
| 8. Inquisition in ruins | 18. Convent and church of St. Cajetan | 28. Parochial church of Building Trinity | 38. Convent and church of St. John of God |
| 9. Convent and church of St. Francis | 19. Convent and church of St. Dominic | 29. Convent and church of the Miraculous Cross | 39. College of St. Rock in ruins |
| 10. Chapel of St. Catherine | 20. Parochial church of St. Lucia | 30. Parochial church of Luz | 40. College of St. Thomas |
| | | | 41. Parochial church of St. Peter |
| | | | 42. Bridge |

Fig. 2 Figure showing Old Goa and surrounding buildings

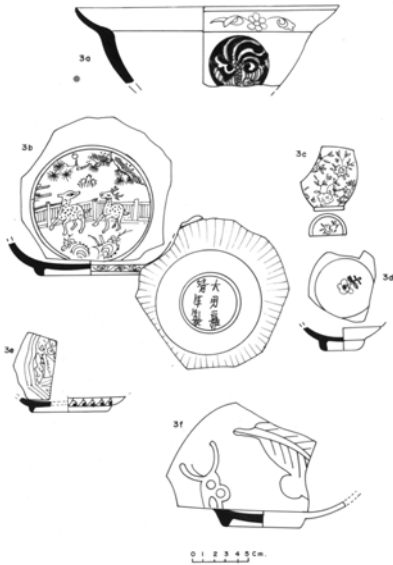


Fig. 3-1

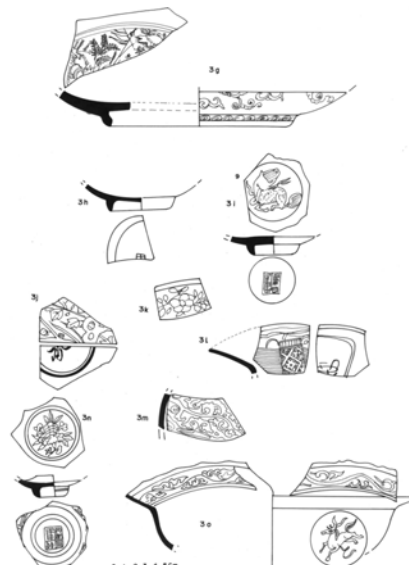


Fig. 3-2

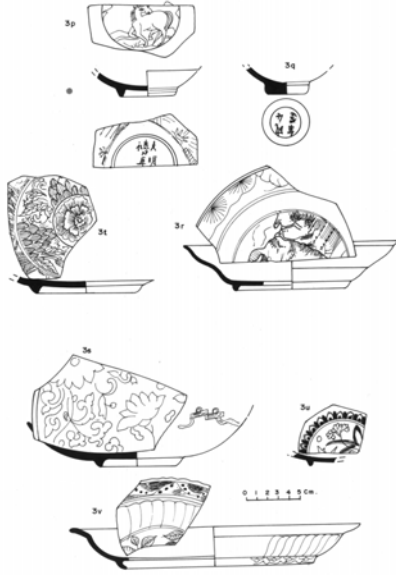


Fig. 3-3

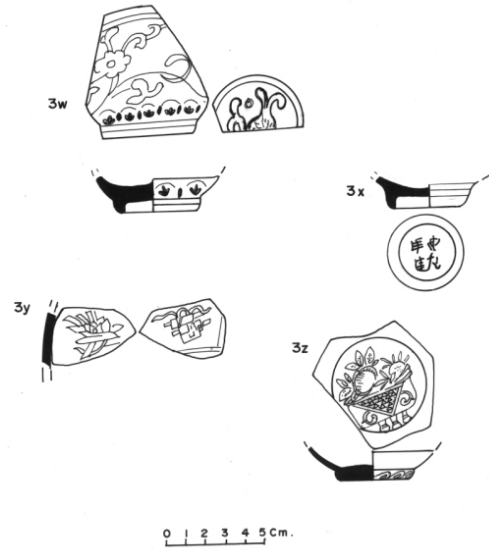


Fig. 3-4