CHAPTER IV

RESIDENTIAL AND SERVICE SECTORS OF THE FORTRESSES

The school of *Parasara* says that distress due to bad fortifications is a serious evil, for it is in fortified towns that the people found a secure place. They are powerful defensive instruments in times of the danger for the king. *Kautilya* says that it is in the fort that the treasury and the army are safely kept, and it is from the fort that secret wars (intrigue) is controlled over one’s partisans and the upkeep of the army, the reception of allies, and the driving out of enemies and of wild tribes are successfully practised.\(^\text{74}\)

A. **St. Angelo Fortress and Portuguese Architecture, Cannanore**

The Portuguese were the first to introduce European styles in the architecture of Kerala. They established fortified settlements and warehouses at strategic points, along the sea routes that developed into towns. The Portuguese also built many churches and

monasteries dedicated to saints. Even the military bastions of the fort were named after the saints. The churches themselves were constructed with indigenous materials using local techniques. The settlements were well planed by demarking large number of dwellings within the fortified settlements with well-defined streets, drainage and trees. Well laid out localities with shaded paths and vistas are seen in settlement areas. The buildings constructed by the Europeans in India demonstrate the military, political and cultural superiority of the west. The locally available materials like laterite, timber, lime, etc. were used. The potential aspect of exposed laterite works is made use of in many buildings. Construction features like timber trusses, Mangalore pattern tiles, ceiling tiles, pilasters, buttresses, arched openings, and etc. synthesize with traditional style are best seen in the Bungalow architecture. Large rooms with high ceilings, shaded verandahs around, louvered shutters etc, provided thermal comfort within the interiors during the hot and humid climate. Indo- European architecture is an important phase in the architectural history of Kerala. The works stand as excellent examples of native craft skills adapted to the needs of new design.

i. **Ancient Portuguese Drainage System**

During the regular conservation work, two ancient drainage systems were identified within the northern and southern parts of the fortress and part of the fortification wall on the northwestern side of the main fortress. It was decided to systematically and carefully expose the structures to ascertain its importance. The drainage on the northern side was exposed to a length of 50 cms in the east-west orientation. It has a width of 45 cms and depth of 50 cms. The drain made of laterite stone with lime mortar masonry is covered by a series of granite slabs of average 76 x 35 x 14 cms in size. *(Pl.48A)*

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76 *Ibid*, p. 68.
The smaller drains from south and north are connected to the main drain. On the eastern end, the drain is covered with a cast iron slab. (Pl.48B) The second drain over the fort wall on the northern side was exposed to a length of 25 meters and a width of 23 cms and depth of 22 cms. The drain has a laterite stone masonry and is covered by a series of stone slabs (40x30x12 cms). The drain leads to a soak pit of 1.5 mts depth (Pl 49 A)\textsuperscript{77}

ii. Captain’s Bungalow

Inside the fortress a bungalow built in an elevated and well protected area looks like citadel where the Portuguese fort Captain must have lived in. Hence it is built in an elevated portion with domical watch tower in the eastern sea side (Pl 53 A). Below this building we could also see underground passage (Pl 45 B) crossing to the other side of the building. In the rear side of the building we noticed the storeroom (warehouse). The bungalow is in triangle shape with 7.50 x 27.60 x 27.60 meters built on 6.30 meter high, from ground level, and the building looks like a ship from far away. The bungalow is built with laterite and lime plasters. Inside it is very cool with tiled roof (Pl 52 B). The watchtower at eastern side with domical roof is measured 2.85-meter high, 1.25-meter broad inside the watchtower. This particular type of domical watchtower is noticed in British period. (PL. 43 A)

iii. Chapel On plan it is rectangular measuring 14.85-meter in length and 7.20 meter in breadth. The height of the Chapel is 8 meters and facing towards south with gabled roof, over which probably it was provided with tiled roof for water tightening as seen in old photographs. The Portuguese Captain and soldiers, priests, and other dignitaries who lived inside the fortress could have used this chapel during its hey day. It is believed that it was

dedicated to St. James, \(^78\) (Pl.39 A, B, & C). It is believed to be one of the earliest Portuguese churches built in India. The Portuguese introduced the European style in church architecture of Kerala. Churches were built in towns, settlements and road junction and were usually marked by conspicuous crosses. The Portuguese designs introduced many innovations in Kerala churches. The image of saints in wood adorned the niches. Pulpits were erected and altarpieces were ornamented in an impressive manner. Ceilings and walls were painted with religious themes. Arches both round and pointed were adopted for openings with stained glass. The plasters and buttresses were used to strengthen the walls. A central tower dome comes at the center of the transept in the classic form of European architecture. The gothic arches, the pilasters; buttresses the classic moldings and stained glass windows are the other typical features of European churches\(^79\).

iv. Warehouse (Store)

It is located on the rear side of the building no 6 i.e. Captain’s bungalow. (This is the present ASI office). It is provided with one door and two windows. The doorway measured 10.80-meters’ length, 4.10-meters’ breadth, with 4.20-meters’ height. The windows are 54 x 60 cms provided with iron grills. (Pl.45 A) This must have been used as warehouse to keep the commodities in safe custody until the arrival of Portuguese ships from Lisbon and from here they were loaded to ship them for their export to European countries. Warehouse for storing provisions is situated just near the main gate in order to look after for watch and ward always\(^80\).

v. Newly Discovered Ancient Fortress:

\(^79\) *Ibid*, pp. 67-68.
\(^80\) Opcit.P.85.
The newly excavated fortress roughly triangular in shape is located outside the main fort on the northern side of the main moat facing towards the landside in a northwest direction. The remains of ancient fortification walls were visible at certain places as it was completely covered by a thick growth of vegetation and earth deposit. The vegetation growth was cut off and the deposit of earth was carefully removed. The southeast wall of the fort that is parallel to the main moat has a length of 106.30 meters and is lower than the other walls. The west wall has a length of 77.60 meters and the north wall has a length of 81.45 mts. (Pl.50 A, B) The fort is surrounded by dry moat on either side. The wall is about 3.75 mts above the main moat. This particular dry moat must have been used for repairs of the small kind of boats and to replace any parts lost in the storms. Boats were repaired on the dry moat fearing they would be set on fire. They refused to have them brought on land and covered with cadjans as was the custom of the country, and when they were ready were put straight back into the sea where they could be protected by the fortress security.\(^{81}\) The fortress wall is constructed with dressed blocks of laterite stone on a laterite outcrop. Also the wall is strengthened by double line of fortification filled by earth in the core to withstand the enemies’ attack. The height of the fort wall is 6.50 meters. On top of the northern fort wall a series of foundation of battlements to keep cannons facing towards the landside exposed. The inner side of the western wall of the fort wall was exposed and part of the ramp leading to the top of the rampart wall on the northern end was exposed. In the inner area two trenches of 4x4 meters each were laid to know if any structures existed. It was found that the structures have been destroyed and bricks and brickbats have filled up the whole area. A well sunk on the western wall having a depth of 8.00 mts was also exposed. An arch on the outer face of the western wall was noticed but no evidence of its opening in the inner side is found (Pl.51 A, B). A four square pillar base built of laterite stone has been noticed inside the main moat.

\(^{81}\) Ibid, P.85.
on the north west, which probably suggests that the four pillars could have been used for supporting the draw bridge connecting to the main fort with newly discovered ancient fort not as cantilever bridge but as structural one. In conclusion this newly exposed fort wall might be a later addition to give an extra protection and strength to the main fortification to defend the attack from the landside.

vi. Pottery and other Antiquities of Cannanore Fortress.

Among the pottery finds the presence of jar handle fragments are very prominent. (Pl 59 A, B, C). A large number of celadon or east Asian ware with floral designs are also found in St. Angelo fortress (Pl.57 A, B, C) Large number of red ware consisting of small and large pots, long necked wine jars (Pl 55 A, B, 56 A, B, C) porcelain wares consisting mostly of plates cups, bowls, etc. were also obtained. Glass pieces of bottles, iron objects like fragments of spears, chain, nails, (Pl 58 B, C), points, chains and cannon balls of iron were recovered. An interesting fragment of a broken terracotta plate in gray colour with Chinese letters (Pl 54 A, B,) shows the overseas contact between China and Cannanore fortress. A lime stone statue depicting a Warrior on the horse also is found. (Pl. 58 A).

B. Residential remains of Bekal fortress

The architecture inside the Bekal fortress reflects the social condition and the status of a person who lived inside the houses. They are not houses for ordinary people. Apart from its economic aspect, the position or status in life also is important. Inside the main wall there is an inner fortress or citadel and surrounding this were the various buildings required for the accommodation of the troops and also magazines, tanks, and wells. In Bekal fortress residential houses for the commandant or massive round towers were built upon the wall of the main works on the least accessible side. It is said that the foot print stone found on the
mud had been removed and which is presently worshiped in the main gate Hanuman temple believed to have been discovered from here.

The four seasonal excavations at Bekal fortress have yielded different types of secular and religious structures such as Residential Blocks for the Military Officials staying inside the fortress, Durbar hall, built during the period of Nayakas of Ikkeri, mint houses, and a palace complex, probably constructed during the reign of Tippu Sultan, and a temple complex. All the structures were exposed carefully and simultaneously conservation of the structures was also attended. The excavation yielded more than 1000 antiquities which include copper coins of different dynasties, gold ornaments, and terracotta seals, copper die case and terracotta seals of the Vijayanagra period.

The excavation revealed the evidences for the historical remains of military and paramilitary settlements inside the fortress. From the excavation point of view, the site was divided into three sectors viz. **BKL I, BKL II, BKL III. BKL-I** is located on the western side of the inner fortification. For the convenience of the excavation BKL-I is again divided into two, BKL IA and BKL-IB.\(^8\)

i. **BKL- IA**, located on the southwest portion of the inner fortification has yielded interesting secular structures built in laterite blocks. Another significant find from this sector is the mint house or Huzur of Tippu Sultan. Numerous ovens (kiln) were also discovered from the southeast corner of this structure. Five structural remains facing north were unearthed from this sector.

The residential buildings are planned in grid pattern having criss cross street, lanes and bylanes oriented in north-south and east west directions. All the houses exposed have central courtyards with side aisles and inner verandas forming inner living rooms. The houses are approached by flight of stone steps from street level. The interior of the houses has

provisions for kitchen and toilet facilities. The general pattern and plan of the house are reminiscent of the typical Nalukettu houses of ancient Kerala.

**Str-I.** It is a residential complex having interconnected rooms. (Pl.11 B) Entrance is from northern side as indicated by flight of steps. The northeastern corner of this structure is partly damaged. The whole structure measures 11.50 x 9.20 meters. The long hall on the northern side measures 5.60 x 2.75 meters, square and circular shaped postholes are visible on the southeastern corner of the stone alignment. Two square cells 1 meter long with a floor made out of mud on northeast and south of the structure might have been used as bathrooms. A boundary wall of 7.25-meters in length in the north-south direction with a gateway in the center has been unearthed to the west of structure-I.

**Str-2:** is located in the northwestern corner of the sector IA (pl.12A). This structure is identified as the ‘mint house’ of Tippu Sultan. The square structure built of laterite blocks of varying sizes measures 15.50 x 19.05 meters and two to three courses of laterite blocks have been noticed on the east and southern side of the structure. Entrance is from northern side, and is provided with a flight of steps leading to the guardrooms on either side. Aisles and verandas surround the central courtyard measuring 5.80 x 3.10 meters, a small square room on the western side measures 4.85 x 2.20 meters. The central courtyard is followed by a tired structure with a long hall having spacious verandas. The brick bonding method of the walls of the hall is in header and stretcher order. More than 300 coins and ingots have been unearthed from this structure. Two ovens (Kiln,) were exposed on the northeast corner of the structure measuring 0.50 x 0.40 meters. The finding of large number of coins and ingots and ovens indicates that minting of coins was done inside the fort area and that this structure
served probably as a mint house. The northwestern side of str-2 is connected with str-3 as evidenced by a 17.0-meter long single row of laterite wall.

It may be assumed that the fortress area housed the Huzur of mint of Canara during Tipu’s time. Interestingly the excavation yielded the mint or Huzur of Tipu Sultan in trench no G6 and G8. The exposed series of ovens (Kiln) in the area and the structure may presumably serve as mint house. (Pl 9 B)

**Str 3:** Structure 3 is a house complex facing north, which might be a part of the mint house. It consists of a spacious courtyard with 10.0 meters long and 6.40 meters wide (Pl12 B). A single room measuring 5 x 3 meter is located on the west of the courtyard. Access to the room is through east, by a flight of steps. On the center of the courtyard, a flight of steps leads to an elevated structure of long hall 9.30 x 3.20 meters with verandas on either side.

**Str 4:** This structure is located on the east of the mint house. It is a square structure having stonewalls on three sides and an opening on the south. Two pear shaped ovens are exposed on the southern side of the STR 4 measuring 1 x 0.50 meters.

**Str 5:** Structure 5 is a two-roomed residential complex with a massive periphery wall on north, east and southern side (Pl 13 A) It faces north and the entrance is provided with a flight of steps. The whole structure measures 11.20 x 2.30 meters. It consists of a verandah, long hall and a single room. The hall and room measure 7.20 x 2.65 meters and 3.10 x 2.45 meters respectively. The periphery wall is 0.7 meters thick.

**BKL-IB** is located on the northwest of the inner fortification and oriented on north-south direction. A massive structure identified as the palace complex was unearthed. It is a three tired rectangular structure constructed with laterite blocks. Thirteen courses of laterite block were exposed on the western side of this massive structure. A series of house complex
has been unearthed on the west of palace complex. These houses are in *chatusala* or *Nalukettu* pattern with stone paved floors and interconnected drains with sanitary arrangements.

**Str-I** is located on the northern side of sector IB. It is a square platform rising to a height of 1.40 meters from the ground level and has length of 6.50 meters and 5.50 meters’ width (Pl 13 B). Nine courses of laterite blocks were noticed on the southwest part of the structure, the floor is paved with laterite blocks measuring 40 x 20 x 12, and 45 x 25 x 10 cm. Two phases of structural activities can be traced from this structure. A single course of laterite blocks is arranged in a circular fashion. Fifteen blocks of stones are visible. A drain is located on the southeast corner of the structure-I. It has an inlet on the western side, which leads into the square tank measuring 1.35 x 35 x 0.50 meters. The covered outlet is located on the east of the structure, oriented in north-south direction. Floor of the tank is paved with small laterite blocks. In front of this structure, there is a monolithic laterite pillar having a height of 1.50 meter.

**Str-2.** A three-tiered massive rectangular structure is located on the south of the structure-I (Pl 14 A) constructed with laterite blocks measuring 17.20 x 12.70 meters. The lower most platform measures 0.70-meter in height, while the middle level is 1.00 meter in height and the topmost platform is 1.35 meters in height from the ground level. The width of the lowermost platform is 3.75 meters, while the middle and top platforms measure 3.85 and 5.90 meters respectively. The entire structure is north oriented and the topmost level forms a rectangular structure measuring 18.35x 5.09 meters. The middle and the lower rectangular area measures 8.35 x 3.85 and 18.35 x 3.75 meters respectively. The second tier is adorned with three *bhadra* projections on the northern side. The top level is paved with laterite
flooring. The square base impressions over the platform, suggest that originally, the structure was provided with wooden pillars, surmounted by a superstructure, possibly with tiled roof. The topmost tier is still preserved in situ, with a wooden base, which incidentally proves the proposed hypothesis (Pl. 9 A). The excavation also revealed thirteen courses of laterite blocks on the western side, indicative of the massiveness and stability of the superstructure that existed originally.

**Str-3 & Str-4** Structure 3 is located on the northwest of palace area. It is a square structure with a central courtyard (pl.14 B). The whole structure measures 9.20 x 9.70 meters, while the central courtyard measures 3.85 meters in length and 3.25 meters in width. On the eastern side of the str-3, a series of laterite structure with sanitary arrangements are seen. An open drain located on the north of the str-3 to drain out sewage from the houses, oriented in northwest direction has a width of 0.20 meters. In front of str-3 stood the str-4 (Pl 15 A). There is a long hall of 9.20 x 4.25 meters with side aisles.

**Str-5** This structure is located to the south of str-3 and 4. On plan the structure is reminiscent of the traditional *Nalukettu* house pattern of Kerala (Pl 15 B). Entrance to the house is on eastern side and is provided with a flight of steps. The square planned structure has 18. 23-meter’s length and 17.20 meters in width and thickness of the wall ranges from 1 meter to 0.95 meter. Four to six courses of laterite blocks are seen from the ground level. The house has a stone paved central courtyard measuring 5.2 x 5.2 meters. The laterite blocks paved on the courtyard have varying sizes like 50 x 30 x12, 45 x 22 x 10 and 55 x 34 x 13 cms etc. Closed drains are provided on the northern portion to drain out the rainwater from the open courtyard. Rooms of different sizes surround the courtyard on the northwest corner of the structure. A room with a stone paved floor of 4 x 1.60 meters with drainage facilities
probably was used as a bathroom. A small room is located on the northwestern corner measuring 4.20 x 2.0 meters.

**BKL-II** This sector is oriented to north south direction and is located on the Northern side of the inner fortification. A watchtower on the northeast part of the fort cuts the sector II into two halves. The cutting on the north of the watchtower exposed the remains of an imposing royal hall facing south with a raised platform. This structure is identified as the Durbar hall of the Ikkeri Nayakas. Excavation on the North West of watchtower brought to light a temple complex.

**Str-1 Temple**: Structure I is located on the north of the watchtower. Facing east, this is probably a temple and is a significant massive structure with square *mandapa* (*Pl 16 A*). The structure measures 15.75 x 9.55 meters. It is provided with a flight of steps. The *sanctum sanctorum* square on plan is located measuring 4.44 x 3.90 meter. The base of the *sanctum* has nine courses of laterite blocks. The *sanctum* is preceded by a rectangular *mandapa* with a cell on the southern side measuring 9.50 x 6.20 meters. It is followed by another *mandapa* with a concealed drain in the middle. Northeastern side of the *mandapa* is preceded by a long square stone, and a paved hall measuring 11 x 4.20 meters. The entry to the temple is on the eastern side and a closed water chute (*pranala*) was exposed in the *mandapa*, which served to drain out water from the area. According to local legend the footprint stone found on the mud had been removed and installed near the Hanuman temple and is being worshiped even today.

**ii. Str-2 Durbar Hall** The structure is located in between the southern side of the watchtower and magazine building. Excavation in this area brought to light the remains of a
Durbar hall (Pl 16 B). This imposing long rectangular hall of 40.22 x 9.50 meters is built of huge laterite blocks of varying sizes. The elevated floor of the hall is paved with laterite blocks. The structure facing south has a row of postholes on two sides. The central portion on the north has a raised platform measuring 5.90 x 5 meters. There are seven courses on the west and six courses on the northern side. An outer wall of later addition supports western end of the platform. The outer wall was probably added at a later period in order to bear the weight of the superstructure. The eastern side of this platform has a square antechamber with an opening in the east. There is a toilet block on the western part of the structure. The sewage from the toilet block was discharged through a channeled granite stone of 1.35x 0.55 meters into a circular tank. This was scooped out in laterite bedrock (Pl 8 A, B). The excavation also revealed a semi circular well in the northwestern corner of the Durbar hall indicating the hygienic standards of sanitary arrangements. The exposed Durbar hall may possibly belong to Nayakas of Ikkeri. It is interesting to note that according to Kannada records, the Nayakas of Ikkeri had control over this area and Bekal was their fortress on the southern part of the kingdom during 1640 AD of Sadasivanayaka’s period. The exposed complex resembles and recalls the plan of the Daria Daulath palaces of sultans at Srirangapattanam in Karnataka.

BKL-III STR I This sector is located on the eastern side of the inner fortification. The excavation in this sector has yielded the remains of a residential complex. It is built on laterite bedrock. On plan and execution this structure closely resembles a nalukettu, traditional house pattern of Kerala. Laterite blocks of different sizes were used for the construction of walls. Entrance is from northern side and the structure measures 11.70 x 12.60 meters. (Pl 17 A) The house complex has an open courtyard in the middle from which access has been provided to various rooms. The central open courtyard measuring 6.90 x 7 meters was provided with a closed drain on the northeast corner. There is a small verandha,
located in front of the courtyard 1.30 x 6x20 meters. Besides there are two rooms of 7.20 x 2.30 meters and 7.60 x 2.70 meters on the west and south of courtyard. A square structure on the southeast corner of the courtyard probably served as the bathroom. On the north of this structure there is an isolated rectangular platform measuring 3.80 x 2.95 meters.\textsuperscript{83}

\textsuperscript{83 op.cit., pp.12-28.}
iii. **Secret Tunnel at Bekal fortress:**

During conservation works while tracing for drainage outlet from inside the fortress near the moat in front of the entrance on the northern side, accidentally a chunk of the rampart wall at the top gave way exposing underneath at a depth of about 4 meters a pointed and inverted V shaped arch entrance (Pl.10 A, B). In order to understand the nature of this partly exposed structure a systematic analytic approach was carried out by cutting a 10 x 6 meters trench to remove the earth above. This was taken up with an aim to expose and document the same. The arched gateway on the outer fort wall aligned in the south-north direction has 1.17-meters in height and a width of 0.94 meter at the opening on the moat side was exposed. A passage of 5.17 meters in length and gradually increasing in height to 1.30 meter on the northern end was exposed. It is built of a well-dressed laterite stone having laterite stone floor sloping towards south. On the northern side the passage opens to sky just after the width of the outer fort wall. Adjacent to the opening on the west along the fort wall there are ten steps made of laterite stone leading to the top having a width of 30 cm. After this opening the passage continues taking a curve towards northwest orientation running to a length of 2.36 meters with 1.30-meters height and 1.20 meters width. The passage slowly leads to the higher ground with two steps cut on laterite outcrop running to the complete width from wall. The nature of the structure indicates an approach way from inside the fortress area leading to the moat probably for quick escape and for transporting material from the sea to the fortress through the moat.

iv. **Pottery, Coins, and other antiquities of Bekal Fortress:**

Potteries and more than one thousand antiquities were unearthed during the excavation. The pottery from Bekal comprises four major fabrics, namely, red ware, buff ware, black ware, and glazed ware. The nature of pottery ranges from medium to fine. All pottery types are wheel made. The clay is well levigated. However, a small percentage of
pottery which is not consistently fine contains fine gravel and has sand particles as tampering materials. Some of the vessels have burning marks on the exterior. Paintings on the red wares are restricted to parallel lines over the shoulder. The types available in red ware are dishes, bowls, medium sized vases and storage jars. Mostly it is treated with red or dull red slip. Some wares are characterized by mottled and polished surfaces. Some pots have burning marks on the rim and the body, which indicates that the vessels were used for cooking purpose. Buff wares are also made out of well-levigated clay and are of medium fabrics. Some of them have coarse fabric and gritty rough surface. There are three types of glazed ware, unearthed from Bekal. Among them predominant one is porcelain (Pl 18, & 19, A, B) which can be classified into two, porcelain of milky white color and plain glazed ware of late medieval period. The former is of thin fabric and is decorated with painted designs in blue. It may be assigned to 17th –18th century (Dhavalikar, 1999) Bowls with ring base are the predominant type. The second group comprises porcelain of more degenerative type. They have coarse sandy fabric and greenish white glazed surface. Their crackled surface may be due to the salt glazing or the thermal expansion and contraction of the ceramic at the time of manufacture. The designs are in dull blue or dull green colour. Similar pottery has been reported from Kottapuram near St. Anjelo Fort in Cannanore district. The third variety represented by a single potsherd, is ‘Enameled ware’ of late 18th century. A few potsherds of Iron glazed ware were also found from the upper level of BKL-I and BKL-II. The Iron glazed ware has a brownish or chocolate-brown gaze surface; two different fabrics of this ware have been identified. One has whitish core of sandy friable texture and the other has a reddish earthen body.\footnote{Ibid., pp.29-31.}
**Coins:** Excavation also brought to light the remains of furnace, kiln for minting coins, copper coin mould, copper ingots (700 nos) lead mould, 554 copper small coins, damaged and defaced coins, paise coins of Tippu Sultan, Puducheri Silver Panam, British East India coins, and terracotta seals with Nagari legend etc., Majority of coins are in corroded condition and the symbols are not visible. A few of them were selected from the collection which bear the symbols of elephant to right, elephant turned to left with uplifted tail, double crossed lines with dots, Kanarese numerals, birds, flowers wheel design, goad, deity, square petal led flower etc. the weight standard ranges between 1 gm to 3 gm and the diameter is in between 5 mm to 13 mm. Obverse of all these coins shows an elephant with thinner body, slender legs in different postures. The reverse bears the symbol of double crossed line with dots. Some of the coins bear the Kanarese numerals 2, 9, 18, 19, 22, 24, and 31 within beaded circles and crossed double lines on the other side (**Pl 21 A**). These coins were cataloged as ‘anonymous issues in uncertain mint’ (Colin, etal) Because of weight standard diameter and symbols of these tiny copper coins one can surmise that the ½ cash coin and one cash coin of Tippu Sultan were minted in Bekal fort (**Pl 20 B**). Some scholars suggested that the smaller copper coins bearing the higher face value show that this was done with the deliberate intention to raise the value of the coin (Henderson, 1987).

Tippu Sultan had very extensive copper coinage of his own, minted from other mints. The standard types are 1 paise, ½ paise, ¼ paise, and 1/8 paisa with elephant symbol on the obverse and the mint name in Persian legend on the other side. Fifteen such coins similar to paise coins of the Tippu Sultan were found from Bekal. (**Pl 21 B**) ½ paise and ¼ paise with mint name (Feruk Mint) are other important pieces excavated and retrieved. Symbols of wheel, deity, bird, and flower designs are seen on some tiny coins. Coins are completely corroded. The weight is between 1 gm to 1.50 gm and the diameter is 5 mm to 9 mm. It may be the tiny cash coins of Nayakas (**Pl 20 A**). Only two silver coins were found from the site.
It is identified as French Puducheri *Panam*. (Pl 22A). One is counterfeit, identified by T.Satyamurti (Satyamurti; 2000) another coin is 2.3 gm weight and 13 mm diameter bearing the letter ‘P’ for Puducheri. The legend ‘*Fran-Kempani*’ in Persian script is seen on the obverse of the coin. Eleven copper coins are found in the surface area. Bale marks with letters V E I C and the year 1731 and 1791 on the one side and picture of the balance are seen on the other side of all the coins. These are the Bombay Presidency British Indian coins. (Pl 22 B)

**Coin Moulds (Pl 34 C).** An important discovery from Bekal fortress is a circular copper and lead coin mould. The figure of an elephant is seen on it. Another piece is square shaped lead mould, with depression on the center.85

**Terracotta Seals (Pl.23 A).** Five terracotta seals were discovered from the site. Three of them are in circular shape with 2.20 cm diameter and a curved projection in the backside. They are recovered from sector- II having three-lined legend inscribed in Nagari script where only one is clearly identified. The legend reads as ‘Sri Vira, Krishna Pra Tapa raya, while the other two seals recovered from the site, bears the Persian letter (Hai) which is the initial letter of Hider Ali. However no coin has been found bearing the letter ‘Hai’ from the site. Tippu Sultan has not recorded his own name on any of his coins. The initial letter of his father’s name Hider Ali in Persian letter is frequently met with the gold and silver coins issued from other mints.

**Terracotta Beads (Pl 24 A, B, 30 B).** About ninety beads of different size and shape were recovered from the site in which forty-eight come from sector I, twenty from sector II, twelve from sector III, and the rest of them from surface collection. Most of the beads were made out of wheel and, mould and a very few are hand made. Some of the beads show irregularity in

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surface. This shows that they were made out of hand. The fabric and colour of the beads vary from fine to medium depending on their varying oxidizing conditions and ingredients used. The gray colour of the beads denotes their reduced firing condition.

Lamps (Pl 25 A). Lamps of significant size and shape were found. Sector I yielded thirty-five, sector II has fourteen and III eleven. Most of them are intact and a very few are fragmentary. Almost all lamps have soot marks in and around the rim, while some with traces only. They are made out of well-levigated clay and have a fine to medium fabric; they have a featureless rim and a discular flat base. A fragmentary pinch dot at the lip of a lamp having thick soot marks its regular usage. It has some incised designs on the side of the rim.

Spouts (Pl 25 B). Thirty-one fragmentary spouts of hookah were recovered from the site, of which thirteen are from sector I, eight from sector II, and six from sector III. Almost all of the specimens were wheel made. Incised lines and concentric groove designs can be seen on them. The fabric is from fine to medium quality finish. Most of the specimens are well fired.

Toy Wheel Fragments (Pl 26 A). Seven toy wheels have been identified from the site of varying thickness and diameter. Among them a solitary piece has a prominent hub. Most of them are of fine fabric and well fired. The thickness ranges from 0.3 to 1.8 cm and diameter ranges from 1.5 cm to 4.1 cm. A thin-sectioned toy wheel is most attractive with its cream slip.

Hopscotch (Pl 26 B). Hopscotch’s of different diameter and thickness are found from excavation. The circular shaped play object is available in two varieties like hopscotch made out of moulded clay and from pottery fragment. All of them are of medium fabric and are
well fired. The thickness varies from 0.9 cm to 1.8 cm and diameter ranges from 0.2 cm to 5 cm.

**Sling ball.** Only a single terracotta sling ball has been found during the excavation from BKL-I. It is of fine fabric and well fired with 1.5 cm diameter.

**Tiles.** A few roof and floor tiles were recovered from site. They are of different sizes and thickness. Most of them are intact. (Pl 27A)

**Glass Objects (Pl 28 A).** They consist of some etched beads of globular and tubular types, blue colored fragmentary glassware, glass bangles etc.

**Stone Objects (Pl 28B, 29 A, B, C,).** Stone objects recovered include beads of precious and semiprecious variety, balls, mullers and pestles. Around ten stone beads were found. They are mainly of the quartz variety. Stone balls of varying thickness, dice are also recovered.

**Metal Objects.** Metal objects from Bekal include gold, silver, copper, bronze, and lead.

**Gold Objects (Pl 31 A).** Gold objects belonging to the period of Tippu Sultan are noteworthy. A gold foil having an engraved human figure has been recovered from the site.

**Silver Objects. (Pl 31 B).** Around twenty-five silver objects have been unearthed from Bekal. The objects were in the form of rings, talisman, pendent, teeth pick, and stylus etc. Silver specimens were found in all three sectors.
Copper Objects (Pl 32 A, B, C, D, 33 B, 34 B). More than one hundred copper antiquities have been unearthed from Bekal. They are recovered from all the three sectors. Many of them are fragmentary and indeterminate objects. The objects identified were nails, bangles, buttons, fishhooks, rings, talismans, ear studs and unidentified copper objects. Most of the copper nails have a square topped flat head and a tapering end. The length varies from 1.2 cm to 4.2 cm. Around fifteen copper rings were recovered from the site. Almost all of them have a round section.

Bangles and Bracelets (Pl 33 A). Different types of fragmentary bangles have been found with designs. A solitary bracelet having a knot at one end is also found.

Tooth Picks and ear Cleaner (Pl 33 C). Some of the specimens found are attached with a copper chain. The ear cleaners are long rod like having a long flattened curved edge and are circular sectioned, while the toothpicks are rectangular sectioned.

Rattles. The rattles that have been found from the site have a loop on one end. Some of them have wide opened tips and some are bud shaped with partly opened tips.

Talisman (Pl 34 A). Another noteworthy copper finding from the site is the talisman, of varying size and shape. Some are square box like having an opening in the sides and are filled with folded copper plates. A tubular shaped talisman with a knob on top, having a wider and a narrower end is recovered. An incised marking can be seen in Roman letters-XII. Besides a good number of folded copper plates have been found, probably placed inside the talisman.
Brooches and hooks (Pl 35 A, B, C). Several brooches and hooks of oblong and round sections were found. They are with loops on both ends. Fishhooks were also found from the site.

Bronze Objects (Pl 36 A, B, C). The excavation yielded a very few objects from the site. They include a miniature standing human figure, rectangular dice and rings.

Lead (Pl 36 D). It includes small size cannon balls, mould, and other indeterminate objects.

Stone Lingam: (Pl 30 A). A miniature stone lingam with pedestal has been found, which must have been used asotive lingam.

Miscellaneous Objects (Pl 27B). Several miscellaneous objects were excavated from the site. They are mainly toys, amulets made of terracotta, and objects made of copper, lead, bronze, silver, stone and glass. Majority are the copper coins of the Hyder Ali, Tippu sultan and Mysore wodeyars. It is inferred that the fortress area was in continuous occupation from the days of Nayakas of Ikkeri to the British and witnessed various kinds of structural activities and antiquities.\(^{86}\)

\(^{86}\) Ibid., pp.54-88.