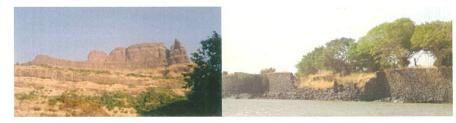
study of forts



within the Mumbai Metropolitan Region - Vol.3

MMR Heritage Conservation Society

prepared by

Academy of Architecture, Mumbai





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a c k n o w l e d g e m e n t s

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introduction

Map of Forts within the Mumbai Metropolitan Region



The fundamental duty and responsibility of every citizen of India... to value and preserve the rich heritage of our composite culture.

- Role of citizens as stated in the 42md amendment to the Constitution of India

Mumbai's strategic location in terms of its geo-political situation was always considered the driving force towards the establishment of several trading outposts in the form of fortified sites along its western coastline. An opening along this coastline was historically considered to be the backdoor entry leading to territorial superiority over a large chunk of the continent due to the location of several old ports and shipbuilding yards. The insurmountable Ghats and the intimidating Konkan coastline, made any trade or basic navigation possible only along the estuaries or river mouths opening out into the sea. Hence these creeks were fiercely guarded and every promontory capped with defensive outworks, which also doubled to form trading ports. Similarly, trade and communication from the plateau towards the coastline was undertaken through the mountain ranges by means of hill passes. In order to control these passes and to keep these important routes under constant surveillance, forts were built nearby and became excellent look out points along the East-West nearly parallel hill range along the coast.

Incredible though it may seem, there are as many as 10 forts within the dense urban fabric of Greater Mumbai and more than 15 forts in the Mumbai Metropolitan Region (outside the MCGM limits), jostling for survival. While most of these were mere trading outposts and storage depots, they all featured in Mumbai and north Konkan's checkered history and are records of several power struggles. Some of these minor forts were flashpoints of this struggle for regional supremacy and were witness to the downfall of empires. They serve as testaments to the colonial zest of the Portuguese, the territorial forays of the Siddis and the regional supremacy of the Marathas. It is interesting to note that some of the great empires that came to India lost their footing post losses of these very forts in war. Functional redundancy, ignorance about the historic value and disrepair has led to the degeneration of these monuments, calling for a need for their preservation.

The project 'Study of Fort within the Mumbai Metropolitan Region', supported by the MMR – HCS and prepared by the Academy of Architecture, was undertaken for the purpose of first identifying these structures within the regional limit and then proposing guidelines for their preservation. Volume 1 prepared in December 2003, comprised of brief inventories of all the 14 forts within the scope supplemented with stylistic classification based on the architectural articulation and topographical considerations. In order to better understand the background generic information about the forts, it is urged that Volume 1 be also referred to.

Volume 2 of the study consists of detailed cataloguing of all the 14 forts, with documentation and analysis of the issues faced by each fort with special emphasis on 'zoning guidelines' and 'proposed grading'. Each fort is inventoried by covering its locational information, its historical significance, the architectural and topographical importance, material and construction methodology. The concluding cards of the inventory look into each fort's present status and suggestive guidelines are provided. Chapter 3 of Volume 2 on 'Planning and Policy Framework' lists the development control zones that each of the fort falls into, also noting the implications of such area control guidelines. A set of zoning guidelines are then prescribed to regulate or in some cases restrict the growth in and around the forts. The section on proposed grading and notification of features makes a case for listing of these forts as part of the local, regional or national heritage list. Chapter 4 on 'Conservation recommendations and guidelines for preservation' consists of generic issues plaguing all the forts and specific remedies for repairs and restoration.



inventory of forts

Recording is one of the principal ways available to give meaning, understanding, definition and recognition of the values of the cultural heritage.

-- Principles for the Recording of Monuments, Groups of Buildings and Sites,11thICOMOS General Assembly, 1996



inventory of forts

In order to provide a base for preparing and then implementing conservation strategies for historic monuments and sites, it is essential to prepare a catalogue of information in the form of the historical significance, architectural expression, documentation and current issues. This section consists of the individual inventories of all the fourteen forts within the Mumbai Metropolitan Region. The following areas are covered within this comprehensive catalogue which is a current and past record of the forts that can eventually form part of enlisting the sites as historic monuments within a local, state or national register.

LOCATIONAL INFORMATION

This card deals with the location and access of each fort with a unique reference number to facilitate identification of the historic site. For instance the reference number for Karnala Fort is FT/RD/HF/KN/5/2004, where 'FT' stands for the architectural typology of it being a fort, 'RD' stands for the district Raigad, 'HF' denotes that it is a Hill Fort, 'KN' stands for Karnala, while '5' is the inventory card no. and the compilation date is 2004. The card also consists of information such as the geographical co-ordinates, District where the fort is located and additional information in the form of Access & General information. A classification of the fort in terms of its size and topographical considerations is also provided for better understanding along with its present usage.

SIGNIFICANCE OF THE SITE

The significance card lists the historical, topographical and architectural significance of the site, making a case for its heritage protection. The section on 'Historical perceptions' gives an indication of how the site has been perceived through the historical timeline, supplemented with a concise chronology of events. A current record of the remnants would also ensure that the elements to be preserved are taken note of. The card also lists the construction methodology and materials, all of which are used while preparing the proposed grade and notification of features and provide better understanding of the site's historic integrity.

PRESENT STATUS & STATE OF PRESERVATION

This card generates information about the legal and policy mechanisms that govern the maintenance and upkeep of the monuments. An outline of past repairs undertaken and maintenance measures currently followed is also provided.

RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

A summary of the archaeological inventory covering the topographical features and key architectural characteristics is generated within this card. Such an interpretation assists in the proposed grading of the historic site and facilitates notification of its important features. A tabular form listing the existing factors contributing to the historic integrity of the site is also provided comprising of the location, design, setting, materials, workmanship, feeling and association. On analyzing the present status of the site and understanding the surrounding developmental transitions a set of Zoning guidelines are prepared. The card and inventory conclude by providing the extent of the inscripted site and the date of compilation.



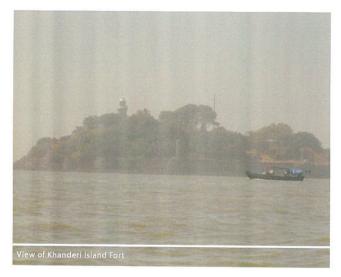
"It was a great mercy that Shivaji was not a seaman, as he might have swept the sea, as he did the land...."

-- DOUGLAS, JAMES, Bombay and Western India – A series of stray papers, Vol. 1, Sampson Low, Marston & Co. Ltd., London, 1893



21 island forts - KHANDERI

2.1.1 LOCATIONAL INFORMATION



Reference no FT/RD/IF/KH/1/2004

Geographical Co-ordinates 18° 52′ N and 72° 42′ E

District Raigad

Access & General Information

Khanderi Fort is built on an island (1.5 mile long x 0.5 mile wide) 17.6 km. south of Mumbai, 3 km. from west of Thal and 5 km. from Alibag. Access to the fort is by taking a boat from Thal beach to a landing jetty at the Khanderi Island. Entry to the island is restricted as it is within the purview of the Mumbai Port Trust and prior permission is required for visiting the fort. The Fort was also known as *Qandil*, which means 'light' in Arabic, but gets its name from the local deity *Khandoba*.

Classification Island Fort – Fortified Outpost

Present UsageLight house and allied activities



island forts - KHANDERI

SIGNIFICANCE OF THE SITE

Historical Perceptions:

The earliest mention of Khanderi Island is by the Portuguese Viceroy, Dom Joao da Castro, in 1538 as a large island two leagues north of Ceul, specially known as the Island of Ceul. The description states the general topography of the island, which comprised of two high hills, about the same size and shape, one facing north and the other facing south. He also mentions a great wide opening between so that from the sea side it seemed like two separate islands full of rocks, which yielded plenty of fuel. On the northeast, at the end of a wide necked opening, was a sandy beach with a landing sheltered from all winds and the presence of a well yielding good water near the shore. Another description by Fryer in 1674 also mentions Khanderi, which was known at that time as Hunarey.

The first attempt to fortify Khanderi was undertaken by Shivaji Maharaj, who at the end of August 1679 sent 300 armed soldiers and as many labourers (other local accounts mention Maynak Bhandari as the supervisor who along with 150 labourers and 4 cannons fortified the island; Shivaji Maharaj is believed to have granted rupees 1 lac for its construction from the revenue obtained from Kalyan and Chaul), and immediately began to raise breastworks at the landing place. Khanderi was made the naval base by Shivaji Maharaj after he realized the difficulty of capturing Janjira from the Siddis. This action rang alarm bells amongst the European rulers who realized the proximity of Khanderi to the Bombay Harbour, as it was only 11 miles south of the harbour and 30 miles north of Janjira, and began to perceive it as a threat which till now was only a place whose produce was fuel that was sent to Bombay. The English claimed it as part of Bombay while the Portuguese as an old settlement. Despite the concentrated attack by the British fleet that was later augmented by the Siddis, Khanderi continued to remain with the Marathas. As a logistical deterrent, the Siddis in turn fortified the nearby Underi Island.

Other accounts of Khanderi are recorded of the Khafi Khan who in 1693 mentions 'Kolaba and Gandiri' as the strongest of Shivaji Maharaj's newly built forts on the seashore. In 1685, Gemelli Careri calls them Underin and Canderin, two forts on the island and continent, a rock with some dwellings of Shivaji's who was at war with the great Moghul and consequently in action against the Siddi. About 1706, Mr. Strutt, Deputy Governor of Bombay, described Khanderi as strongly fortified by Angre and covered with houses. Incidently Khanderi was one of the 10 forts and 16 fortified places of less strength, which in 1713 Kanhoji Angre obtained on siding with Shahu and renouncing Sambhaji of Kolhapur. In October 1718, a siege was laid over Khanderi but apparently due to treachery on part of one Rama Kamat, a close aide of Governor Boone, as well as of that by a Portuguese captain was unsuccessful.

About 1740, an agreement was arrived at between the English and the Siddi that if Khanderi was taken it would be delivered with all its guns and stores to the English. Grose's account in 1750 mentions Khanderi and Underi as having once been with the Angres and the Siddis, but since recaptured. Khanderi was ceded to the English in 1775 under the terms of the treaty of Surat and shortly after was taken back under the treaty of Purandhar, but by 1787 was back in the possession of Raghuji Angre. In 1799 Lieutenant Hayes was ordered to proceed to Khanderi, which is described as strongly fortified and mounting 200 pieces of cannon, to demand restitution of some merchant vessels and property carried on shore. From the various accounts it is evident that Khanderi was considered to be a strategic stronghold and hence was a point of conflict on several occasions.

In 1818, the Khanderi Island and fort finally passed to the British with the Thana District as part of the Peshwa's territory. The Harbour and Pilotage Board was formed 1863, with the intention of creating better facilities in terms of development of an efficient lighting system taking into account its greater public demand for the Bombay Harbour. The property vested in the Board consisted of the lighthouses at Colaba and Dolphin Rock, two light vessels, nine pilot boats, the three Signal Stations at Colaba, Centre Hill and the Castle, and a boat-shed. The Board, which was only operational for nine years and was succeeded by the Port Trust in 1873, did useful work particularly with regard to the lighting of the Harbour.

The lack of proper guidance to ships entering the harbour had been a matter of complaint for a long time. A lighthouse was erected on Old Woman's Island (Colaba) on a natural mound, probably on the ruins of an older Portuguese watchtower, in 1768-71. The Colaba Lighthouse, as it later came to be known, was the only one of its kind till 1844 when the Madras Lighthouse was completed.2

On development of the Bombay Harbour in the mid nineteenth century, it became essential to mark Khanderi Island (known as Kennery Island) by establishing a beacon. Accordingly in 1852, a lighted beacon was commissioned which had to be discontinued immediately due to its similarity to Colaba Lighthouse in the near vicinity. The demolition was also perhaps on account of the inadequate publicity given to its construction; it was reported to have caused the wreck of two vessels. In 1856, a lighthouse or beacon was constructed on Dolphin Rock.

However, the frequency of shipwrecks at the entrance of the harbour continued despite the installation of the lighthouses. After considering various proposals and consulting Elder Bedren of Trinity House, London, the Harbour and Pilotage Board decided to construct a lighthouse on Kennery Island. Messrs. Swan, Musgrave and Ellison, whose design for the lighthouse was adjudged to be the best, were also entrusted with the work of its construction. Work on the lighthouse commenced on October 27, 1866, and the chief corner stone was laid on January 19, 1867, by Sir Bartle Frere. Governor of Bombay, at an impressive ceremony on the Island. The construction was completed in six months and the lamp was lit on June 1, 1867, as originally scheduled by Captain J. W. Young, the Naval Chief. The cost of construction was 1.22 lacs and the establishment of the lighthouse was said to have achieved its purpose as the frequency of shipwrecks reduced considerably.

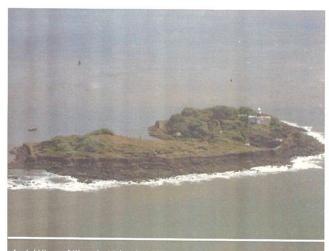
The First Order Optic assembly manufactured by M/s Chance Brothers, Birmingham, was installed and placed into operation on 1st June 1867. The 85mm PV burner was introduced in 1902 and is still in service.3 The entire machinery device was imported from the manufacturers 'Phanres and Fanaux - Barbier, Bernard and Turenne, Constructeurs - 82, Rue Curial, 82, Paris'.



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Concise Chronology of Events:

1538	Described as a large island 2 leagues north of Chaul, known as 'Island of Cheul' by Portuguese Viceroy, Dom Joao da Castro
1672	First attempt to fortify Khanderi by Shivaji Maharaj unsuccessful due to joint attack by Siddis and English
1674	Fryer refers to Khanderi and Underi as Hunarey and Cunarey
27 th October 1679	Shivaji Maharaj starts construction of fort at Khanderi realizing the importance of sea protection (some accounts also mention that Shivaji only repaired an existing fort)
19 th September 1679	English land on Khanderi to claim it as under their domain
18th January 1680	Treaty signed between John Child, Deputy Governor of Bombay, and Annaji Pandit from the Marathas
1683	Fort repaired by Sambhaji
1706	Fort repaired by Kanhoji Angre
1713	Kanhoji Angre takes possession of Khanderi fort
1718	Unsuccessful attempt by English to capture fort
1787	Raghuji Angre takes possession of the fort
1814	Manaji Angre hands over Khanderi to Peshwa
1818	British Government take possession of Khanderi with Thana district as part of Peshwa territory
1867	Lighthouse constructed



Archaeological Significance

Topographical Features

Set on an island, 3 km. off the seacoast, the Khanderi Island fort enjoys a picturesque setting with a rocky foreground and hillocks at the island. The lighthouse is built on the hillock at the south side, which is almost 30 m high. on a broadly kidney-shaped island. The hillock on the north is about 20 m high. Fortifications hug the extremities of the island and on the lowest side a landing jetty is built.



Architectural Description

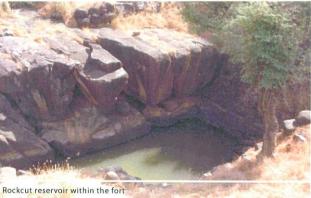
The Maratha fort complex primarily consists of the outer fortifications, a natural rock-cut sweet water well, a larger water storage tank, several religious structures, the landing jetty and the octagonal light house along with ancillary structures. Although

Rocky Foreshore of Khanderi Island the main entrance gateway is believed to have been on the east side there is no surviving remnant to support this claim.

Near the landing pier and boat shed is a temple dedicated to Vetal, which is swayambhu, worshipped by the local fisher folk, as well as a Muslim tomb of Daud Pir. Within the fort complex are several temples dedicated to Ganesh, Hanuman and Buddha, besides the ancient temple of Mahadev.

The rampart fortifications, almost 5' wide, of Khanderi Island fort are built of massive stones and the walkway along these ramparts is laid out in smooth paving stone of irregular size. The bastions (21 in number ranging from small size to large ones, spaced intermittently) equipped with stone parapets consisting of merlons and embrasures are also provided with a small masonry pit with niches at the base and sometimes with a chamber underneath, access to which was through a series of steps from the bastion. Most of these semicircular bastions are still intact and on one bastion are placed two cannons.

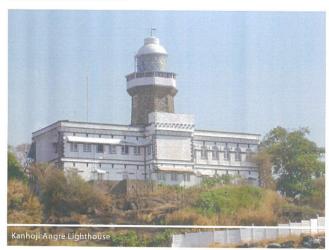
Chiseled out of the rock is a sweet water well fed from subterranean water channels and a larger storage tank at the base of the light house on the west side.



Built in 1867, the octagonal lighthouse stands on the highest point on the island. While the octagonal lighthouse is faced with random basalt masonry, the lower structure is constructed of rubble masonry plastered with lime plaster with stone rustications at the corners running the entire height of the building. The fenestration scheme consists of uniform semi-circular window openings with fanlights. The center of the lantern is 161' above the

island forts - KHANDERI

level of the sea and the octagonal tower above a flat roofed house is 75' high at the center of the house, easily the most noticeable edifice from as far as Thal beach and even beyond. The light is catadioptric of order one.4 The lighthouse named 'Kanhoji Angre Island Lighthouse' flashes every 10 seconds and is visible up to ranges of 25 and 22 miles respectively. It is also fitted with the Radar Responder Beacon. According to the West Coast Pilot of India, 1926, if a vessel was seen to be standing into danger a warning rocket signal was fired and the International Code Signal "You are standing into danger" was made by the light keeper.5 The Harbour and Pilotage Board built the lighthouse with the advice of Elder Bedren of Trinity House, London and Sir Bartle Frere, Governor of Bombay, laid the foundation stone. A unique feature of every lighthouse is that it is fitted with a flash timing unique to each so that any naval ship can locate its position on sea. Ancillary structures such as a mess and kitchen for the resident staff are located near the lighthouse but are of no architectural merit.



The other popular tourist attraction is a small clearing at the northern end en route to the lighthouse that consists of a rock with several deep hollows. On knocking against this stone with a piece of rock, a metallic sound emanates. Several travelers also refer to this peculiar rock and in 1538 visit of the Portuguese Viceroy Dom Joao da Castro, is believed to have greatly affected his hand compass, but was not found to be magnetic, as it did not attract iron.6

Kanhoji Angre Island Lighthouse

Admiralty List - Details

No.	Items	Description
1.	Previously	Khanderi Island Lighthouse
2.	Sr. No. (ALOL)	F0556
3.	Position	18° 42.1′ N 72° 48.48′ E
4.	Character	F1 (2) WR 10 sec.
5.	Elevation	47.0m
6.	Range i) Illuminant ii) Geographical	W 25N R 22 NM 19 NM
7.	Structure i) Type ii) Height iii) Colour scheme	Octagonal 30m Natural stone
8.	Optical equipment (a) Optic i) Make ii) Size iii) Duration Flasher (b) Pedestal (c) Illuminant i) Present ii) After modernization (d) Effective beam intensity	Chance Bros., Birmingham First Order 920mm Revolving optic (2 panels) 0.3 sec. W Mercury Float 85mm PV Burner 230V 250W MH lamp 12,50,000 cd.

Materials:

Fitted with rough-cut, almost square shaped, bluish-grey basalt for facing all the ramparts and bastions is observed along with the typical wedging technique for joinery of the stone blocks. While both the exposed faces of the fortifications consist of dressed stone blocks, the inner filler material comprises of random rubble with other adhesive material. Entire length of stone is used for spanning the embrasures and openings. The octagonal lighthouse is faced with ashlar stone masonry and the lower structure is of rubble masonry, plastered on both sides, with the corners accentuated by means of stucco rustications. The lighthouse is capped with a masonry dome,

No.	Items	Description	
9.	Lantern i) Diameter ii) Height of glazing	3.7m 3.05m	
10.	Source of energy a) At present b) After modernization c) Charging system after modernization	Kerosene oil 18 nos. PS battery, 2V1200 AH (Tata BP) 36 nos. 12V 75W SPV modules (Tata BP)	
11.	Emergence (after modernization) a) Optic b) Flasher c) Pedestal	200mm drum optic lantern (installed, outside) "Jyoti Punj" (LHEL Mumbai) LHW Mumbai GI pedestal	
12.	Communication	VHF link with Mumbai Port Trust controls available	



while the structure consists of glazing on all the sides with a cantilevered balcony running all round the tower. Access to the lighthouse is by means of a cast iron staircase.



21 island forts - KHANDERI

2.1.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal protection

The Khanderi island fort is under the jurisdictional control of the Mumbai Port Trust with the Kanhoji Angre Lighthouse (F0556) installed in 1867 (former Khanderi Island Lighthouse).

Current Management Framework

As per the Regional Plan 1996 – 2011 for the Mumbai Metropolitan Region, Khanderi Island fort is shown as part of the water body and is currently under the purview of the Mumbai Port Trust.

Maintenance & Past Repairs

Although the lighthouse is generally well maintained with periodic maintenance measures such as annual painting and white washing in place,



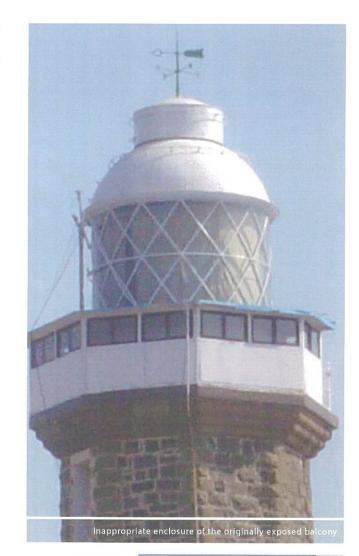
the surrounding fort is not covered in this repair work, resulting in collapse of several of the bastions and rampart walls. The merlons and embrasures in addition to the parapets of most of the bastions are non-existent. The collapse of these fortifications has been attributed to structural failure of some out of plumb bastions as well as the relentless force of the sea waves, lashing on to the ramparts. A break in the fortifications has also made access to various levels difficult.

Moreover, although the fort walls are relatively free from vegetation, the areas inside are entirely covered with grass and weeds, not only making access difficult to the interior areas but also making it impossible to assess the entire nature of the fort development and disrepair. Extensive graffiti on the fortifications has led to defacing of the historic fabric.

A change in land use has resulted in diminishing of the historic significance of Khanderi Fort, which is now known purely because of the presence of the lighthouse, with most visitors making a beeline for the lighthouse and completely ignoring the surrounding fort. However, the fort has adapted to this change in its function and lends a spectacular presence to the lighthouse. Hence, it is urged that the Mumbai Port Trust, undertakes periodic maintenance of the fort along with the lighthouse as per the prescribed guidelines.

Over the years, the old lighthouse has also undergone several alterations in the form of boarding up of the rear openings of the portion jutting out of the main building. Ad-hoc weather shades using inappropriate materials have been added to several of the semi-circular openings. The continuous balcony running right round the tower has also been boarded up and the original rail can be observed on the inside (archival images in the West Coast Pilot show this circular balcony exposed). This has been by far the most incongruous alteration as it has disrupted the inherently open form of the tower balcony. However, the maintenance and upkeep of the structure is regular albeit not entirely respecting conservation sensitivity. Other interventions in the form of construction of a medley of kitchen quarters, outhouses and stores have also contributed to insensitive additions within the fort complex.

Records also indicate that as part of the upgradation process it is intended that the older flashing mechanism of the lighthouse would be eventually replaced with a conventional device. Such an action of improvement of devices for better functioning of the lighthouse, although crucial for its modernization would also mean destruction of a part of its historicity. Hence it is advised that upon removal of the original device it should be retained on site and not trashed as a redundant relic.





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RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, which have been described earlier as part of the archaeological recording, and is undertaken in the following manner:

Significant Topographical Features:

- 1. Island fort
- 2. Natural sandy stretch with jetty
- Rocky surrounding and natural undulations of the island 3.
- Rock-cut fresh water reservoir

Important Architectural Characteristics:

- Construction methodology with joinery of huge stone blocks by traditional wedging technique
- Massive ramparts with paved stone blocks and all associated 2. structural elements
- Bastions with parapets, merlons and embrasures
- Lighthouse with original flashing device mechanism
- Stone paved jetty with footprint and massing of boatshed 5.
- Footprint and location of religious shrines 6.
- Conical feature at some distance from the fort on the reef 7.
- Movable artefacts in the form of canons of the British period

In addition to identification of the principal significant elements an evaluation of the historic integrity of the Khanderi Island Fort would enable a cumulative assessment of its current significance as a heritage site. This evaluation along with identification of the key topographical and architectural features would facilitate grading of this historic site.

Location	Built to keep an eye on the activities of the Bombay Harbour and neighbouring Siddi stronghold of Underi, the island fort till date enjoys this vantage point although its primary function of a fortified stronghold is obviously rendered redundant.
Design	The original extent of fortifications largely survives, save breaks along the ramparts that have been damaged due to the lashing of the sea waves.
Setting	The setting is undisturbed primarily due to the security concerns of its changed landuse of being a lighthouse, due to which surrounding development has been controlled. The island fort has one of the most striking views not only of the island but also from the raised level of the lighthouse. The boat journey along with the sea views gives rise to a heightened visitor perception.
Materials	The sturdy construction methodology and quality of materials are largely responsible for the survival of the fort despite the relentless force of the sea waves and natural weathering action.
Workmanship	Excellent use of traditional joinery technique of wedging of stones making it unnecessary for use of binding mortar is visible giving an indication of the skill of the workmen. That forts such as Khanderi were often built within a short span of time, due to fear of impending attack, but were nevertheless constructed with best available resources, suggests the builder's eye for detail. The fact that the fort survived most of the invasions and the lashing sea waves is also evidence of good workmanship quality.
Feeling	The ramparts hugging the entire length of the island along the island extremities are the only surviving remnants, with no record of interior structures, and the relatively new (built in 1867) lighthouse contribute to the association of a prohibited zone primarily due to the security measures in place.
Association	Since it would be impossible for forts to still hold the original associational value on account of the redundancy of their primary function, the changed landuse of Khanderi to a lighthouse has led to the shift of its significance, resulting in loss of its historicity to a large extent. However, the fort exerts a tangible presence due to its sheer existence.

The Khanderi Island fort, as mentioned earlier, is not categorized as a heritage site and hence does not have formal heritage protection. However, this was not the case pre-independence and it finds mention in an earlier list drawn up in 1884, classifying it as Grade III, "those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve." 8 An assessment of the heritage value and historic significance of Khanderi Island Fort, also considering the extant built form. qualifies the fort as Grade I within the prescribed grading format.

- 1 DIRECTOR OF PRINTING AND STATIONERY, Maharashtra State Gazetteer Kolaba District, Government of Maharashtra, Bombay, 1964 (Revised Edition)
- 2 CHITTAR, SHANTARAM D. (Secretary, Bombay Port Trust), The Port of Bombay A brief history, Bombay Port Trust, 1973
- 3 DEPARTMENT OF LIGHTHOUSE AND LIGHTSHIPS, Kanhoji Angre Lighthouse (F0556) - Modernisation of Lighthouse Equipment, Mumbai Lighthouse Region, 1999
- 4 DIRECTOR OF PRINTING AND STATIONERY, Maharashtra State Gazetteer Kolaba District, Government of Maharashtra, Bombay, 1964 (Revised Edition)
- 5 West Coast of India Pilot, Government Press Publications, 1926
- 6 Maharashtra State Gazetteer, Op cit
- 7 West Coast of India Pilot, Op cit
- 8 BURGESS, J., Revised List of Antiquarian remains in the Bombay Presidency, Archaeological Survey of Western India, 1884.



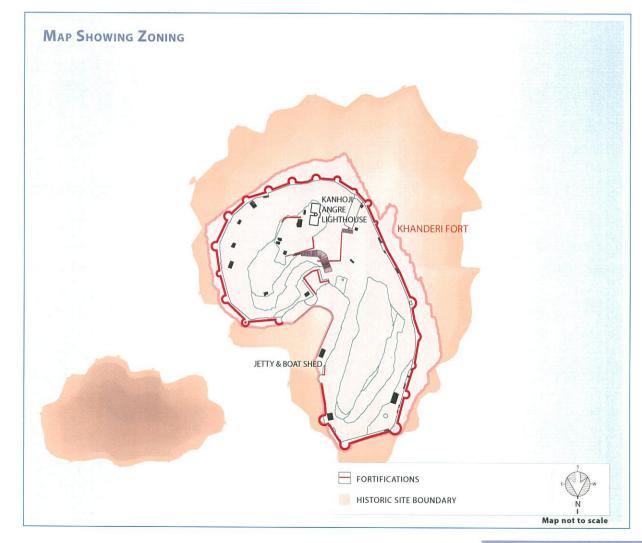
2.1 island forts - KHANDERI

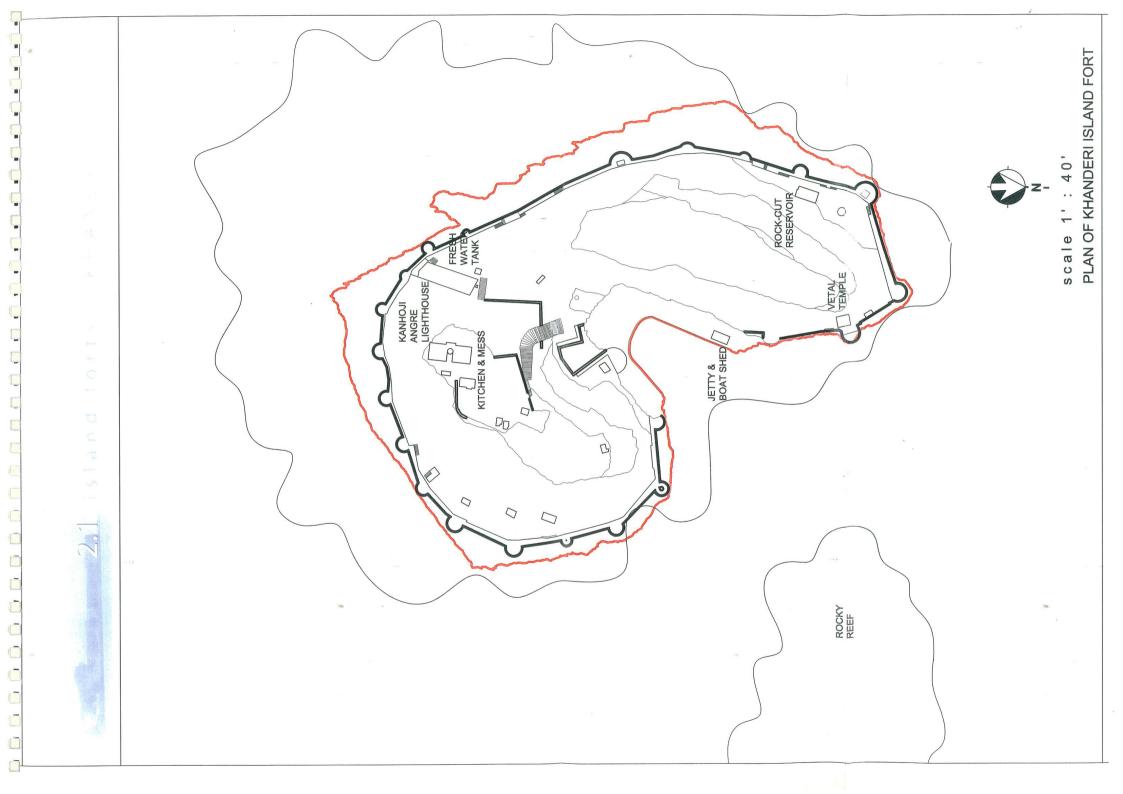
Area of Inscripted site

90,000 sq.m

Compilation Date

December 2004







2.2.1 LOCATIONAL INFORMATION



Reference no FT/RD/IF/UN/2/2004

Geographical Co-ordinates

18° 40' N and 72° 50' E

District

Raigad

Access & General Information

Smaller and lower than Khanderi Island, Underi is 5 km from Alibag, 3 km from Thal and ½ km from Khanderi. Access to the Island Fort is gained by taking a boat from Thal beach, but the non-existence of a landing jetty at Under makes the access extremely precarious and difficult to navigate. A shallow natural harbouring place exists at the entrance that cannot be negotiated by foot, although the waters run very shallow due to the existence of sharp rocks. It is only through a rocky ledge running around the bastion near the entrance that the fort can be accessed. The access is made even more difficult due to the slippery rocks and rampant vegetation. Apparently Underi gets its name from the local dialect translation of the name of the island, which means 'island of rats'.

Classification

Island fort - Fortified Outpost

Present Usage

Currently the fort is not in any use, save the few and far between visitors that brave the choppy waters and difficult landing access.







2.2.2 SIGNIFICANCE OF THE SITE

Historical perceptions

The earliest account of Underi is by Fryer in 1674, who called it Hunarey and misplaced it by putting it to the west of Cunarev. The island was fortified by Siddi Kasim in 1680, and was retained under his dominion till the close of the seventeenth century. After working with the English for some time in blockading the nearby Khanderi island, where Daulatkhan, Shivaji's admiral, had lately established himself, Siddi Kasim, realizing Underi's proximity to Khanderi, suddenly took possession of Underi in January 1680, and began to fortify it. This led to two altercations between the Marathas and the Siddis, and during the second fight Daulatkhan brought guns to a rising ground on the mainland opposite Underi, (probably Khubladha - a fortified enclosure on the shore to the northwest of Thal, a mile east off Underi) against which they fired and were answered by the Siddi ships as well as by the guns on the island. This cannonade lasted for several days. After a fortnight, Daulatkhan again attacked with his whole fleet and the siege continued for four hours, until he lost four grabs and four smaller vessels with 500 men killed and wounded, besides prisoners. The Siddi lost no vessels and only ten of his men were killed, while the Maratha vessels were so damaged that they had to be taken to Rajapur in Ratnagiri to refit. Meantime the Siddi had made Under ithe base of his operations, and was ravaging the coast, seizing Maratha merchantmen. On August 1, 1680, Sambhaji, who had succeeded Shivaji Maharaj, taking advantage of a dark night, landed 200 men at Underi, and got within the works before being discovered. Despite the spirited attack, the Siddi's men attacked them and either took or killed the greater number.

Not much record is gained of Underi after this period of intense struggle, but after the death of Manaji Angre in 1759, the Siddis invaded Kulaba, and that Raghuji Angre, with the help of the Peshwa, attacked Underi, took it after a severe struggle, and presented it to the Peshwa in return for the help of his troops. In 1761, Raghunath Rao Peshwa granted Underi to the English but transfer never took place. In 1791, Underi is described as surrounded by a bad wall, very irregularly divided by palm-thatched towers, without embrasures or well-mounted guns. The island is also described as covered with houses. Although Underi belonged to the Peshwa, it was held by Raghuji Angre. There were frequent disputes between the two commandments of Underi and Khanderi concerning the plunder taken by their boats. Underi was used by the Angres as a state prison and a hidden flight of steps led underground to a strong door, which gave entrance to a room 7' high and 12' wide, a loathsome dungeon swarming with vermin. About 1836, on suspicion of being concerned in a gang robbery, fifteen persons were confined in this

hole. In four months, for want of light, air and water thirteen of the prisoners died raving mad. In 1840, Underi lapsed to the British Government, and, till 1858, when the survey settlement was introduced, it continued to be the head of a sub-division of 130 villages.

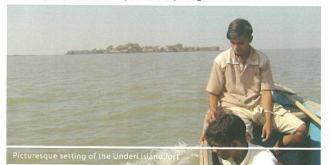
Concise Chronology of Events:

3rd January 1680	Siddi Kasim of Janjira fortified Underi
26 th January 1680	Fort unsuccessful attacked by Shivaji's admiral Daulat Khan
1732	Sekhaji Angre attacks Underi
1735	Underi's Subedar Siddi dies in the battle between Siddi and Chimaji Appa Manaji Angre
October 1758	Tukaji Angre unsuccessfully lays the island to siege by encircling it with the help of Ramaji Mahadev and Mahadji Raghunath
20 th October 1760	Naro Trimbak, Subedar of Peshwa's armada, captures the fort and is used as a state prison by the Angres
1761	Raghunath Rao Peshwa grants Underi to the English but transfer never takes place
1791	The fort described as surrounded by a bad wall, very irregularly divided, without embrasures or well-mounted guns. Apparently around this time the island was covered with palm-thatched houses
1840	Underi Island lapses to the British Government
1858	Underi continues to be the head of a sub-division of 130 villages till survey settlement was introduced.

Archaeological Significance

Topographical features

Located half a kilometer from the Khanderi island, Underi is smaller, deeper and circular in comparison and is surrounded on all sides with rocky outcrops that make access to the fort difficult to navigate. Surrounded by rocky sea reef on all sides, the fort is easily distinguishable from the Thal shore, which forms a spectacular backdrop for the imposing fortifications.



Architectural Description

The fortifications comprising of massive blocks of stone line all along the island extremities and are punctuated at regular intervals with semi-circular bastions. The entrance gateway is at the northeast facing the mainland, and

consists of a flat arch gateway of wedged dressed stone, free from embellishments except a cornice band and a simply carved bracket detail. The inner side of the doorway displays slots for a massive door and niches for torches. The structures inside the fort complex are difficult to decipher due to the profuse vegetation, and only a few remnants such as plinths of houses are observed. A Hindu tulsi vrindavan fronting such a plinth structure is also seen but seems to be of a later date. About 10' away from the internal side of the fortifications a low wall can be observed for some distance along the fort wall.

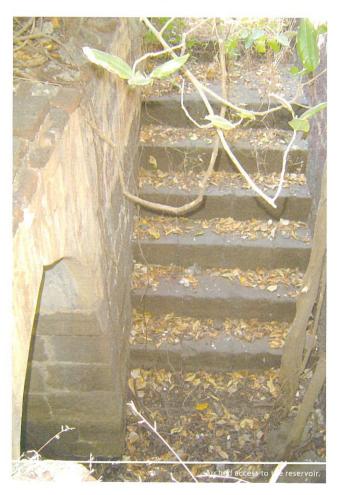




A rock-cut fresh water reservoir, consisting of laterite stone parapet, now completely choked with weeds, has been provided next to another larger stone lined reservoir. Entry to the dressed stone reservoir is through an ogee arch down a series of winding steps. Along the inner walls a few decorative niches are observed and the corners of the rectangular reservoir are neatly



chamfered. This is the only structure apart from the entrance doorway that some form of decoration has been attempted in the otherwise military precision construction of the fortification, devoid of any embellishments.



Artefacts such as cannon heads are found scattered on the ramparts, in a highly derelict condition.

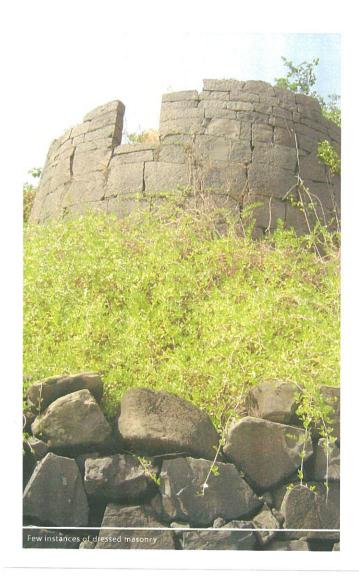


Materials

The ramparts are faced with irregularly cut bluish grey basalt stone of massive

sizes which do not follow a regular masonry course. This mode of construction is what distinguishes this Siddi island fort from the other uniformly laid masonry construction of the Maratha island forts. A typical section through the fort wall consists of the two outer faces with a filler membrane in the center. The two outer faces comprise of large size rough cut stones and the inner filler material is random rubble packed masonry. Battlements of smaller size stones top the massive bastions, punctuated at regular intervals with openings.

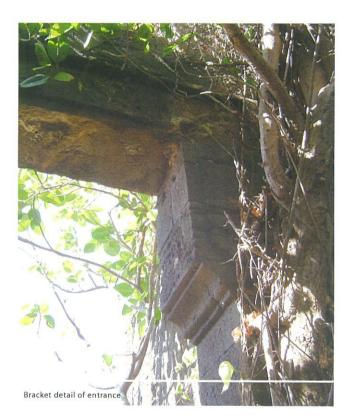






The entrance gateway is the only element of the fortification, which is constructed of dressed stone. The flat archway is fashioned out of wedged stone blocks, neatly cut and laid with central keystone. The precision of cutting is clearly demonstrated in this simple but neat doorway. A singular feature is another bastion next to the entrance which is the only one faced with uniformly cut dressed stone. The stone lined reservoir is also built of basalt stone along with the niches details and other embellishments, while traces of lime plaster are observed on the archway. The unique fact observed as far as the usage of materials is the other fresh water reservoir comprising of a laterite parapet - a stone very uncommon in these parts, but readily available in Southern Maharashtra and Goa.







2.1.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

Under i is currently claimed to be owned by the villagers of Thal, and the Thal Society Office is responsible for organizing visits to the fort.

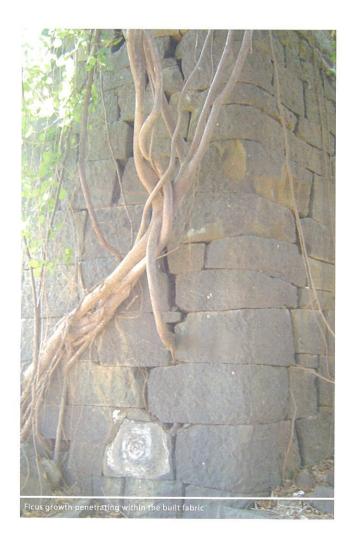
Current Management Framework

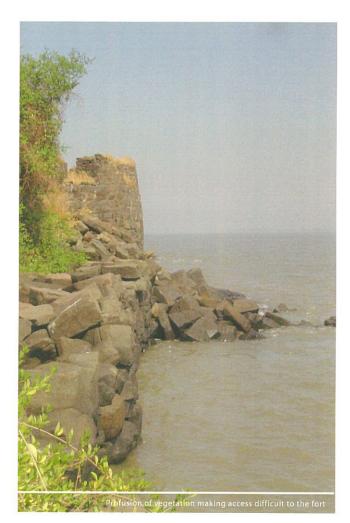
As per the Regional Plan 1996 – 2011 for the Mumbai Metropolitan Region, Underi Island fort is shown as part of the water body and does not fall under any heritage protection.

Maintenance & Past Repairs

No maintenance measures have been initiated till date at Underi, which is primarily the reason for collapse of several ramparts, some as recent as a couple of years back. The ravaging sea waves have taken a huge toll on the fortifications, and broken sections can be observed all along the fort walls, making access difficult. Apart from the natural weathering action, causing minimal damage due to the excellent hard wearing stone, and the action of the sea waves, no other intervention in terms of additions or alterations within the complex are observed, marking this as a pristine site, practically untouched. However, ignorance about this historic site has also led to its disrepair as no maintenance measures have been ever initiated at this fort. This has resulted in gradual disintegration through the sea wave action of several of the fortifications, which might lead to eventual loss of such a lot of heritage material that there would be no coherence as to the original built fabric. Hence, it is urged that urgent stabilization measures be initiated as soon as possible.

Rampant vegetation in the form of tall grass and weeds grow within the entire fort complex, making it highly difficult to assess the existence of any more remnants within the site. Every year the Society Office undertakes a clearing expedition, where the entire grass is set on fire. Ficus growth and an extensive banyan tree have sprouted from the entrance bastion and are growing out into the entrance arch. This should be immediately uprooted, as eventually the vegetation growth will dislodge the masonry and cause loss of a valuable and irreplaceable part of the fort edifice. Vegetation at the precarious landing site also makes access dangerous to the fort. Cleaning and de-weeding of all the reservoirs needs to be urgently initiated, as the larger vegetation threatening to dislodge the stone masonry within the reservoirs can be immediately tackled.







2.2.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

A tabulation of the key features important to be preserved within the Underi fort complex has be undertaken below, which is in a sense a summarization of the Archaeological Inventory carried out earlier.

Significant Topographical Features:

- 1. Rocky surrounding and reef
- 2. Fresh water reservoir

Important Architectural Characteristics:

- 1. Ramparts and semi-circular bastions
- 2. Flat arch entrance with embellishments
- 3. Rubble masonry structures inside the complex
- 4. Stone lined reservoir with decorative carved niches and archway
- . Movable artefacts in the form of scattered cannons

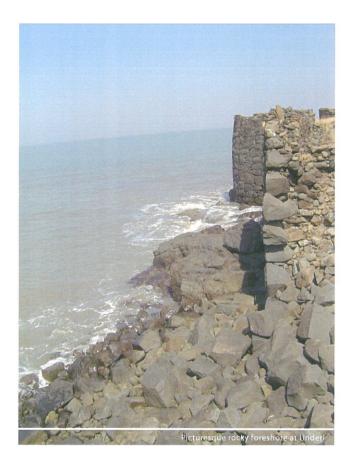
The following classification of the Underi island fort is undertaken with a view to record its contribution as a significant heritage site, meriting protection and aid in the grading process.

Location	The original location is completely intact and it is amongst very few sites that no major intervention has taken place largely on account of its difficult access situation.
Design	Largely intact except where the sea waves have made inroads into the massive ramparts. Although the design and construction methodology of the reservoirs is evident, no assessment could be derived of the other residential structures due to the profusion of vegetation.
Setting	Set on an island off Thal sea shore, Underi till date enjoys the relative isolation of its island setting.
Materials	Built of massive basalt stone, the ramparts and other structures have survived due to the extremely hardwearing nature of the stone and very few traces of weathering are visible on the stone.
Workmanship	Although the random masonry construction of the ramparts, gives a sense of slightly inferior workmanship, but the skill with which the laying is undertaken leaves no doubt about the knowledge of use of materials.
Feeling	Underi fort is not a popular tourist destination nor is it too well known except amongst the local fisher folk. However, since no other usage is prevalent at the site, the feeling of a fortified monument is still intact, but is under threat due to the large-scale deterioration on account of loss of heritage material.
Association	Largely intact.

Underi is not classified as a heritage site neither with the State or Central Archaeological departments, but finds mention in a much older 1884 list drawn up, classifying it as Grade III, "those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve." The surviving built fabric, the outstanding articulation of the layout and its significance as a historic site, qualifies the fort as Grade I within the prescribed grading format.

Area of Inscripted site 67,500 sq.m





¹ DIRECTOR OF PRINTING AND STATIONERY, Maharashtra State Gazetteer - Kolaba District, Government of Maharashtra, Bombay, 1964 (Revised Edition)

² BURGESS, J., Revised List of Antiquarian remains in the Bombay Presidency, Archaeological Survey of Western India, 1884.



2.3 island forts - KULABA

2.3.1 LOCATIONAL INFORMATION



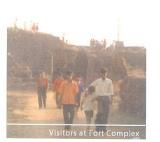
Reference no FT/RD/IF/KU/3/2004

Geographical Co-ordinates 18° 37′ N and 72° 52′ E

District Raigad

Access & General information

Kulaba island fort lies ½ km. from the seashore of Alibag and about 26km. from the southern tip of Mumbai. Although the fort can be accessed on foot during low tide, it is still classified as an island fort. Built on an island, 267 to 297 metres through the north-south direction and 109 metres wide on the east-west direction, the fort can be easily accessed during low tide on foot or on a horse cart, but the window period for visiting the fort during low tide is so less that visitors have to time their visits carefully. The surrounding sea can be quite



treacherous and it is strongly advised that the fort should not be visited during high tide or even just before receding of the low tide. Timings for visits depending upon the tidal currents are put up at the Alibag beach. Since the fort is a nationally protected site, a nominal admission fee has to be paid at the entrance.

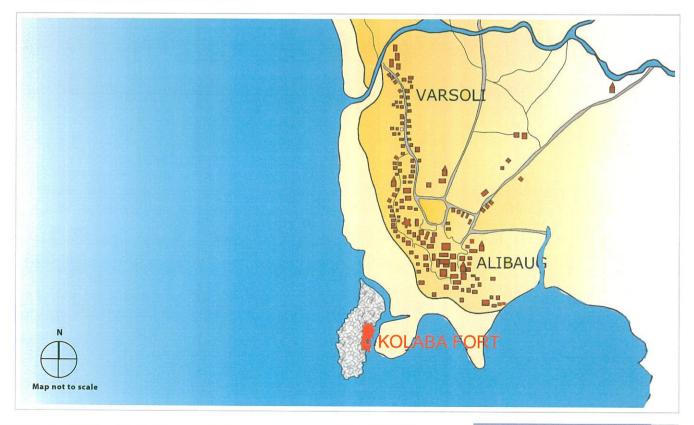
Kulaba means 'cape' and the area was earlier known as Astaghar, as eight villages were under its dominion – Alibag, Nagaon, Thal, Chaul, Sasavane, Sakar, Aksi and Kihim now falling in the Alibag Taluka.

Classification

Island fort - Main fort

Present Usage

The fort is a nationally protected monument and is regularly visited by tourists.





23 island forts - KULABA

2.3.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

The earliest mention of the fort is made on account of it being chosen as one of the forts to be modeled as a naval base by Shivaji Maharaj, when most of Konkan, south of Kalyan, came under his dominion and he decided to develop naval power. In fact he is known to be the first modern ruler to build a navy from scratch, as he well realized the importance of sea power. After possession of Kalyan, well known for its trade and ship building activities, and Bhiwandi on October 24, 1657, Shivaji Maharaj soon started the construction of warships. In 1662, he rebuilt and strengthened Kulaba and made the harbour one of his chief naval stations, as he realized the fort's proximity both to the English occupied Bombay Harbour and the Siddi controlled Murud-Janjira Fort. He gave the command of his fleet to Darya Sagar and Maynak Bhandari under whom Kulaba soon became an important naval center. Hence the naval headquarters of the Marathas initially consisted of Hirakot on the mainland and Sadya and Kulaba near the Alibag seashore. The nearby creek, the Nagaon Creek, was constituted as one of the shipbuilding creeks of North Konkan, which was earlier separated from Chaul and the mainland by tidal lagoons. The industry on Nagaon island, close to the settlement at Akshi, had its own boat carpenter colony or Sutarwadi – modern day Tarwadi. This shipbuilding and trading center was well defended by Kulaba fort at creek entrance. The coast on re-establishment of Kulaba fort was well manned and such was its military presence that the Portuguese sent an peacemaking envoy to Shivaji Maharaj, who promised to refrain from molesting their ships on supply of guns and war stores, agreed to by the Portuguese.

In 1690, Kanhoji Angre was appointed second in command of Rajaram's fleet, and in 1698 he succeeded to the main command, as the Admiral Chief, on the death of admiral Sidoji Gujar. He soon showed himself a most daring and enterprising leader and vessels from all nations were attacked, along with repeated descents on the coast. In 1713, under the treaty with Peshwa Balaji Vishwanath, Kulaba with several other forts was handed over to Kanhoji Angre and in 1714 he was conferred the title Sarkhel. In 1722, incensed at Angre's forays, the English at Bombay joined hands with the Portuguese in an expedition against Kulaba. Which failed due to cowardice apparently on part of the Portuguese. About this time Kulaba is described by Hamilton as a fort built on a rock, a little away from the mainland and at high water an island. On July 4, 1729, Kanhoji Angre died.¹

Kanhoji Anhre was succeeded by his two sons of whom the elder Sekhoji remained at Kulaba, but died in 1733. His younger brother Sambhaji, keeping

the eldest of his three half-brothers with him at Gheria in Ratnagiri, appointed the other two, Yesaji and Manaji to the charge of Kulaba. Yesaji the elder of the two had civil control while Manaji commanded the army and navy. Before long, Manaji quarreled with his family and with the help of Portuguese, whom he promised land near Revdanda, escaladed Kulaba and captured it. Since Manaji failed to give them the promised lands, in 1737, the Portuguese joined hands with Sambhaji and attacked Kulaba but were defeated by Manaji who in turn joined forces with Peshwa Bajirao, who agreed to help him on condition of a yearly payment of Rs. 7,000 and gifts of European and Chinese articles worth Rs. 3000to the Raja of Satara. In 1740, Sambhaji, taking advantage of the absence of a large body of the Peshwa's troops, laid siege to Kulaba and cut off the garrison's supply of fresh water. Manaji applied to Balaji Bajirao, the Peshwa's son, then on his first active service, who sent 500 men to support the garrison and, under orders from Chimaji Appa, repaired to Kulaba in person and applied for help to the Governor of Bombay. Balaji or Nana Saheb, as he was called, then by effective strategizing forced Sambhaji to retire to Suvarnadurg.

In 1747, an attempt was made by the Siddi of Janjira to capture Kulaba using a strong force, but this was repelled by enlisting the help of the Peshwa. Manaji Angre died in 1758 and was succeeded by Raghuji, the eldest of his ten sons. As per Mr. Forbes who visited Kulaba in 1771, found Raghuji living in the island fort, though his palace, treasury, stables and gardens were on the mainland in Alibag (this is quite contrary to the James Douglas description of Forbes's visit). Raghuji paid the Peshwa a yearly tribute of Rs. 2,00,000 and held his lands on military tenure. In 1775, Alibag is mentioned as Cole Arbor. After Raghuji's death in 1793, a series of family quarrels over

property right ensued and many fierce battles were fought in and around Kulaba. In 1840, on the death of Kanhoji II without legitimate heirs, Kulaba passed on to the British. The Alibag municipality was established in 1864.

A description of Kulaba fort in the 1926 West Coast Pilot of India mentions it as, "an ancient fortress, stands on a drying reef which lies on the northwestern side of the entrance to Alibag Creek, at about ½ mile southwestward of Alibag. The pagoda-shaped cupola of the temple is conspicuous from seaward. The fort is connected with the coast northeastward by the reef on which it stands; this reef extends about ½ mile south-southwestward from the fort, and its southern extremity is usually marked by a stake. Depths of less than 3 fathoms extend about 3 miles southwestward and westward from the fort. A light is shown from Kulaba fort. Storm signals are displayed at the fort; the brief system is used. Small vessels of less than 9 feet draft can anchor on a rising tide off the entrance to Alibag Creek, fairly close to the southern edge of the reef on which Kulaba Fort stands."²



Concise Chronology of Events:

1538	Described as a large island 2 leagues north of Chaul, known as 'Island of Cheul' by Portuguese Viceroy, Dom Joao da Castro	
1662	Shivaji Maharaj rebuilds and strengthens Kulaba fort	
1713	Kulaba along with several other forts handed over to Kanhoji Angre as per the treaty with Peshwa Balaji Vishwanath	
1722	The fort was jointly attacked by the English and Portuguese, which fails due to cowardice on part of the Portuguese	
1737	Kulaba laid under siege by Sambhaji and Portuguese which was thwarted by Manaji Angre with Peshwa Bajirao's help	
1747	Unsuccessful attempt to capture fort by Siddi of Janjira	
1759	Kulaba invaded by the Siddis on Manaji Angre's death	
1817	Fort passes into the hands of the East India Company but Angres continue to serve	
1840	Permanent control of Kulaba passes on to the East India Company	



2.3 island forts - KULABA

The Kulaba fort is synonymous with the Angre family and many of the structures inside were built to house several of the generations. Hence, in order to complete the entire historical background of the Kulaba fort, a family tree of the Angres has been provided corresponding with the period that they spent at Alibaq.

Tukaji (1689)

Kanhoji (1689 to 1728)

Sekoji (1728 to 1734)

Sambhaji (1734 to 1735)

Manaji I (1735 to 1759)

Raghuji (1759 to 1793)

Baburao (1799 to 1813)

Manaji II (1813 to 1817) Raghuji (1817 to 1838)

Kanhoji (a few months old died in 1839)

James Douglas's description of Alibag also gives interesting insight about Kulaba and the lifestyle of the Angres: "Alibagh is a fine name, the "Garden of God", and placed amid a waste of salt marshes, with its flowers, fruit and aromatic herbs, ought to justify the title. Opposite to it – you can almost walk over at low tide – is the island rock of Kulaba. The only pleasing episode we can recollect in its history is the visit in 1771 of James Forbes to the then ruler, Raghuji Angria (1759 to 1793). This man was very much beloved, and to him we owe the number of trees in the landscape. He was of a comely person and pleasing manners, which were friendly, almost obsequious to Englishmen. Forbes records, that his palace, treasury and public buildings were in Kulaba and the gardens at Alibagh. He possessed a magnificent stud of Persian and Arab horses."



Archaeological Significance

Topographical Features

Historically Kulaba fort was the naval headquarters of the Angres, strategically built so as to command views of the Bombay Harbour and the activities at the Siddi fort of Murud-Janjira as well as to defend the creek entrance. The location of the fort on the island just off the palm-lined shore of Alibag is very picturesque and the setting sun forms a spectacular backdrop against the well-built bastions of the fort. A very singular characteristic of this island fort is that it can be accessed on foot during low tide.

Architectural Description

Built on a rocky outcrop ½ a mile from Alibag, Kulaba fort is characterized by strong ramparts approximately 6 to 7 m high and seventeen bastions, four in each corner, five towards the Arabian Sea, four towards the shore, three on the North and one at the South. Each of the bastions had names like Pinjala, Nagarkhani, Tofkhani, Darukhani, Ganesh, Surya, Hanumant, Fatte and Darya. A small outpost, almost a miniature fortress, lies at the north of the fort, called the eighteenth bastion of the main fort also called Sarjakot. This was built to shield the inner fort from the artillery fire of Hirakot on the Alibag mainland as well as to act as a watchtower, warning against land invasions.

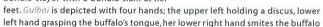


The main entrance double archway is at the northeast towards the shore, known as the *Maha Darwaja*. The outer archway consists of a peaked arch with embellishments with animal and floral motifs, near which is placed the standard sign of the Archaeological Survey of India, providing information

on the do's and don'ts at a nationally protected monument. This archway leads

to the inner door, positioned at an angle as part of the fortification technique, which led to the dungeons, in front of which were the storehouses – one for rice, the other for butter, oil, molasses, sugar and wheat. The entrance door is flanked by bastions on either sides, with accesses to the upper level of the rampart walkway.

Near the ramparts, on the right of the entrance way is the ticketing booth and field office of the Archaeological Survey of India. A little to the left, on entering the fort complex, is a small seemingly makeshift enclosure with a Asbestos Cement roofing, in which is housed the stone idol of *Gulbai* or *Mahishasuri*, the buffalo-slayer with a buffalo slain at her



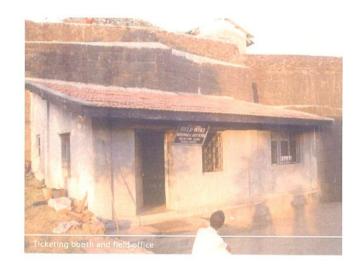


with a trident and her upper left hand holds the tail. On the left, behind the stalls, is the tiled roof temple of the goddess Bhawani, in front of which is a deepstambha. The hawking stalls, equipped with makeshift benches and temporary awning, are insensitively positioned as they interfere with the line of vision leading to the fort complex. However, the scale and plan form, are synonymous with the low-lying vernacular house forms of Alibag. Other interventions within the fort complex include the Staff Office near the southern esplanade, which is a jarring intrusion within the clean vista of the shore.

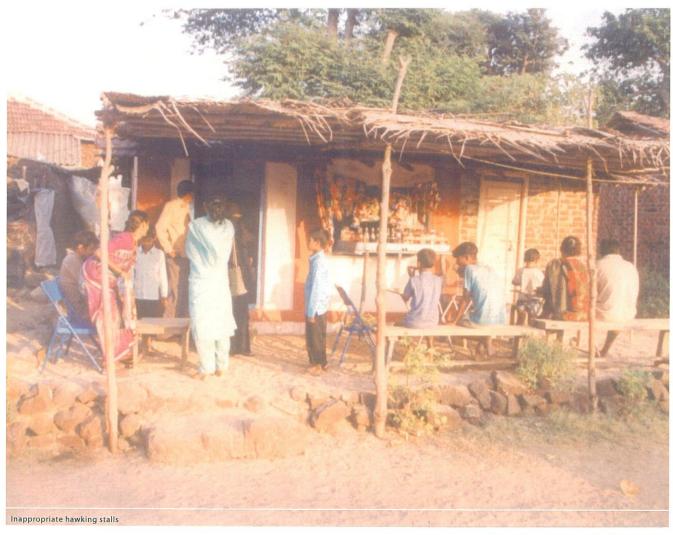




23 island forts - KULABA

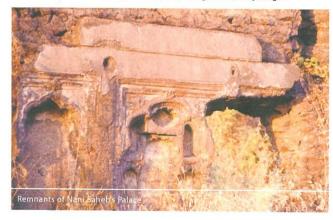






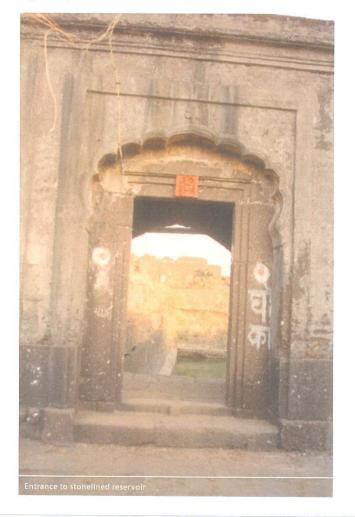
2.3 island forts - KULABA

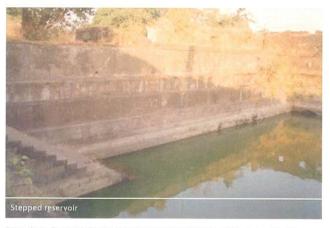
The ruined line of buildings on the right, beyond Gulbai's shrine, were the stables in part of which fighting rams or edkas, antelopes and birds were kept. Beyond the stalls on the left, are several ruined buildings, the first one of which is the Nani Saheb's palace, believed to be largely destroyed due to a major fire at the fort complex gutting many structures. The remnants still display some of the best stucco detailing found in regional architecture (similar to the wadas of Pune). At Kulaba fort, the extant structures are the only ones where residential architecture is visible as in all the remaining 13 forts, this is completely non-existent, either destroyed by man-made causes or was never part of the original composition. This palace was named after Lakshmibai, or Nani Saheb, the widow of the great Kanhoji Angre.



Adjoining it, separated from Nani Saheb's palace by a faintly discernible courtyard, is the Thorla Wada or Big Palace, built by the younger Raghuji Angre in 1816. Before being gutted in the fire, the palace apparently rose to almost five storeys but currently only one storey survives. To the east of the palace were storehouses and other buildings, while a fresh water well accessed by a flight of steps leading down still supplies water and is located within the palace complex. The wood from this mansion was burnt by the British in 1842 and in 1875 the stone was used for building the Alibag waterworks. To the south of the palace, entered by a brick gateway, is a cement lined stone stepped tank. The cusped archway leads to vaulted chambers on either side. In Angre's time only one potful a day of the water is said to have been allowed to each person. Overlooking the reservoir there was said to be a small dwelling and near it five houses belonging to Angre's officers, the minister

or divan, the head revenue officer or daftardar, the secretary or chitins, the registrar or phadnis and the treasurer or potnis.





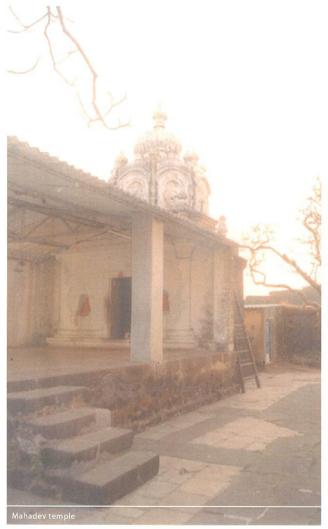
Directly in front of the tank is the principal temple of the island fort known as the Ganapati Panchayatan, as it contains five images of Ganapati, Samb or Mahadev, Vishnu, Surya and Devi and was built by the elder Raghuji Angre. A miniature version of the chief temple, in terms of its stylistic derivation, a temple dedicated to Hanuman is located at the north, while at the south is the temple of Mahadev with a beautifully crafted tulsi vrindavan in the front yard at the customary place.



2.3

23 island forts - KULABA



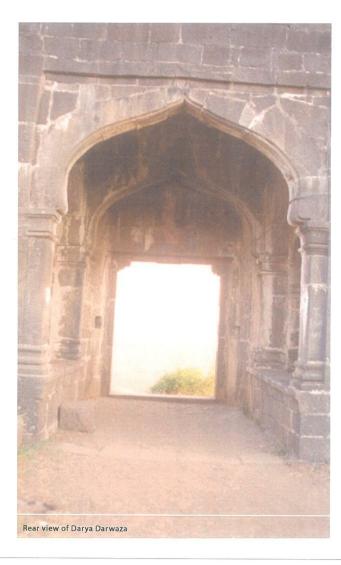




2.3 island forts - KULABA

Further south is the Yashwant darwaja or Darya darawaja overlooking the sea, flanked on either side on the internal area by guardrooms and provided with side recesses. The archway consists of carved decorative motifs of eagle, ganapati, crocodile and lotus. Beyond this gateway lies an open raised space, identifiable with the ship dock as also the esplanade where Kanhoji Angre's naval troops camped. In addition to the buildings outlined, there was the sadar or court where the chief held his office, a small palace built by Yesaji Angre, and a building known as the karkunmandali wada for the use of the court officers and clerks.





Also within the fort enclosure is a dargah of a Muslim pir, painted in distinctive green, touching the rampart on the southeast inner side. Next to the ticketing office at the entrance, within the rampart thickness is a squinch arched room with a curious cube of stone masonry in the center and apparently a secret underground tunnel led from Kulaba to Hirakot. On the northwest bastion are placed two cannons of the British period, one in 1849 an the other in 1851, which during the stormy months (June to September) fired signals if a vessel approached dangerously close.

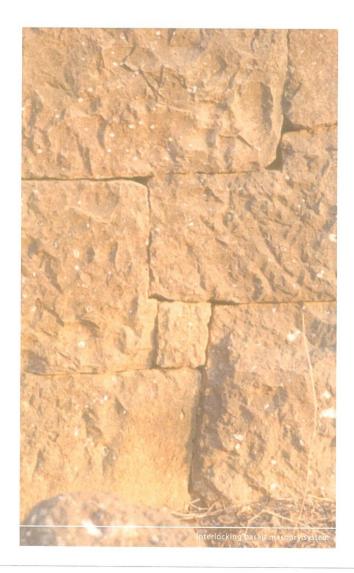




2.3 island forts - KULABA

Materials

The ramparts consist of undressed almost square shaped blocks of basalt placed in the form of a lap joint without mortar with smaller square stone dowels interspersed within the courses of masonry. Massive stone blocks form lintels of openings within the bastions. The doorways are constructed out of dressed courses of basalt with finely chiseled jambs and carvings. Use of brick masonry is observed for the residential quarters and the archway leading to the water tank, while both the water bodies are built of stone.







2.3 island forts - KULABA

PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

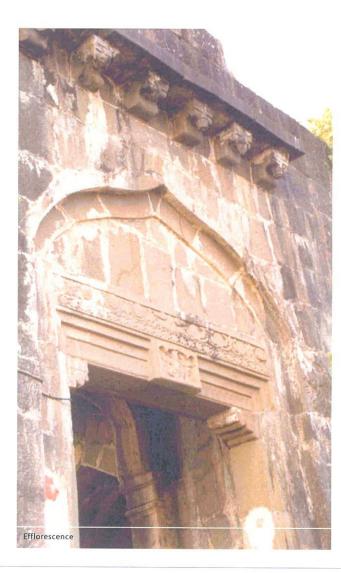
Kulaba fort is declared as a nationally protected monument under the "Ancient Monuments and Archaeological Sites and Remains Act, 1958".

Current Management Framework

The Archaeological Survey of India undertakes all necessary stabilization and conservation measures in case of the Kulaba fort. As per the 1958 Act, the Central Government is deemed to "maintain" a protected monument which would mean: includes the fencing, covering in, repairing, restoring and cleansing of a protected monument, and the doing of any act which may be necessary for the purpose of preserving a protected monument or of securing convenient access thereto.

Maintenance & Past Repairs

Routine maintenance measures and periodic repair work has been initiated at the Kulaba fort. This includes pointing of the masonry joints, stabilization of the ramparts, clearing of vegetation etc. However, an observation is made here about the nature of the conservation remedies. The pointing work undertaken is not in conformity with the original mode of construction, which was of the dry mortar type. In addition to this, the pointing has been carried out using cement mortar, an extremely incompatible material with stone. This has led to large-scale deposition on the stone surface and consequent efflorescence. The salt deposition has completely defaced the entrance doorways and should be urgently remedied.



The practice of burning of vegetation grown after the monsoons should be stopped and more conservation sensitive techniques adopted. However, excepting the profuse grass growth no other form of vegetation was observed on any of the structures.

The ruins lie in a desolate state with no preservation work initiated. Although, large-scale reconstruction is not advised, some amount of basic maintenance work should be taken up or most of the finer details will be irretrievably lost.



2.3 island forts - KULABA

2.3.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

The following is an assessment of qualities and features of the Kulaba fort complex, a summarization of the topographical and architectural characteristics to identify the critical elements to be necessarily preserved.

Significant Topographical Features:

- 1. Rocky island reef
- 2. Vistas towards Alibag sea front

Important Architectural Characteristics:

- Ramparts, bastions, entrance doors along with all the elements of the fort complex including the guardhouses
- Structure at a distance from the fort; Sarjakot
- Ruinous remnants within the fort complex such as the granaries, storehouses, palaces etc. along with all the individual details
- 4. All temples and shrines
- 5. Stepped fresh water reservoir and subterranean well
- 6. Movable artefacts such as the cannons mounted on the bastion

Although Kulaba is already a nationally listed monument, an assessment of the remnant historic integrity would enable an evaluation about its present status and help generate guidelines for effective preservation.

Location	Kulaba fort enjoys the distinction of being one of the unique forts that can be accessed on fort during low tide. This makes this fort particularly singular in terms of it being an island fort in the sea but which can be accessed on foot.
Design	One of the very few forts that display most of the elements typical to a full-fledged fort. In fact although primarily a military outpost, at the Kulaba fort well-developed residential architecture is visible.
Setting	With the entire expanse of the sea and a backdrop of the setting sun, the fort enjoys an amazing locale. Commanding the as yet unsullied Alibag sea front, the fort maintains its presence for miles around.
Materials	The surviving remnants display excellent mode of construction and use of good quality material that has withstood the weathering action and abrasive user interface.
Workmanship	The construction methodology of the fortifications, residential structures and religious shrines show outstanding quality of workmanship and material usage. The carvings and remnant details are executed with precision and even the laying of the massive size stones for the ramparts is done with amazing skill.
Feeling	Completely intact on account of a survival of a large amount of the built fabric.
Association	The declaration of it being a protected heritage site and ancient monument has to a large extent made people aware of its significance, in addition to its sheer magnificent presence off the shore.

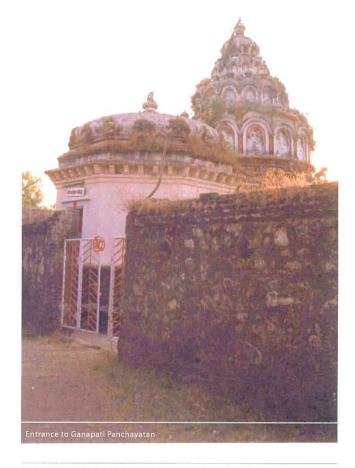
Kulaba fort is declared as a nationally protected monument under the "Ancient Monuments and Archaeological Sites and Remains Act, 1958" and fully deserves this heritage protection.

Area of Inscripted site

35,000 sq.m

Compilation Date

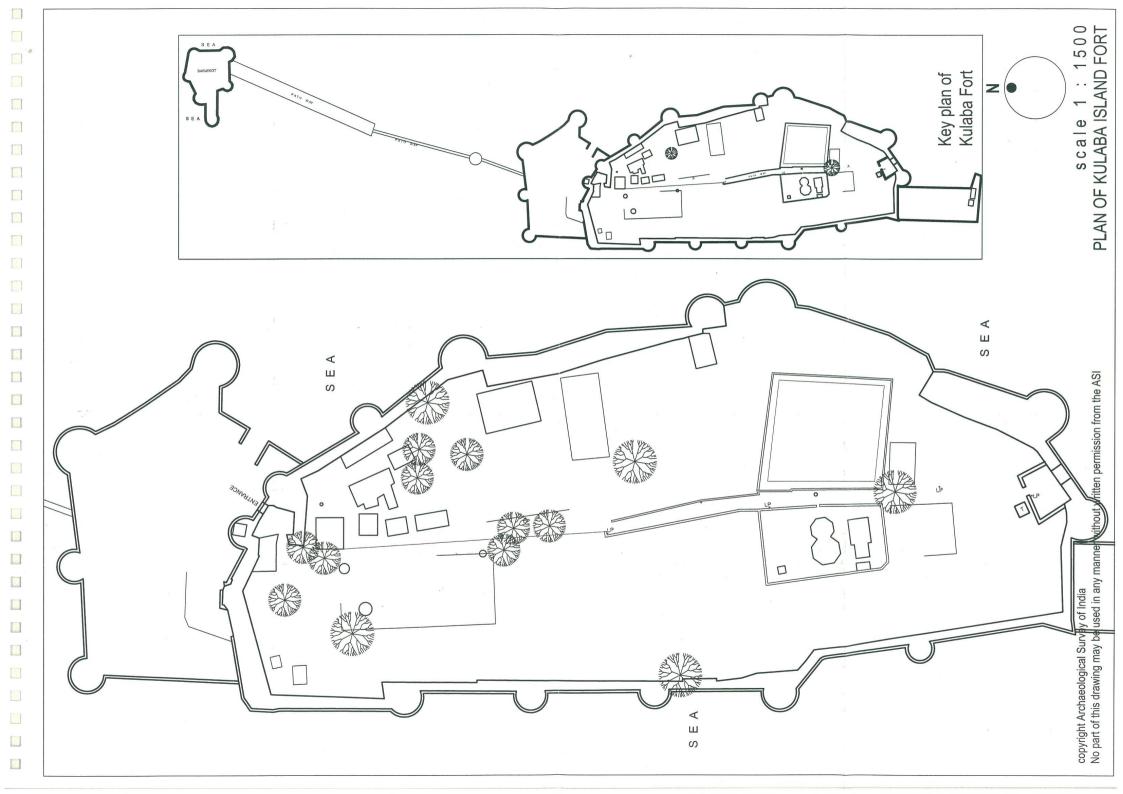
December 2004



DIRECTOR OF PRINTING AND STATIONERY, Maharashtra State Gazetteer – Kolaba District, Government of Maharashtra, Bombay, 1964 (Revised Edition)

West Coast of India Pilot, Government Press Publications, 1926

³ DOUGLAS, JAMES, *Bombay and Western India – A series of stray papers, Vol. 1*, Sampson Low, Marston & Co. Ltd., London, 1893





2.4 island forts - ARNALA

2.4.1 LOCATIONAL INFORMATION



(Source: Sea and Hill forts of Western India – Aerial views and historical perspective, Ed.: NARAVANE, M. S., PHOTOGRAPHY: BODHE, GOPAL, Maritime History Society)

Reference no

FT/TH/IF/AN/4/2004

Geographical Co-ordinates

19° 28' N and 72° 44' E

District

Thane

Access & General information

Arnala is a compact fort built on an island 0.25 km. off the Agashi coast and was also known as Janjira after the Marathi corruption of the Arabic word Jazirah' meaning an island. It was also called the Illha de Vaccas, or cow's island by the Portuguese. Access to the fort is possible by the regular ferries from Agashi coast every 20 to 25 minutes up to the island from which an irregular unpaved pathway leads through the village settlement of Arnala till the main north entrance of the fort. Since there exists no jetty both at Arnala and Agashi the boat has to be boarded by wading through 2 feet deep water. Arnala is

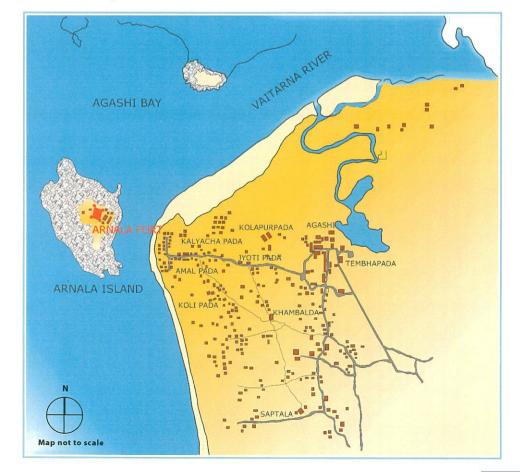
approximately 40 km. from Thane city and 14.49 km. north of Vasai. The closest railway station is Virar on the Western Railway.

Classification

Island Fort – Secondary Fort

Present Usage

Settlement around fort and internal fort enclave is used for cultivation as well as houses several religious structures.



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SIGNIFICANCE OF THE SITE

Historical Perceptions

Commanding the southern and main entrance to the Vaitarna river, the most extensive inlet in north Konkan, Sultan Mahmud Begada constructed Arnala fort in 1516. Occupation by the Portuguese in 1530, meant destruction of several Saracenic structures within the fort, but the fort itself seems to be largely retained. A guard of soldiers was stationed at the fort, which also had an extension in the form of a round bastion like structure at the south of the main fort looking out over the Vaitarna Creek inlet at the south. Arnala became a major naval depot during the Portuguese times and served as an intermediate outpost between Bassein in the south and Daman in the north, acting also as a bulwark protecting the mouth of Vaitarna Creek. Among north Konkan forts it ranked next to Bassein in size and strength, and was superior to Bassein in the uniform breadth of its rampart top, or terrepleine, and its uniform line of defense. Some amount of ship building activity also took place at Arnala. Timber for ship building activity at Bassein and other places were the hills of Tungar and Bassein and in the 17th century, extended into Vaitarna, Tansa up to Wada and Jawahar. Timber cut in these forests was floated down Vaitarna and its main tributary and collected at Arnala, Agashi and Papdi. In 1540, it is recorded that the King of Portugal procured a large ship built at Agashi.

After the intense battle between the Portuguese and the Marathas in 1739, Arnala was captured by the Marathas and according to a Marathi inscription over the northern gateway, was rebuilt during the reign of Peshwa Bajirao I by an architect named Baji Tulaji. Efforts for its capture were made by the British in 1781, when the Marathas did not yield and preparations for bombardment of Arnala were made from Agashi. It was briefly occupied by the British at this time when the East India Company troops captured it under Colonel Goddard, but was returned to the Peshwas. Arnala finally came under the dominion of the British in 1817 when it was guarded by a small detachment of troops and a description of it in 1862 records it in very good order and surrounded by water, but with no other supplies.

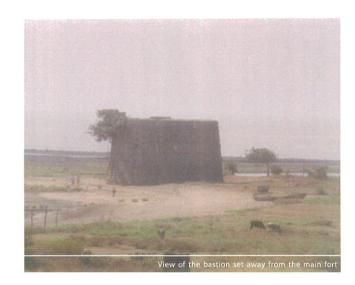
Archaeological Significance

Topographical Features

Arnala Fort is set on a island off the Agashi coast, deep within a settlement, so much so that it is hardly visible from the mainland with the only noticeable feature being the circular bastion set at a little distance from the main fort. The island is extremely picturesque with the largely original settlement with palm fronds lining the clean sweep of the untouched beach. The absence of a jetty further contributes to the old world intact charm of the place, with the only necessary accretions being the huge electrical pylon connection to the island.

Architectural Description

Constituting a compact fort, Arnala consists of a more or less rectangular fortified complex with gateways on the centre of each side, the main one being the north entrance. The fort complex, apart from the ancillary bastion at a short distance on the south and the actual ramparts, comprises of an original but ruinous structure, two temples, a Muslim dargah, a miniature shrine housing the local deities, an old octagonal well and 4 other wells. Arnala is perhaps one of the few forts where the architectural remnants and layers of occupation by a succession of rulers is visible right from the original construction of the Gujarat Sultans to the mid-occupation by Portuguese up to the Maratha activity. Of the latest British settlement very few or no remnants are evident.



Concise Chronology of Events:

1516	Arnala fort constructed by the Gujarat Sultan Mahmud Begada
1530	Portuguese took over the fort from the Gujarat Siddis (Admiral appointees of the Mughal Empire) and destroyed the original Saracenic domes and arches. Used by the Portuguese as a major naval depot and to supplement the area between Vasai fort in the south up to Daman in the north.
1739	Captured by the Marathas after the siege of Bajirao Peshwa and Chimaji Appa over the Portuguese. The fort was apparently rebuilt in the reign of Bajirao I by an architect named Baji Tulaji as per the inscription over the north gateway.
1781	Preparation of bombardment by the British from Agashi Fort.
1817	Taken over from the Marathas by the British and guarded by a small contingent.
1930	First Salt Satyagraha in Thane District took place in Arnala village.

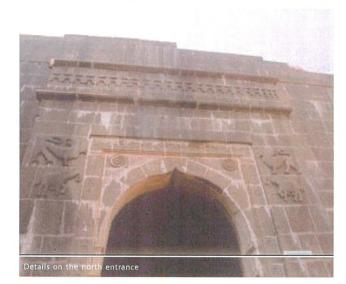
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2.4 island forts - ARNALA

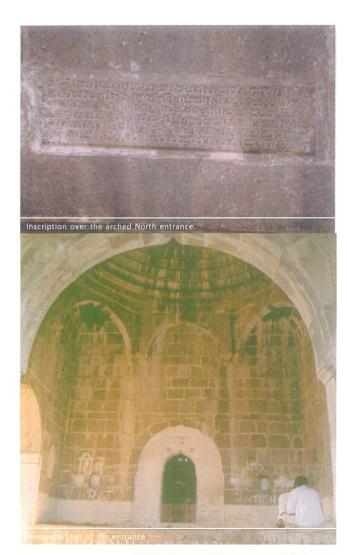
The average height of the fortifications is about 30′, which increases at the gateways particularly the north and the west where it reaches almost 40′, including the parapet, responsible for absence of a moat for additional protection. The thick rampart wall consists of a walkway approximately 8′ wide at the top accessed by a flight of steps provided at every entranceway. Access



from the north is through a huge arched entrance, flanked by strong bastions on either side, with the characteristic Islamic arch profile with a pipal leaf ogee at the crown. Simple but well-cut decorative features adorn this entranceway with the typical rearing lions and garlanding elephants motif with a tracery of floral elements along the face and running at the top of the entrance, with lotus medallions punctuating either side of the tympanum. At the central portion between the arch crown and the cornice, the Marathi inscription proclaiming capture of the Arnala fort, is placed. This too is well-cut and in good condition.



A plaque installed at the right of this entrance states, "ONGC sponsored the illumination of Arnala for which the foundation stone was laid by Ram Naik, Petroleum and Natural Gas Minister on 18th March 2001". The archway leads to a square chamber covered with a corbelled dome with arched squinches at the four corners. A continuous stone seat is provided along the inner side of this entrance that has small arches on its west and south sides provided with a series of steps to access the upper rampart from within. This inner entrance chamber opens out on the east side onto the inner fort enclave. An immediate feeling of enclosure is felt upon entering the fort, reinforced by the strong ramparts enveloping the area.

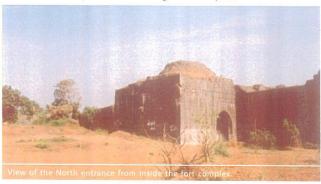


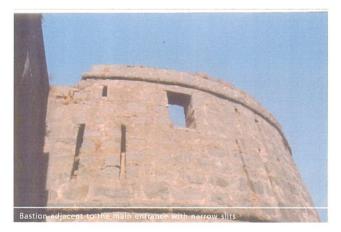
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2.4 island forts - ARNALA

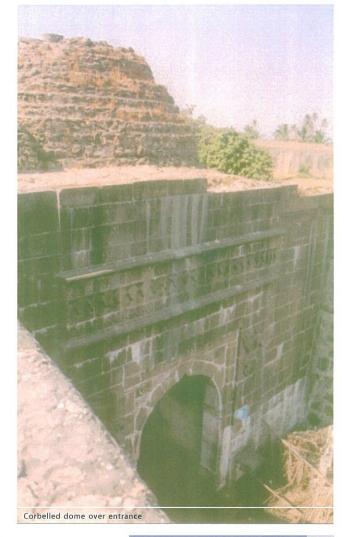


To the right of the east entrance (on facing it) is the arched guardhouse, perhaps also used to tether horses. Access to the upper rampart and top of the north entrance is through a flight of steps on the left. The height of the inner chamber is accentuated due to the corbelled dome described earlier and the construction of which is visible from the top. The space above the bastions on either side of the entrance is surface with lime concrete terracing and provided with high parapet with narrow window slits. Openings are also provided at uniform intervals along the bastion parapet to ensure ease of monitoring the surroundings. The narrow stairwell from the inner chamber opens out onto the ramparts with a small room within the bastion acting as the sheltered stronghold. A small base is also provided for the flagstaff at this point.





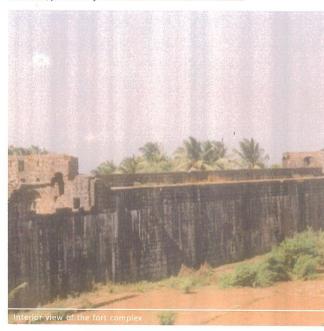




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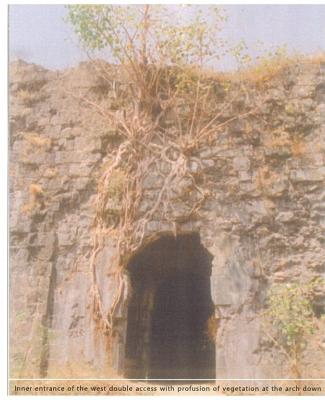
2.4 island forts - ARNALA

The walkway atop the ramparts is paved with lime concrete with smooth aggregate terracing along with large, rough and irregular stone paving in some sections. The parapet is provided with narrow slits, which at regular intervals are modified to form a three-slit unit with tapered jambs, as well as seats with sloping back rests particularly on the southern inner face. The rampart floor is slightly projected from the inner face of the fortifications by means of a sloping corbel. Rounded cornice bands punctuate the rampart walls on the external face but do not coincide with the actual heights of the inner chambers and are merely provided as visual breaks on the unadorned external façade. The semicircular bastions are provided with a maximum of four chambers on its inner face, with the primary one being the base rampart. A semi-circular chamber with arched openings is observed atop the bastions, of which the roof has since collapsed but dowels that housed the girders spanning the roof are still visible. This is followed with another enclosure with oblong rectangular openings and then the parapet line. These divisions or height lines are visible only at a few instances, particularly at the south and the east entrances.





Each side of the rectangular fort is provided with an entrance. The north entrance although the primary entrance is smaller in comparison with the larger west entrance, while access to the south and east entrances are cut off due to profusion of vegetation in one and introduction of residential quarters in the latter. A narrow archway is also provided on the southeastern face of the fort leading to the settlement around. The west entrance is also characterized with the huge archway and accompanying carving observed at the north. However, the primary difference in this entrance is the numerous inner chambers it houses, currently used as hay barns. Each of these chambers is provided with semicircular openings and neat stone paved floors.





Of the numerous structures found within the fort enclave, the main one, only on account of its size and current historicity, is the residential (?) structure directly opposite the north entrance. It is now rendered completely ruinous on account of the total collapse of the superstructure, but even the surviving remnants evoke a sense of its significance. Comprising of a stone plinth, with decorative bands, the walls of the rectangular structure are constructed of thin bricks with lime mortar joinery. With trefoil arched decorative niches a parallel can be drawn with this Peshwa period structure to the Angre residential construction of Kulaba Fort at Alibag. Such houses of latter Maratha period have common elements such as pointed arches and bracket and beam construction. Decorative features such as carved brackets and foliated arches were also characteristic of latter Maratha works (1724 onwards). A series of steps on the west leads to a fresh water well with a massive tree growing nearby, shading the water.





Other notable structures within the fort enclosure are the two temples and Muslim shrine. The temple dedicated to Trimbakeshwar with a Shiva ling is entirely new. Although the old Shiva ling has been retained, the nandi of the outer sanctum is a new idol installed in place of the original which can still be seen outside. The older nandi idol along with other original deities such as a Ganapati idol has been placed on the stone parapet of the octagonal well abutting the temple. This stone lined fresh water well is the largest well in the fort enclave with small decorative niches, access steps and space for drawing water.



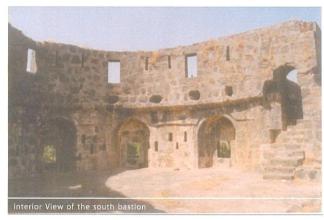
Between the well and the rampart, abutting the east entrance, are a group of small domed shrines housing local deities crafted in stone. The other temple, dedicated to Dattatreya, is more like a vernacular structure and was established in the year 1950. Even the Muslim shrine is vernacular in its typology with timber latticed openings and Mangalore tiled roof. Both have huge trees in the front clearing.



The built palimpsest of successive rulers is evident in the form of the primarily Islamic fort construction with the semi-circular bastions and regular fort shape with ogee pointed arches. Very few modifications were made during the Portuguese period, visible in the scanty surviving country tiled roofs over the ramparts. Although the inscriptive record over the north archway states that the fort was entirely re-built by Peshwa Bajirao, the fort does not seem to have



been totally re-constructed but merely strengthened. This is evident in the latter rough pointing of the walls and perhaps reconstruction of the parapets. Since a lot of features of fort construction of the Mughals and the Marathas are similar owing to them being derived from the Bahamani (or Brahmani) techniques of the Deccan, such interpretation of the architectural heritage could be perceived as conjecture as it is not based on epigraphical or textual record. The other Maratha feature of construction is the large residential (?) structure near the north entrance. The trefoil arch niches and layout of the ruined structure are very similar to the ones found at the Kulaba fort in Alibag.





Materials

Fine textured and neatly cut bluish-grey basalt stone blocks are used for the construction of the fortifications but the parapets in a few sections are lined with rough-cut stone masonry. Some intrusions typical for igneous rocks is observed in the stone matrix, but the geological composition of the stone is extremely hard-wearing. Entire length of stone is used for spanning the embrasures and openings. While the lower sections of the ramparts are characterized with fine lime mortar joints, the stone parapet joints are pointed in a rather rough manner and are cracked all over. Stone is used as paving material at the entrances as well as for all the stairwells. The residential structure within the fort complex is constructed of a stone plinth with brick masonry superstructure covered with lime plaster, while the octagonal well is lined with stone and other wells in random rubble masonry.



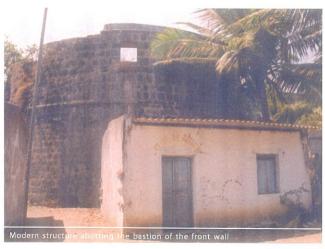
2.4.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal protection

The fort does not have heritage protection. However, since there is an extensive settlement of the fishing community around and the fort enclosure is used for cultivation it is looked after by the Village Panchayat.

Current Management Framework

As per the Regional Plan 1996 – 2011 for the Mumbai Metropolitan Region, Arnala Island fort falls in Green Zone – 1 (G – 1). Under this land use, the lands within this may be used for settlements (gaothans), farm buildings, holiday resorts, single family houses, reserved institutional buildings, film shooting sites, godowns, agricultural and allied activities, religious places, parks, fish farms, quarrying, small scale industries, infrastructure etc. These various permissible land uses could lead to unmitigated and insensitive construction within the fort complex. This is already visible in the form of an extensive village settlement around that is growing incrementally. The original low lying vernacular architecture is gradually giving way to massive concrete structures some even abutting the historic walls. It is hence necessary, that this fort be urgently listed as a heritage site with specific envelope and excluded from the Green Zone – 1 notification.

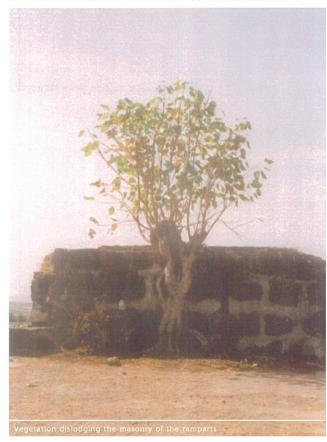


Maintenance & Past Repairs

No repairs have been undertaken by any agency since the fort does not fall on either the State List or under Central notification. On account of its robust construction material the fort is rendered stable, but has been showing gradual signs of disrepair. This is largely on account of the deep rooted tree growth that

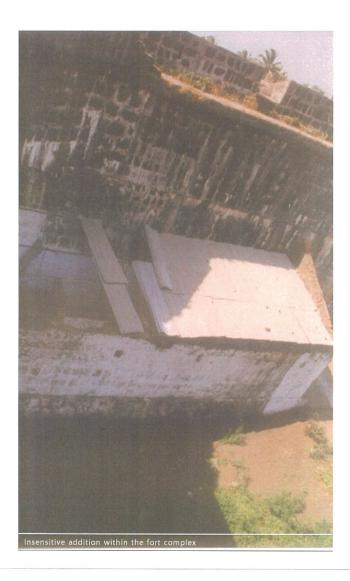


has sprouted within the masonry joints, particularly in case of the inner face of the west entrance that has almost completely disintegrated due to this extensive growth. Not only has the hard rock split because of the root penetration but the masonry has also dislodged threatening the structural stability of this entrance. Several sections of the forts display seepage stains and efflorescence due to salt action, particularly noticed on the inner corbelled domes where huge runnels of lime mortar are observed on the upper reaches of the walls.



While these are signs of incremental deterioration due to weathering and disrepair, the other primary concern is vandalism where historic walls have been in some cases been covered with indelible graffiti. Where basic lime washing has been undertaken, it can be removed with gentle alkaline solvents but in cases of enamel paint, these would have to be removed using chemical consolidants, treated on a case by case basis. Although most of the significant structures are noticeable within the fort enclave, agricultural cultivation could have gone over some of the archaeological remnants. In addition to this, some sections of the fort interior are also profusely grown over with wild vegetation that needs to be carefully removed to bring to light probable historic remains as well as protect the fort from being overrun with this vegetation. The original Trambakeshwar temple too has been reconstructed entirely using modern materials, not only resulting in damaging the authenticity but also irretrievably destroying the original temple. A canteen and store has cropped up abutting the ramparts, disrupting the integrity of the site. Such acts should in the future be prevented, possible only by means of active heritage protection.







2.4.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, which have been described earlier as part of the archaeological recording, and is undertaken in the following manner:

Significant Topographical features:

- Island fort
- Natural sandy stretch
- Natural landscape with indigenous tree growth (such as coconut palms etc.)

Important Architectural characteristics:

- 1. Construction methodology using stone masonry
- Massive ramparts with lime terracing and all associated structural elements
- 3. Bastions with parapets, merlons and embrasures
- 4. Arched entrances with decorative elements
- Footprint and location of religious shrines and other historic structures
- 6. Isolated bastion at some distance to the south of the main fort

In addition to identification of the principal significant elements an evaluation of the historic integrity of the Arnala Island Fort would enable a cumulative assessment of its current significance as a heritage site. This evaluation along with identification of the key topographical and architectural features would facilitate grading of this historic site.

¹PATHAK, Dr. ARUNCHANDRA S., (Executive Editor & Secretary), 2000 (originally printed in 1882), Gazetteer of the Bombay Presidency

- Thana Places of Interest, Gazetteers Department, Government of Maharashtra, The Government Central Press, Mumbai, Facsimile Reproduction, Vol. XIV (pg. 10)

2 BURGESS, J.,

Revised List of Antiquarian remains in the Bombay Presidency, Archaeological Survey of Western India, 1884.

Location	Built to man the extensive inlet of the Vaitarna Creek, the island fort till date enjoys this vantage point although its primary function of a fortified stronghold is obviously rendered redundant.
Design	The original extent of fortifications largely survives, with instances of dislodging of masonry due to vegetational growth.
Setting	The setting is undisturbed primarily on account of its being away from the urban areas. The island fort has one of the most striking views not only of the island but also from the Agashi coast. The boat journey along with the sea views gives rise to a heightened visitor perception.
Materials	The sturdy construction methodology and quality of materials are largely responsible for the survival of the fort despite the natural and manmade conservation issues.
Workmanship	Excellent masonry construction with delicate decorative carving on the hard stone give an indication of the skill of the workmen. The only rather disrupting construction methodology is the rough cast pointing of parapets on the inner face that has badly cracked. The fact that the fort survived most of the invasions is also evidence of good workmanship quality.
Feeling	The massive semi-circular bastions, arched entranceway, ramparts and all allied structures within the fort enclave, immediately still convey the feeling of a fortified enclosure. This is however lost on perceiving the settlement around, which is rapidly changing from a hamlet of a handful of fisher folk to an extensive development.
Association	Since it would be impossible for forts to still hold the original associational value on account of the redundancy of their primary function, Arnala fort also suffers from ignominy due to change in land use from being a fortified stronghold to an agricultural area. However, the fort exerts a tangible presence due to its sheer existence and the still numerous perceptible structures within as well as the actual fort.

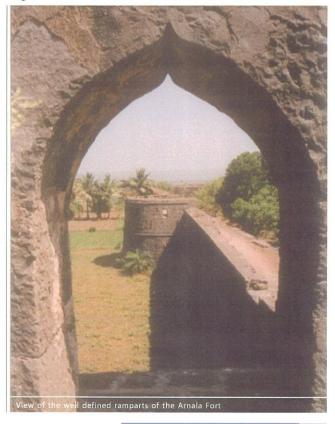
The Arnala Island fort, as mentioned earlier, is not categorized as a heritage site and hence does not have formal heritage protection. However, this was not the case pre-independence and it finds mention in an earlier list drawn up in 1884, classifying it as Grade III, "those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve."

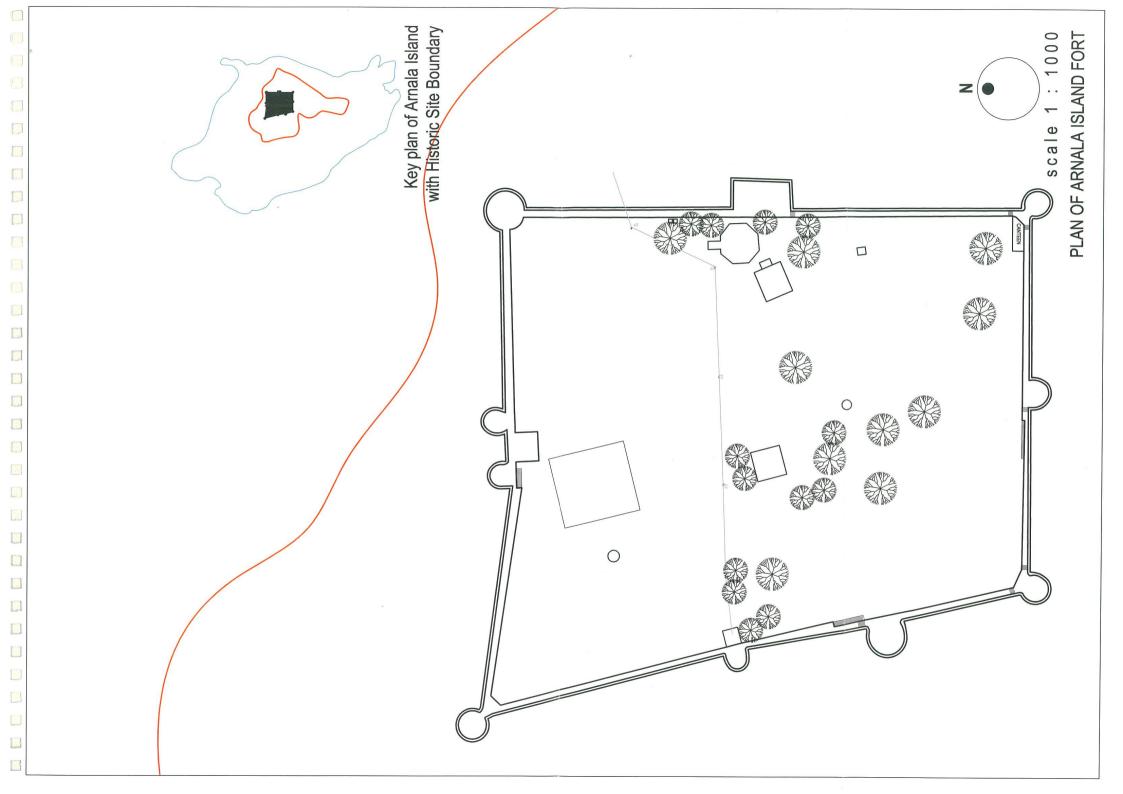
An assessment of the heritage value and historic significance of Arnala Island Fort, also considering the extant built form, qualifies the fort as Grade I within the prescribed grading format.

Area of Inscripted site

5 acres

Compilation Date August 2005





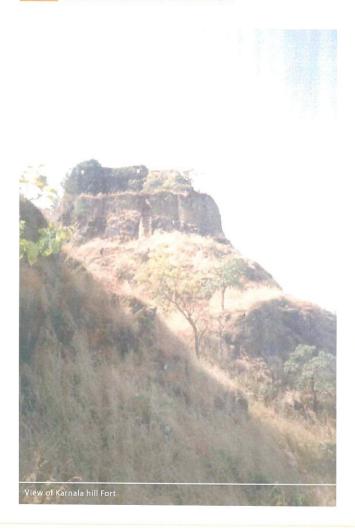
tlp to the close of the 18" century, it is probable that most of the hill forts were intact and fit for occupation and defence. On the close of the long series of wars in 1818, most of those that fell into the hands of the British were dismantled. Their armaments were removed, and the walls where necessary were blown up. Since then the recurring storms of the rainy season have completed the work of destruction, and year by year their disjutegration goes on. It would be hopeless to attempt to restore them. But as relies of a past age and a system gone by they will ever be interesting even to the most prosan and careless of observers. Even now they are well worth inspection.

-- Progress Reports of the Archaeological Survey of Western India, 1891-92



2,5 hill forts - KARNALA

2.5.1 LOCATIONAL INFORMATION



Reference no

FT/RD/HF/KN/5/2004

Geographical Co-ordinates

19° 50' N and 73° 05' E

District

Raigad

Access & General information

Karnala Fort is built at an altitude of 1560' (439 m), a few miles northwest of the Vegavati (Patalganga) river and 11 km from Panvel. It is easily accessible as it is located along NH 17 and sits within the Karnala Bird Sanctuary. Accessto the fort is through a pathway of rough-cut stone steps and boulders from a lower hill to the mountain on which the fort is located. Although the initial access is relatively easy the upper reaches of the fort are difficult to negotiate due to the often steep and narrow path. The fort gets its name from the local goddess Karnaladevi, a shrine of whose is constructed en route to the fort.

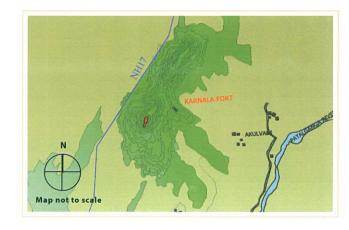


Classification

Hill Fort - Fortified Outpost

Present Usage

The fort falls within the Karnala Bird Sanctuary and Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 - 2011.



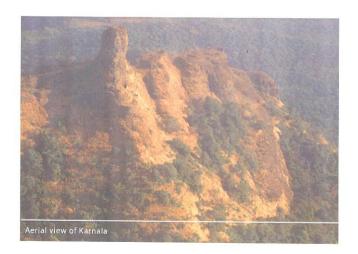


2.5 hill forts - KARNALA

2.5.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

As recorded in the Bombay Gazetteer, the Karnala fort was under the Devgiri Yadavs (1248-1318) and subsequently under the Muslim rulers of Daulatabad (1318 - 1347) was the headquarters of one of the districts of north Konkan. In 1540 it was taken from its Gujarat garrison by a body of Ahmadnagar troops. The Gujarat commanders came to Bassein and asked the Portuguese to help them in gaining it back. The Portuguese sent 300 Europeans, took the place and restored it to Gujarat. Shortly after the Ahmadnagar troops again advanced against Karnala, the Gujarat commander retired to Bassein and made over the right of the fort to the Portuguese, on the condition that they should undertake its defence. Menezes, the Captain of Bassein, came to the rescue of the fort, and put the besieging army to flight. Afterwards the Portuguese Viceroy, to gain the friendship of the Ahmadnagar King Burhan Nizam Shah, handed him the fort on his agreeing to pay a yearly sum of 1750 pounds (5000 gold pardaos). In 1670 Shivaji took Karnala from the Mughals, which on his death was recovered by Aurangzeb till 1735. It must have shortly passed to the Marathas as by1740 the Peshwa's power was established all over the district. In May 1803, a party of the 13th Regiment, N.I., in the interest of Peshwa Bajirao, attacked and carried the fort by forcing the gate. In January 1818 Colonel Prother captured it from the Marathas.1



Concise Chronology of Events:

1248 - 1318	Under the Devgiri Yadavs
1318 - 1347	The fort came within the jurisdictional control of the Muslim rulers of Daulatabad as Karnala was the head quarters of one of the districts of North Konkan
1540	Fort under siege from the Mughal Ahmadnagar troops against the Gujarat Garrison, which takes the help of the Portuguese rulers of Bassein. This siege was averted through the Portuguese help, who returned it to the Gujarat Sultanate as part of an agreement between the Sultan Bahadur of Gujarat who had earlier ceded Bassein in 1533 to the Portuguese as protection guarantee against sieges of the Mughals. In order to win their friendship, the Portuguese recaptured the fort and returned it to the Sultanate for a yearly sum
1670	Shivaji captures Karnala from the Mughals
1735	Aurangzeb recaptures the fort after Sambhaji's death along with other Maharashtra forts
1740	Peshwas establish their power and Karnala comes into their dominion
1818	Colonel Prother regains Karnala from the Marathas
1862	The fort described to be in a state of disrepair as several walls had collapsed. The water cisterns were in good condition supplying potable drinking water all year round

Archaeological Significance

Topographical Features

It historically occupied a strategic location due to command of the high road between Bor pass and the Panvel and Apta rivers. Occupying a vantage look out point, the other hill forts Prabal and Chendani can be easily viewed from this high point. This gives a clue about the location of several hill forts in close vicinity, which perhaps communicated by means of fire signals and flares. The sweeping views of the surrounding lush hill ridges make this fort a nature lover's paradise.

Architectural Description

The Karnala fort complex consists of an upper and lower fort segregated with the help of fortifications. Access to the fort is through a series of steep steps (a rickety handrail is currently in place without which it would be extremely difficult to access the fort) to a trabeated entrance minimally decorated with rock-cut panels of rearing lions and carved stone brackets. The main entrance is through a sheer wall at the end of which is a semi-circular bastion. Other carved decorative features are barely visible, abrassed due to the weathering action, but are observed



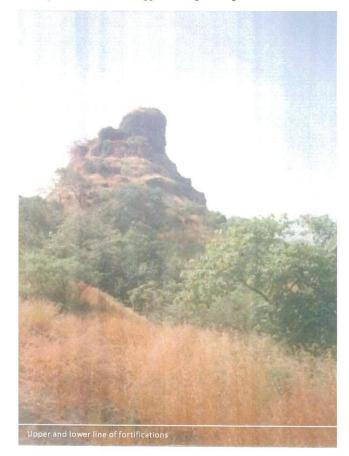


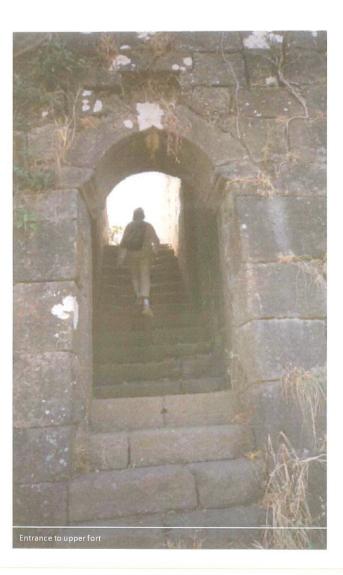
especially along the jambs. Slots for thick doors are visible on the inner side and a portion of the upper jamb has fallen on the inner side of the main entrance. This gate leads across a plateau to the upper fort, which like the lower fort is crested along the mountain scarp by a wall.

Two gateways, one at the foot and the other at the top of a flight of rock-cut steps lead to a double gateway with a chamber in between. In the center of the upper fort is the distinctive funnel feature, visible for miles around, an almost inaccessible basalt pillar 100' to 150' high. A worn-out marble memorial plaque at

2,5 hill forts - KARNALA

the foot of this funnel mentions an unsuccessful fatal attempt by a rock climber. Rock-cut water cisterns are carved at the base of this funnel that had standing but stagnant filthy water. Apparently some of the chambers of these rock-cut excavations were also meant to originally be storehouses but are currently full of water. The funnel is locally known as Pandu's tower, but nothing in the excavations suggests a religious origin.





Between the upper fort entrance and the funnel is located a large stone faced structure of which only the walls survive. The gable wall gives an indication of the sloping roof profile of this structure.





Remnants within the upper fort

The Bombay Gazetteer records two inscriptions, one in Persian and the other in Marathi. The Marathi inscription is on the inner side of the lower gate and

has no date with the words so contracted that all attempts to read it have failed. The Persian writing outside the upper gate runs 'Syed Nuruddin Muhammad Khan Hijri 1146' (A.D. 1735).2

Materials

The fortification wall is constructed in an interesting stone course system, of regular size dressed bluish grey basalt stone laid in uniform courses but interspersed with smaller size of stone at regular intervals. However, such a masonry course system in observed only on the fortifications, doorways and bastions but the other interior structures are faced with rough cut basalt.





2.5 hill forts - KARNALA

2.5.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

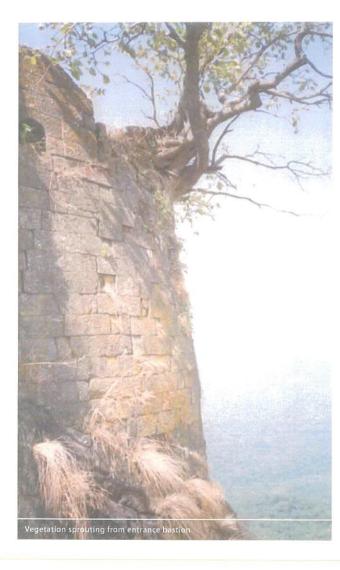
The fort does not currently fall under any heritage protection.

Current Management Framework

The site of Karnala Fort presently overlaps with the designated special protection area of the Karnala Bird Sanctuary and is within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.

Maintenance & Past Repairs

Currently the fort is in a fairly intact condition, with very few of the walls or bastions out of plumb or structurally threatened. This fair condition has much to do with its inherent hard wearing and robust mode of construction and material methodology as otherwise the absence of periodic maintenance would have led to the fort's complete disrepair. However, the bastion next to the main entrance of the lower fort has been rendered unstable due to the presence of a large tree growth sprouting right from the masonry joints. If the vegetation is not appropriately removed, it could cause collapse of the bastion at a later date. The extensive vegetation sprouting near most of the fortifications and structures, especially after the monsoons, should be immediately removed and a periodic maintenance plan put in place to eradicate such growth. Not only is such vegetational growth a threat to the structural integrity of the monument but also makes access difficult to certain sections of the fort. In addition to this, extensive vegetation has led to the covering up of elements or structures that perhaps lie unexposed below the abundance of vegetation.



Some amount of the original remnants are found fallen around the gateways and other structures. These should be properly catalogued and if possible reinstated in their original position. This could easily be undertaken in case of the first entrance where a dislodged beam piece has fallen right next to the gateway. Such an inventory needs to be urgently undertaken in order to prevent pilferage and loss of historic material.

Presence of stagnant water within the rock-cut excavations of the funnel feature could lead to erosion of its base. However, this is not a serious threat and does not require immediate intervention. The more aesthetically disturbing issue is the maligning of the historicity of the monument by the extensive graffiti on the ancient structures, which should be immediately removed.

Since the fort does not fall under any heritage protection, it has not been regularly maintained and no conservation measures have been initiated.



2.5 hill forts - KARNALA

2.5.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, undertaken in the following manner:

Significant Topographical Features:

- 1. Distinctive funnel feature and natural scarping
- 2. Rock-cut reservoirs

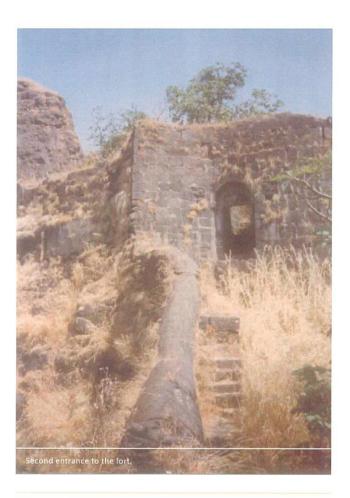
Important Architectural Characteristics:

- 1. Entrance doorway and bastion
- All elements of the fort in the form of the fortifications, gateways to the upper and lower fort, bastions, embrasures etc.
- 3. Surviving remnants within the fort
- 4. Stone paved access steps and natural unpaved pathway

An evaluation of the historic integrity of the Karnala Fort would enable a cumulative assessment of its current significance as a heritage site. This evaluation along with identification of the key topographical and architectural features would facilitate grading of this historic site.

Location	Still enjoys the original location and vantage point wher it was initially built as a look out point to overlook the activities along the hill passes.
Design	The string of fortifications, broken at several instances along with the ramparts gives an idea of the coverage and extent of this small and compact fort.
Setting	Strategically to command the high passes, Karnala till date enjoys a spectacular natural setting.
Materials	All elements seem to be well crafted and use of excellent quality materials has ensured the fort's longevity.
Workmanship	The construction methodology of the gateway and ramparts show outstanding quality of workmanship and are marvelous feats of engineering due to the sheet difficult working conditions.
Feeling	Intact
Association	Deeply entrenched within the Karnala Bird Sanctuary, the fort is a regular beat amongst trekkers, but unfortunately is not as much recognized as a historical site.

Karnala is not classified as a heritage site either with the State or Central Archaeological departments. The surviving built fabric, the outstanding articulation of the layout, the amazing engineering skill of construction and its significance as a historic site, qualifies the fort as Grade I within the prescribed grading format.



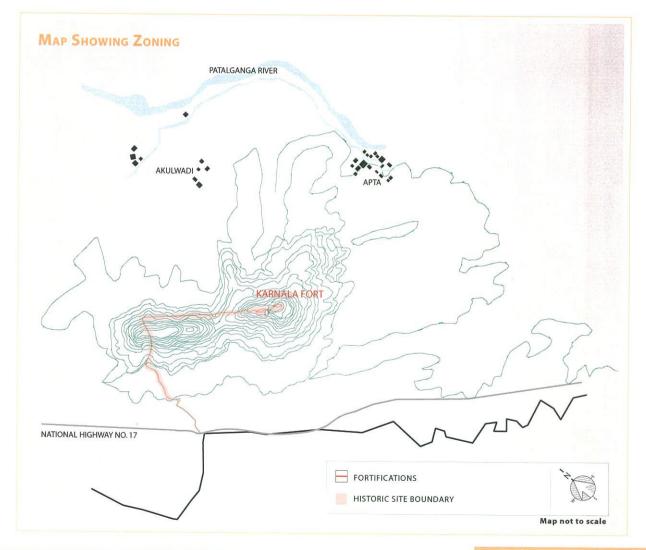
GAZETTEERS DEPARTMENT (EXECUTIVE EDITOR AND SECRETARY), Bombay Gazetteer Places of interest in the Thana District, Government of Maharashtra, Bombay, 1882 (First dition)

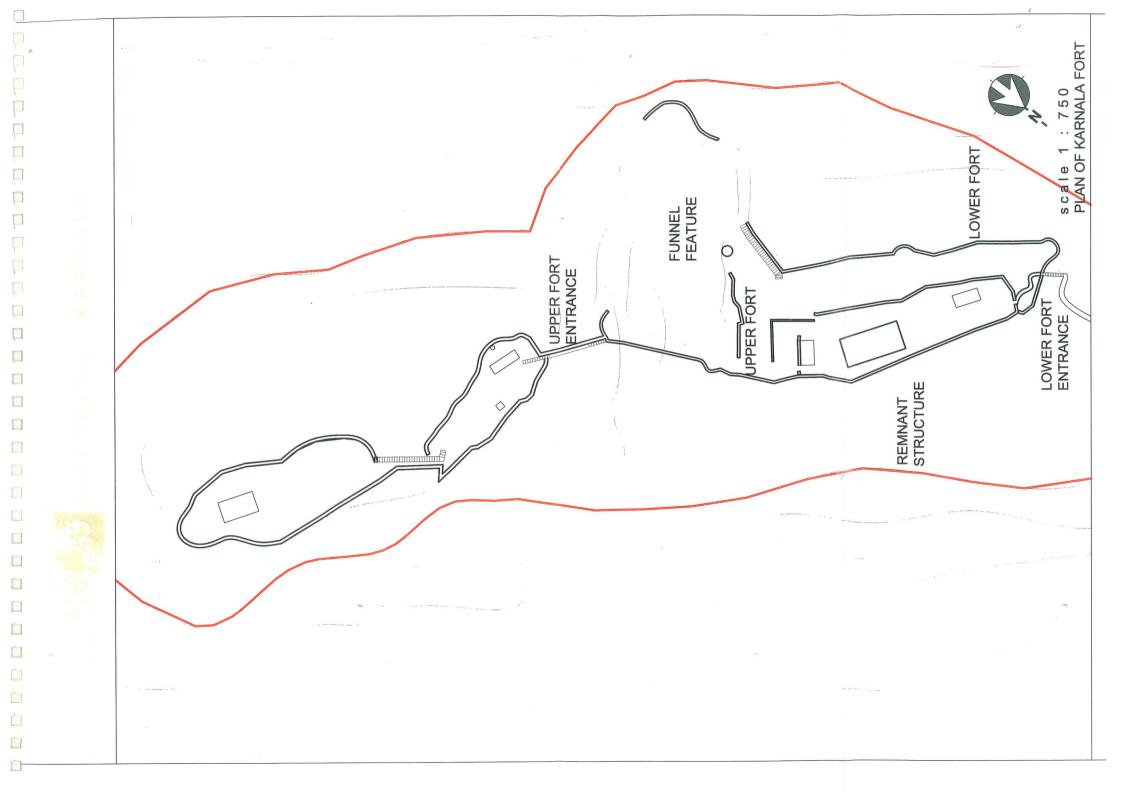
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2.5 hill forts - KARNALA

Area of Inscripted site 75,000 sq.m

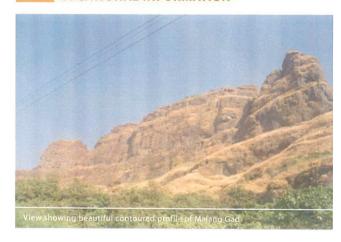
Compilation Date December 2004







2.6.1 LOCATIONAL INFORMATION



Reference no

FT/RD/HF/MG/6/2004

Geographical Co-ordinates

19° 06′ N and 73° 11′ E

District

Raigad

Access & General information

The hill fort of Malang Gad, built at an altitude of 2588', is located around 14.5 km. west of Kalyan Railway Station on the Central Railway Corridor. It is connected by regular bus service up to the base from the railway station.

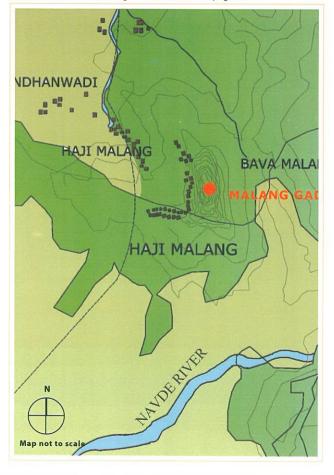
Classification

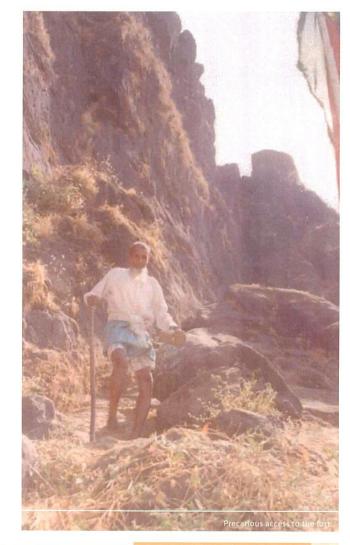
Hill Fort - Fortified Outpost

Present Usage

The religious shrine of *Bawa Malang*, a Muslim saint, is located at the lowest plateau of the hill and hence there is a regular stream of pilgrims visiting the site for its sacred use. As per the Village Panchayat Office which levies a small

entrance sum at the foothills, about 200 to 300 pilgrims visit the shrine on week days and this number increases to approximately 2000 on week ends. The primary occupation of the settlement thronging either side of the access route to the shrine is selling wares associated with the religious use or other associated land use catering to the needs of the pilgrims.







2.6.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

As per the Thana Gazetteer':

Malang Gad is also known as 'Cathedral Rock', due to the broken outline of its basalt crest, and was once a strongly fortified hill fort as described in the 1882 Thana Gazetteer. It is one of the most picturesque and most difficult to climb of Thana hills. The oldest name connected by tradition with Malang Gad is that of Nal Raja, who, about 700 (from 1882) years ago, is said to have lived on the hill, and to have improved the ascent by laying down a line of iron straps (a series of iron dowels embedded in the stone are visible at the steps leading to the lower fort, but the exact date of these is not known). During his reign an Arab missionary, Haji Abd-ul-Rahman, came with a number of followers (two of which died en route) and settled on the lower plateau of the hill. Six hundred years and more passed, and the fame of Haji Abd-ul-Rahman was still at its height when the English made their appearance in Kalyan. As they stayed only for two years, (1780-1782) their departure was ascribed to the power of the saint, and the Peshwa sent to the shrine a pall of cloth of gold trimmed with pearls and supported on silver posts. This gift was brought in state under the charge of Kashinath Pant Khetkar, a Kalyan Brahman. On seeing the tomb, Kashinath determined to repair it. A difficulty of the masonry was removed by the saint, who, without the help of men, quarried and dressed the handsome blocks which cover his tomb.

On the night of the fourth of August, 1780, a body of British troops from Kalyan, under Captain Abington, surprised Malang Gad and succeeded in taking the lower hill, but the garrison made good their retreat to the upper fort. A body of 3000 Marathas cut off Abington's communication with Kalyan, and left him exposed to the attacks of the garrison from the upper fort. Early in October, Colonel Hartley arrived from Bombay, and near Malang Gad, was joined by a corps under Captain Jameson. The enemy were also reinforced, and taking a position to the south-east of the hill, began to lay waste the country. Colonel Hartley, after relieving Abington on the 1st of October, advanced on the Marathas, who, retiring towards their camp, were surprised and put to flight by Captain Jameson's corps. After the cession of Konkan in 1817 Malang Gad held out for some months. It was escaladed in January 1818 by a small force under Colonel Kennedy, with the loss of one seaman killed and nine or ten sepoys wounded.

Malang Gad rises in a succession of bare stony slopes, broken by walls of rock and belts of level woodland. An easy climb of about 1800' ends in a richly wooded plateau, the path leading to some tiled buildings that mark the tomb

of the Bawa Malang, that is the holy man of the Malang school of Musalman ascetics. This wooded plateau slopes upwards to the base of a great bare comb-backed rock from four to five hundred feet high. From the slopes at the back of the plateau, a flight of rock-cut steps, in fair order and nowhere less than 3' wide, climb a long narrow arched ridge about 300' up to a small level space the Lower Fort of Malang Gad. This is a fragment of one of the level belts or terraces, as it were a step between the saint's plateau and the crest of the rock. It is bare of trees and badly supplied with water, and nothing is left of its fortifications but a broken gateway, a low parapet wall, and the sites of ruined dwellings. From the west end of this shelf of rock a flight of rock-cut steps climb, in irregular twists and rough zigzags, about a hundred feet up the face of a sheer cliff. The ascent begins with a sharp turn and a breast-high step, and above there is much difficulty and some risk. The ledge up which the step chamber is in places not more than 20" broad, and Captain Dickinson's blasting was so thorough that now and again, hand and foot holes have had to be cut for the help of pilgrims. On the one side the cliff falls in a sheer wall of about a 100', and then slopes sharply with clumps of trees, patches of bleached grass, and lines of broken boulders, 200' or 300' further to the woods of the saint's plateau. On the other side, rises a bare overhanging rock, and neither in front nor behind are there any clear signs of a pathway. The steps end in the Upper Fort, a level ridge about 50 yards x 20, bare of tress except one old umbar or hill fig, but full of ruins, old cisterns, and the sites of buildings. On reaching the top, pilgrims have three duties to perform, to wash their hands and feet in the large cistern, to gather and eat some of the umbar figs, and to cast a stone at the pinnacle of rock that rises to the south-west across a cleft about 20 yards broad (to the pilgrims this pinnacle is known as Balahamsa). On a clear day the hill top commands a splendid view, much like the view from Panorama hill on Matheran, except that close at hand the rocks of Malang Gad itself and of its neighbours, Tavli and Chanderi look wilder and more desolate, and that, in the far south-east, the Sahyadris are hidden behind the long ridges of Matheran and Prabal.

The following are details of Captain Dickinson's survey in 1818. The fort is reached after climbing a perpendicular height of about 700'. Connected with the base of the hill is a forest covered tableland upon which is the <code>Bawa's</code> tomb and a few huts for the use of the garrison. From this tableland the ascent to the lower fort is very steep and upwards of 300' high. The latter part of the ascent is by an almost perpendicular rock hewn staircase, at the top of which is a strong gateway covered by two outstanding towers, which, even with the smallest garrison, make the place impregnable. Beyond this gateway, the lower fort is nothing more than the summit of this part of the hill, an exceedingly narrow strip not 300 yards long. The precipice which surrounds

it is in most cases a complete natural defence, and all spots which could offer a footing to an assailant have been strengthened by masonry. The lower fort contains two scarcely habitable buildings and a small reservoir, giving a sufficient supply of water during the greater part of the year. From the lower to the upper fort there is a perpendicular ascent of 200' by means of narrow flight of rock hewn steps on the other side of the hill, on the face of the precipice so steep as to make the ascent at all times most difficult and dangerous. The upper fort, a space of 200 yards long by about 700 broad, is nothing more than the top, as it were, of the third hill. It has no fortifications, but there are traces of an enclosure and of the walls of an old building. The water supply is from a range of five cisterns, and a copper pipe is used to carry water to the lower fort, as its single cistern used to often run dry.

Malang Gad finds mention in the West Coast Pilot of 1926, where it is described as, "a high peak, 2588' high, this mountain is located about 26 ¼ miles northeastward of Kankeshwar and on its summit is an enormous perpendicular cliff crowned by a ruined fort." ²



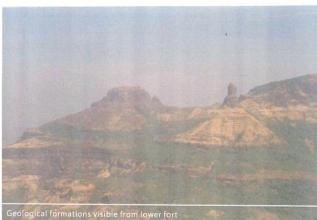
Concise Chronology of Events:

8 th century A.D.	Nal Raja and Arab missionary Haji Abd-ul-Rahman recorded as having occupied the fort
1780 - 1782	British forces occupied the fort for a period of two years. Captain Abington along with a body of troops managed to conquer the lower fort but a 3000 strong Maratha garrison managed to hold the upper fort. The arrival of Colonel Hartley, to relieve Captain Abington, and additional reinforcements even on the Maratha side led to a fresh siege. After retiring to their camp the Marathas were surprised and put to flight by Captain Jameson's corps.
1817	After cession of Konkan, Malang Gad held out for few months but was escaladed in January 1818 by a small force under Colonel Kennedy

Archaeological Significance

Topographical features

The hill profile of Malang Gad is in the form of three tiers, the peak of which is 654 m from mean sea level. While the shrine is at 1800' on a flat extended tableland, one level of the fort is located some 300' from this plateau. The view from the top after an arduous trek is extremely picturesque, with the somewhat unsightly shrine settlement on one side while the other demonstrates one of the most amazing natural topographical sites. The geological formations of the surrounding hills are of amazing beauty and unique in their profiles. In fact even the four distinctive peaks of Malang Gad are described as one of the most striking in several travelogues, beautifully contoured with the distinguishing profile easily noticeable from the national highway.



Architectural Description

As is characteristic of hill forts, Malang Gad also comprises of a lower and upper fort. The three tiered hill has the shrine of the Muslim saint Bawa Malang, located at the tableland 1800' high which is the first tier. This level is accessed by means of a series of steps beginning from the parking lot near the Malang Gad bus terminal at the base up to the shrine at the top. On either side of the steps are hawking stalls selling associated religious wares and eateries, running continuously right up to the top. These stalls are not only

incongruous in terms of the design but also disrupt the sanctity of the sacred site and are ecologically most disturbing. The original stone lined steps, seen at a few instances in perfect condition with good quality material and workmanship. have been covered over with marble or concrete at most sections, which are part of donations to relieve pilgrims, the memorials for which are made abutting the paved areas. However, such charitable acts have not only infringed on the authentic material but this has also increased the level of discomfort of the pilgrims who have to now negotiate an increased riser level due to the introduction of the

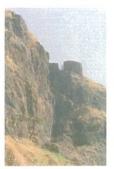


paved surface over the original stone layer. The location of the hawking stalls all along the trek up to the shrine also makes the experience highly monotonous and does not lead to an enhanced visitor perception or pilgrim experience required at such significant sacred and historic sites.

The first stage of the pilgrimage route is up to the tomb of Bokhtiar Baba who is believed to have tried to ascend the hill before Syed Abdul Rahman. A series of steps then leads to the main mausoleum of Bawa Malang, before which is the tomb of Sultan Shah Baba, a disciple of the saint. The plateau at which the principal shrine is located also houses settlement of the local community with several wells and a fresh water tank. Previous records indicate a Hindu family called Ketkar, as the chief priests. Gopalrao Krishnaji Ketkar, an adopted descendant of Kashinath Pant, has been the vahivatdar since 1937. A mausoleum, with a huge dome and silver-plated doors, has been constructed over the tomb. To the right of the Bawa's dargah, is a perennial spring known to his devotees as the chashma, where pilgrims sip the holy water and carry it home as tirth. About 2 miles further are five kabars or tombs of the five great servants of the Bawa and are called as Panch Pir.

The next level of the hill is negotiated through a steep rocky climb to a narrow ledge where a tea stall is located. An offshoot of the ledge leads to a smaller and recent installation of a Muslim shrine. This level leads to the lower fort through a series of rock cut steep steps, not more than 20", at the top of which was a broken entrance doorway flanked on either side by sturdy ramparts. The steps are extremely difficult to navigate, and with the absence of a handrail are very precarious in nature. The lower fort beyond this gateway is a narrow strip along which remnants of fortifications are observed at a few sections. Apart from two other sturdy ramparts, the tops of which are dismantled, constructed along the scarp, a structure of which only the plinth

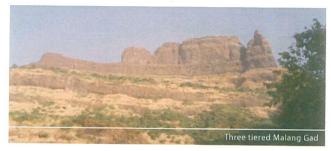
survives and two rock hewn reservoirs nothing has survived. A few other notable features are some sort of subterranean stone lined chambers with window cut outs opening out on to the eastern landscape. Two rock-cut water cisterns (a few sections of which display lime plaster) can also be seen at the lower fort. Fragments of fortifications, only a single course of masonry of which survives, are observed along the scarps, but can be considered almost non-existent. It is unfortunate that this once significant fort has not too much to offer in terms of the extant historic material as most of it was perhaps dismantled preindependence.





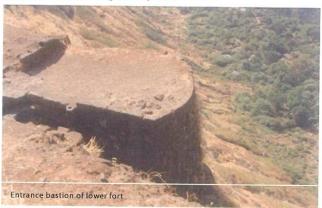


The upper fort is accessed through another series of steps, the approach to which is extremely dangerous and should be attempted only with an experienced trekker. These steps lead to rocky ledge that has collapsed and after going a short distance it leads to another series of steps onto the upper fort. The collapse of the ledge has made the access practically impossible, which has been bridged over currently by a rickety horizontal ladder. The upper fort comprises of an old building and five cisterns.



Materials

The surviving fortifications are made of regular courses of stone masonry with uniform joinery. The steps leading to the gateway are carved out of the rock, some of which are provided with iron dowels embedded into the rock. The parapets of the lower fort, a single file of which only exists, are of relatively un-coursed irregular shaped stone blocks.





2.6.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal protection

The fort does not currently fall under any heritage protection.

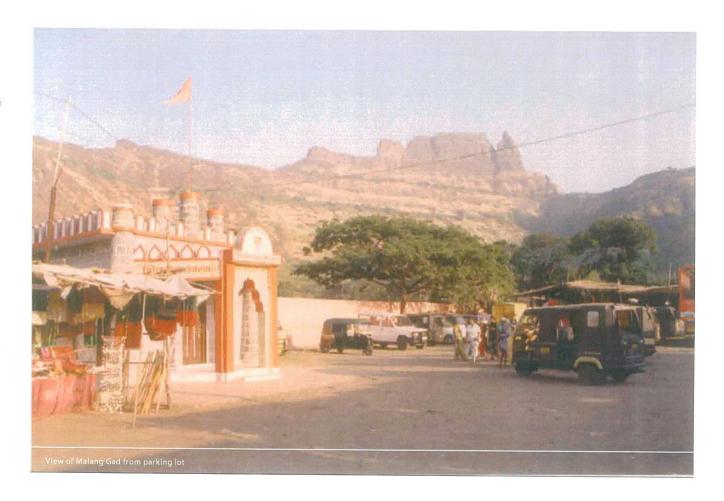
Current Management Framework

The fort falls within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.

Maintenance & Past repairs

As recorded in the architectural description not too much of the original fort survives, with most the fortifications in the form of parapets dismantled post occupation by the British in 1818. In fact, even the access to the upper fort was rendered practically impossible by the thorough blasting undertaken by the British officers. The outbuildings described in the various Gazetteers also do not exist, except the plinth of one building, perhaps on account of pilferage or vandalism by the infrequent visitors or the nearby settlement. Hence this once important fortified stronghold is relegated to more of a religious spot than being historically significant due to the loss of heritage material. On account of this loss of the historic fabric, there is no coherence of the original extent and type of fortifications and the surviving remnants offer a very faint clue about its architectural significance.

Since the fort does not fall under any State or Central heritage protection, it does not fall within the maintenance ambit. Apart from this, the inaccessible situation makes it difficult even for periodic site visits, which also means that any form of restoration would have to be carefully planned to account for working in such hazardous conditions. So far no maintenance measures have been undertaken to sustain this fort.





2.6.4 RECOMMENDED ACTION
& SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, undertaken in the following manner:

Significant Topographical features:

- Distinctive three tiered levels and unique contours
- 2. Rock-cut reservoirs

Important Architectural characteristics:

- 1. Entrance gateway
- Structures within the upper and lower fort such as the plinths of buildings, stone lined chambers etc.
- 3. Bastions and parapets
- 4. Rock-cut steps
- 5. Original regular stone paved access route with steps from the base of the hill

In order to evaluate the historic integrity of Malang Gad to arrive at a feasible plan of action for its preservation as well as to understand its scale of importance in the present scenario, an assessment is made by means of comparing its present state with its physical characteristics during the historic period. The National Register of Historic Places defines historic integrity as the "composite effect of seven qualities present within the landscape – location, design, setting, materials, workmanship, feeling and association".³

Location	Still enjoys the original location and vantage point whe it was initially built as a look out point to overlook th activities along the hill passes.
Design	Completely non-existent and difficult to reconstruct or account of the minimal available historic evidence. An idea of the fortifications could be conjectured due to the standard construction methodology followed in most hilf forts of laying parapets along the crests and constructing massive ramparts along vulnerable points to make them inaccessible.
Setting	This is easily Malang Gad's primary factor as it enjoys one of the most picturesque settings amongst the hill forts with beautiful vitas on its eastern front. However, the setting is partially disrupted due to the intrusive development that has taken place on the lower plateau on account of the sacred use.
Materials	The surviving remnants display excellent mode of construction and use of good quality material that has withstood the weathering action and abrasive user interface.
Workmanship	The construction methodology of the gateway and ramparts show outstanding quality of workmanship and are marvelous feats of engineering due to the sheer difficult working conditions.
Feeling	Largely lost
Association	Malang Gad is now largely associated to be a sacred site and most of the local people do not even know of the fort's existence. This is primarily due to lack of awareness but also due to the fact that too much loss of historic material has led to a decreased association to a typical fort structure, usually perceived as an extensive establishment with massive fortifications and other elements common to a fort, absent in the case of Malang Gad.

The minimal surviving remnants and modified land use account for Malang Gad's loss of significance as an important historic edifice and any treatment aimed at the restoration of its heritage resource should be directed towards this altered landscape rather than at replicating the original fabric. An attempt at minimal intervention should be made to augment the existing structures through stabilization measures and visitor interpretation mechanisms.

The assessment of the surviving remnants and the historicity of Malang Gad classifies the fort within the Grade II category as per the prescribed grading format.

¹ GAZETTEERS DEPARTMENT (EXECUTIVE EDITOR AND SECRETARY), Bombay Gazetteer Places of interest in the Thana District, Government of Maharashtra, Bombay, 1882 (Firs Edition)

West Coast of India Pilot, Government Press Publications, 1926

^{*}HART, SUSAN, Carl Sandburg Home National Historic Site – Cultural Landscape Report National Park Service, Department of the Interior, 1993

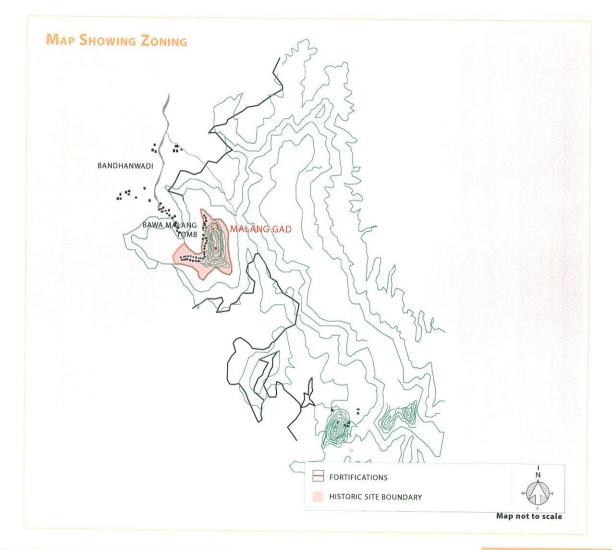


Area of Inscripted site

1,25,000 sq.m (This area covers all the contour levels between the lower and upper fort.)

Compilation Date

December 2004





2,7 hill forts - CHENDANI / CHANDERI

2.7.1 LOCATIONAL INFORMATION

Reference no

FT/RD/HF/CH/7/2004

Geographical Co-ordinates

19° 03' N and 73° 14' E

District

Raigad

Access & General information

The hill fort of Chendani (or also known as Chanderi), built near the village Tamsi, is located around 9 km. from Malang Gad in the Raigad District. On the Central Railway corridor between Badlapur and Vangani, a lane leads to the village of Chincholi, from which a 2 ½ - 3 hrs. climb lead to a cave. A steep climb (which should not be undertaken without the accompaniment of trained trekkers and equipment) leads to the top of the hill where two tanks are the only remnants of this minor fort.

Classification

Hill Fort - Fortified Outpost

Present Usage

The fort falls within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011 and is generally a regular excursion for trekking expeditions.

2.7.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

The Chendani hill fort lies between the peaks of Peb and Malang Gad and was fortified by the Marathas to ensure constant vigilance over the Sahyadris and surrounding regions. Very little in terms of archival or architectural records remain to chart the historical timeline of this fort.

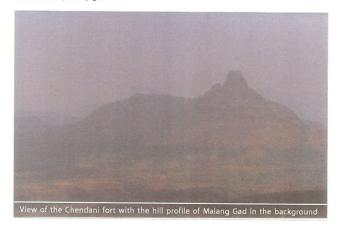
Archaeological Significance

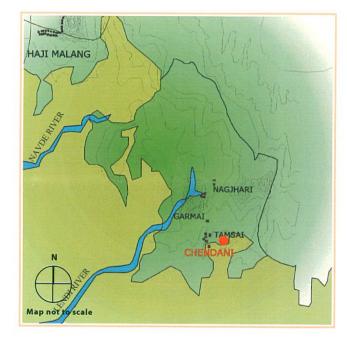
Topographical Features

Similar to the other hill forts, such as Peb, Malang Gad and Prabal, the peak of Chendani too has a distinctive profile. Its stepped scarp with high central peak makes it an extremely picturesque and unique hill fort. As was the practice of Marathas, every high peak along the Western Ghats was fortified forming a network of hill forts acting as look outs over the western seaboard and plateau at the same time. Contact with each of this was established through flares and is evident even now as their proximity to each other gives rises to a dynamic visual linkage with each.

Architectural Description

Ascent to the hill fort of Chendani is extremely steep and should be attempted only in the presence of expert trekkers and equipment. No remnant of this once minor fortified hill survives save two tanks and remains of houses, now almost completely gone.







2.7 hill forts - CHENDANI / CHANDERI

2.7.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

The fort does not currently fall under any heritage protection.

Current Management Framework

The fort falls within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.

Maintenance & Past Repairs

As recorded in the architectural description not too much of the original fort survives, with most the fortifications in the form of parapets dismantled post occupation by the British in 1818.

2.7.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, undertaken in the following manner:

Significant Topographical Features:

- 1. Distinctive hill profile
- 2. Rock-cut reservoirs

Important Architectural Characteristics:

No remnant exists in the case of this hill fort.

In order to assess the remnant historic integrity of Chendani fort, based on the archaeological fabric and associated value the following tabular classification is undertaken:

Location	Built as a look out point, Chendani fort still displays dynamic linkage with the other hill forts along this range forming a network of fortified outposts at vantage locations.
Design	Difficult to construe as there is no trace of any fortification existing.
Setting	This is perhaps the only strong value of Chendani, apart from its strategic location, that currently exists on account of its extremely picturesque setting and distinctive contoured hill profile.
Materials	Due to absence of any built fabric, this factor cannot be evaluated.
Workmanship	No remnant survives, rendering it impossible to assess the workmanship.
Feeling	Non-existent
Association	Chendani is no longer classified as a hill fort on account of loss of historic material. It figures on a comprehensive list of forts purely based on earlier archival records mentioning it as a hill fort.

Complete absence of historic material, apart from the two tanks, found at Chendani hill fort classifies the fort within the Grade III category as per the prescribed grading format. Absence of archaeological fabric is a strong factor to exclude this fort from the register of heritage forts, but is listed purely for its group value and for the fact that it is a crucial component of the network of hill forts.

Compilation Date

September 2005



2.8 hill forts - PRABAL

2.8.1 LOCATIONAL INFORMATION



Reference no FT/RD/HF/PR/8/2004

Geographical Co-ordinates

18° 55' N and 73° 10' E

District Raigad

naigaa

Access & General information

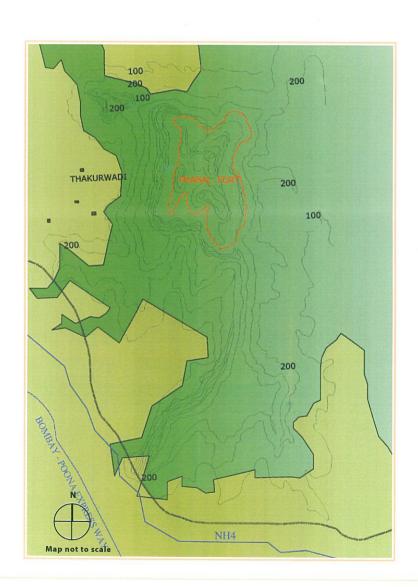
The hill fort of Prabal is built at an altitude of 2394', 12 km. from Panvel. Regular bus service is available from Panvel Railway station up to the foot of Prabal. Since the trek to the fort is long, it cannot be a day excursion, although the actual climb is not as arduous as the other hill forts. Provision for camping has to be undertaken and the *machi* or settlement mid-way to the fort accomplished the evening before. The following morning after another long trek the fort can be accessed that is built in dense forest on the top of the hill.

Classification

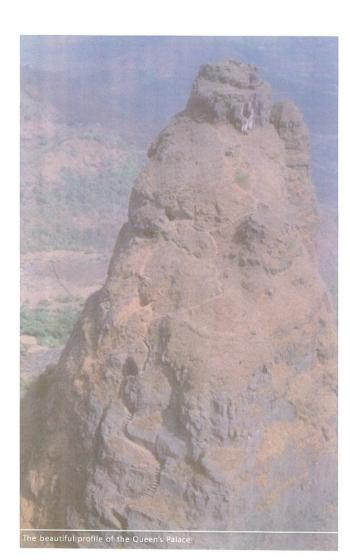
Hill Fort - Fortified Outpost

Present Usage

A settlement of aboriginal hill tribes exists on the mid-level plateau of Prabal hill. The fort falls within the Forest Zone (eco-sensitive zone) as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.



2.8 hill forts - PRABAL



2.8.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

Conflicting accounts state that the hill fort of Prabal was captured by Shivaji Maharaj in October 1657 during his 'Konkan forts' campaign and he was offered stiff resistance by the Rajput garrison stationed at the fort led by the fort commandant Kesri Singh who fought unto death. Shivaji then ensured safe and adequate transport to the women and children of the Rajputs stationed at the fort and disposed the bodies of the soldiers in a suitable manner. He apparently found a great deal of treasure at the fort. Another account records that Prabal was actually fortified first by Shivaji.

A description in the Thana Gazetteer¹ provides a concise account of this once strongly fortified outpost. A part of this description records the might of Prabal before its near complete dismantling by the British in 1818: "The ruined fortifications once included eleven towers and two gateways. In 1818 the gates had long been destroyed, and the works were everywhere falling, the walls of three or four buildings being all that remained. During the rainy months much of the hill was under tillage, the people and their cattle living in the ruins. On the top of the hill was a large pond. In 1862 the fort was reported to be well designed but ruinous. The water supply was good, but the pond was out of repair and nearly useless. Food supplies were not procurable within eleven miles. At present (1881), the hill top which is surrounded by a ruined wall has three ten feet square cisterns, two on the east and one on the west. Of the fortifications, six stone and mortar towers remain, with room for five men in each."

Archaeological Significance

Topographical Features

Like the other hill forts, Prabal fort too has a spectacular topographical profile, with its sphinx like north feature and the long flat tableland behind it. This topographical feature on the north has outstanding natural as well as rock-cut value and is called Kalavantinicha Mahal or Queen Kalavanti's Palace by the local people. It consists of a sheer vertical shaft of rock with winding rock-cut paths and steps right till the top.

Prabal is very similar in profile to Matheran and was apparently one of the sites, apart from Matheran, considered for occupation as a hill station and military sanitarium near Mumbai by the British in the 1850s. Due to poor water provision this decision was abandoned and the promotion of Matheran by Lord Elphinstone, the then Governor of Bombay, led to Matheran's selection. The close association between Matheran and Prabal, in addition to their proximity to each other and their similar hill profiles, has been described in the Thana Gazetteer' in the



View of from Prabal Hill Fort

2.8 hill forts - PRABAL

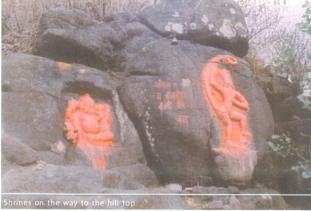
following manner: "Prabal may be reached from Matheran either from Louisa Point or from One Tree hill. Prabal, though not nearly so large, is much like Matheran. The same flat wooded terrace runs along the hill-side, about a third of the way down. and is particularly notable under the north-east end. The same steep sea cliff-like scarps rise from this terrace to the crest of the hill. There is the same flat top, more thinly wooded, but with here and there in the hollows some fine timber. The same points or capes stand out from the body of the hill and end in the same weatherworn conical crags. There is even a central hollow like the Pisharnath vallery, only sloping east not west, down which, for some time after the rains, a stream flows and falls over a high rock in the east edge of the hill, almost opposite the outfall of the Pisharanath stream on Matheran."

Prabal also looks out towards the cragged crowned pinnacle of Irshalgad on its south.



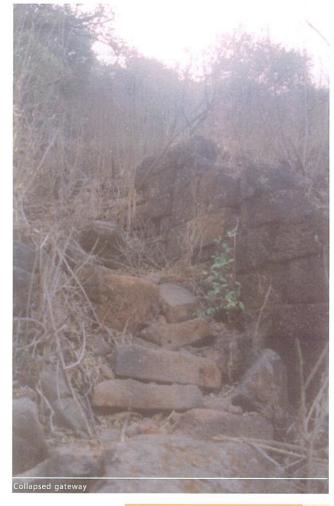
Architectural Description

The hill fort of Prabal consists of a lower almost mid-level plateau, where an aboriginal settlement of Kathkaris or the local hill tribe exists, and the actual Maratha fort is located on the hilltop. Access to the base of the fort is through farm lands, largely undeveloped. Following the introduction of a group of hospitals at the base of Prabal a large number of bungalow housing has come up in the neighbouring areas, threatening to disrupt the serene setting. Any intervention to control development must be initiated now to protect the fragile ecosystem of the area. A moderately difficult trek through sparsely wooded slopes leads to the plateau. The route has a few shrines (of Hanuman and Ganesh) carved in the rock as well as paved look out points, acting both as breaks in the trek as well as spots for viewing the fabulous surrounding landscape. As explained earlier, it is necessary to camp at the settlement comprising largely of houses built of twigs or local wood, plastered on both sides with cow dung.



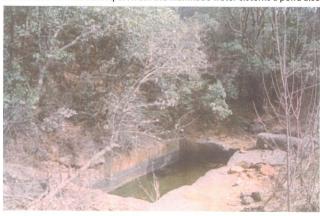


On trekking through a rocky natural path, a path at the mid-level diverges to lead to a square rock-cut chamber, barely 2' x 2' through which only a single person in the crouching position can pass. This chamber is similar to the ones at Peb fort and leads through a tunnel approximately 15' long to a larger chamber. believed to be a meditation room. No inscriptive evidence exists that could date the cave. On passing this spot, a slightly better paved but steep path leads to a now ruinous gateway, the only remnant of which is a pile of stones, fitted to each other but means of a butterfly dowel joint. This gateway leads to the flat topped tableland, covered primarily with dense vegetation amongst which are also found jamun trees, bearing small but sweet fruits.

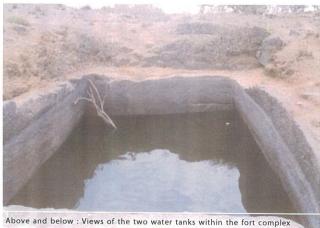


2.8 hill forts - PRABAL

The only remnants within the once extensive fort are three rock-cut cisterns sunk below the floor level, four bastions with fortifications and a group of four structures with no roofs. Apart from the manmade water cisterns a pond also

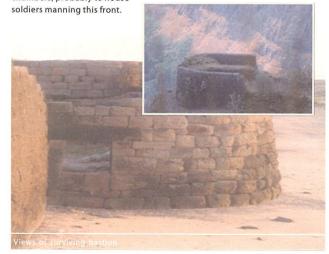


exists on the top, completely dry in the month of May 2005 when the fort was last surveyed. A desecrated Shiva temple is also located amongst the dense

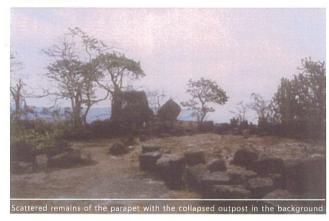




The four surviving bastions display excellent workmanship, one of which is also constructed directly on the hill scarp following the contour of the hill. This bastion on the south at a lower level than the tableland, overlooking Irshalgad, consists of a strong stone masonry rampart with several subterranean chambers, probably to house



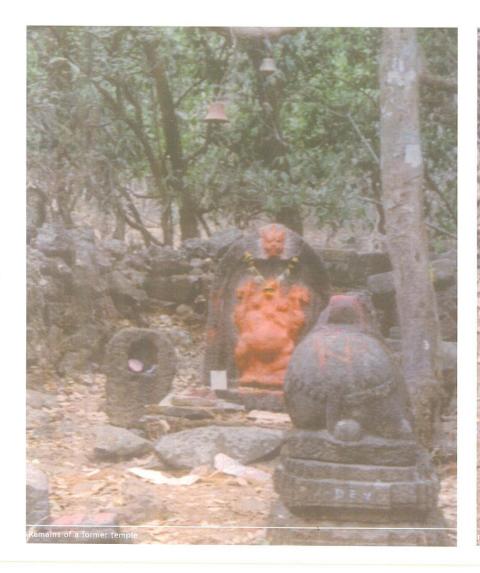
A walled outpost covered with lime plastered on the external faces is located at the centre of this level. Such outposts are found at regular intervals along the extremities of the tableland, the only surviving remains of the bastions that once stood there. An old lime kiln is also located in the fort. Although the parapets were completely dismantled post-occupation by the British in 1818, the scattered stones and a faint visible line of stones survive to indicate the extent of the fort.



An imperative element of the forts built by Shivaji was the installation of a temple dedicated to the god Shiva. Such a temple with a loose stones enclosure exists approximately at the centre of the tableland with statues of a broken nandi, a shiv ling and of ganesh.

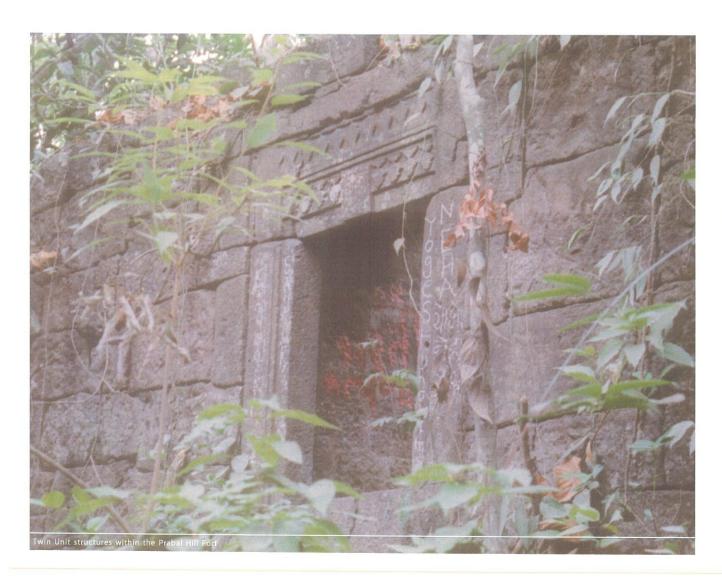
A curious group of four structures is also observed at Prabal. These structures consist of two buildings each with no roofs extant constructed of dressed stone faced masonry with recessed jamb openings covered with patterned carving. Ogee arched niches with leaf decoration at the crown are also visible at these twin structure units. These twin units located on a common platform in groups of four were perhaps meant to be storage for particular items such as grains and ammunition.

2.8 hill forts - PRABAL





2.8 hill forts - PRABAL



Materials

The surviving fortifications are made of regular courses of basalt stone masonry with uniform joinery. The existing parapets of the fort, a single file of which only exists, are of coursed stone blocks.





2.8 hill forts - PRABAL

PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

The fort does not currently fall under any heritage protection.

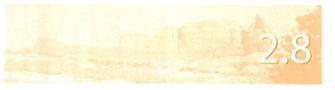
Current Management Framework

The fort falls within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 - 2011.

Maintenance & Past Repairs

Lack of heritage protection coupled with difficult access has meant that hill forts such as Prabal have never been restored. This has led to massive visitor abuse in the form of graffiti, pilferage and uncontrolled construction. At Prabal oil paint has been smeared on the historic twin units while commemorative plaques installed at vantage points.





2,8 hill forts - PRABAL



Proposed Grading & Notification of Features

An identification of the features preserving the authenticity of the historic site would enable better heritage protection and inclusion within a conservation master plan.

Significant Topographical Features:

- 1. Distinctive contours and geological features
- 2. Rock-cut reservoirs
- 3. Natural ponds

Important Architectural Characteristics:

- 1. Entrance gateway
- 2. Twin unit structures, shrines etc.
- Bastions and parapets



An assessment of the remnant historic and architectural value of the hill fort of Prabal is undertaken by means of recording its prime features within the following values constituting integrity:

Location	Spectacular location with key vantage points not only overlooking the far off forts of Malang Gad, Peb and Chanderi but also provided with fortifications to man the strategic points overlooking Matheran, Irshalgad and Karnala.
Design	An idea of the fortifications could be conjectured due to the standard construction methodology followed in most hill forts of laying parapets along the crests and constructing massive ramparts along vulnerable points to make them inaccessible. Evidence in the form minimal surviving bastions (4 out of the original 11) point to its extent and significance within the Maratha forts.
Setting	With its natural surrounds and still verdant setting surrounded by undulating topography, Prabal has one of the bests citing values.
Materials	The surviving remnants display excellent mode of construction and use of good quality material that has withstood weathering action.
Workmanship	The construction methodology of the south bastion show outstanding quality of workmanship and are marvelous feats of engineering due to the sheer difficult working conditions. That these were constructed over sheer rock faces is evidence of the bravery of the craftsmen.
Feeling	Exists but in very minimal form.
Association	Loss of historic material has led to the disassociation of the once mighty fort of Prabal as a military stronghold of the Marathas. Although it occupies a pride of place amongst the hill settlement.

Although Prabal does not qualify as a heritage site within the local, State or Central Heritage List, this was not the case pre-independence and it finds mention in an earlier list drawn up in 1884, classifying it as Grade III, "those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve."

The assessment of the surviving remnants and the historicity of Prabal classifies the fort within the Grade II category as per the prescribed grading format.

Area of Inscripted Site

60,70,000 sq.m (this area covers all the contour levels between the lower plateau and upper fort)

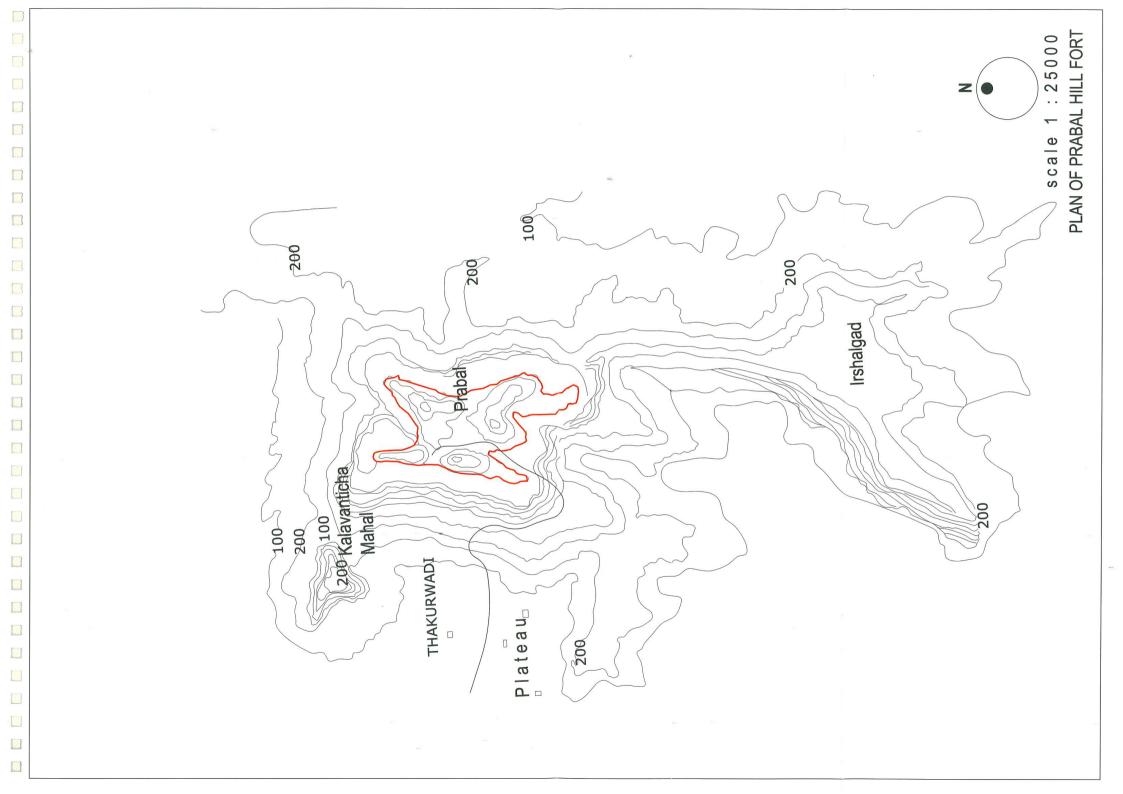
Compilation Date

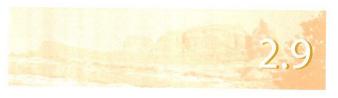
October 2005

GAZETTEERS DEPARTMENT (EXECUTIVE EDITOR AND SECRETARY), Bombay Gazetteer Places of interest in the Thana District, Government of Maharashtra, Bombay, 1882 (Firs Edition) (pg. 300)

Ibid (pg. 283)

¹ BURGESS, J., Revised List of Antiquarian remains in the Bombay Presidency, Archaeological Survey of Western India, 1884.





2.9 hill forts - PEB / VIKATGAD

2.9.1 LOCATIONAL INFORMATION



Reference no FT/RD/HF/PB/9/2004

Geographical Co-ordinates

18° 50′ N and 73° 21′ E

District

Raigad

Access & General Information

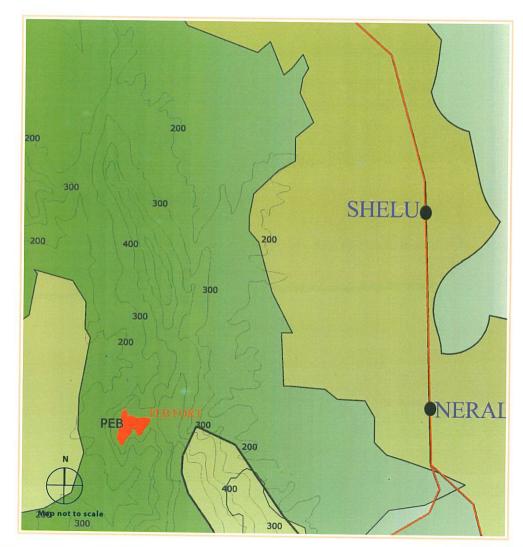
Peb fort built at a height of 1718' can be accessed from the Neral Railway Station on the Central Railway corridor. The path to the fort is through grassland and cultivated area along the river, 8 km. from the railway station on the west side, which is gradually undulated till the base of the fort from which the ascent starts. Since even this fort needs expert guidance to trek, it should be attempted only with expert trekkers and equipment.

Classification

Hill Fort - Fortified Outpost

Present Usage

A religious shrine of <u>Shri Swami Samarth</u> exists on top of Peb hill, which is frequented by few devotees. Otherwise the fort is merely part of the natural landscape and a regular trekking excursion for avid trekkers.





2.9 hill forts - PEB / VIKATGAD

2.9.2 SIGNIFICANCE OF THE SITE

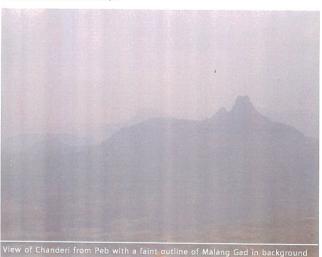
Historical Perceptions

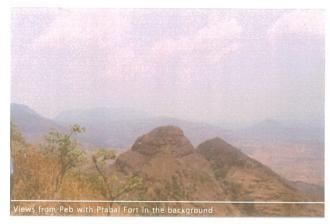
As was the practice, the Marathas fortified the peaks of hills that could man the activities covering both the western seaboard as well as the area beyond the eastern foothills. There is hence a concentration of hill forts in this particular hill range with forts like Malang Gad, Chanderi, Peb and Prabal forming a network of fortified outposts. However, absence of archival data makes it difficult to date the construction of Peb fort and with no inscriptive evidence or sufficient architectural remnant, the fort cannot be even dated on stylistic grounds.

Archaeological Significance

Topographical Features

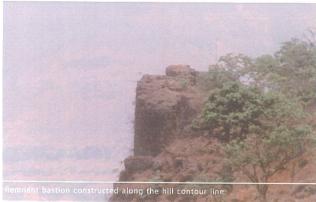
Peb forms a unique twin peak character with the corresponding slopes of Matheran and together with the natural topography gives rise to a serene setting. However, in comparison with the much inhabited Matheran, Peb is devoid of human settlement, save a few houses, primarily a result of the steep incline of the hill. As it is in the middle range of the network of hill forts, with Malang Gad a little distance away, Chanderi hill in the vicinity and with Prabal visible on the south, it is a vantage point for viewing some of the best views, both geological and of the natural landscape.





Architectural Description

Scattered and few remnants make it difficult to reconstruct the size and might of the Peb hill fort. Most of the remnant architectural vestiges are the ones along gradual slopes and the construction methodology is such that the access from this portion of the fort is then made difficult. The theory behind such a methodology was that the fort should be impregnable at all times and every critical or vulnerable part made strong or difficult to access by means of such building typology.



Apparently the fort gets its name from the shrine of goddess *Pebi* at the foothills, mentioned in the survey of the fort undertaken in 1881 (Thane Gazetteer, see Bibliography). However, not trace of this shrine or that of *Mhasoba*, the other shrine mentioned was found during a survey undertaken during the course of this study. After a steep and rocky climb, guided by direction markers left by previous trekkers, a pile of neatly cut stones indicates the first signs of the fort. Beyond this point is a small plateau, which acts as a vantage platform to view the hill ranges of Malang Gad and Chanderi. The access after this plateau is extremely difficult and can only be undertaken with trekking equipment. A near vertical climb of about 10' with steep ravines on two sides and few footholds characterize this portion, made even more difficult due to the narrow gorge that has to be navigated to reach the upper areas. On reaching the upper area, a narrow pathway, cut in the rock to barely accommodate a single person leads to two rock-cut cells.

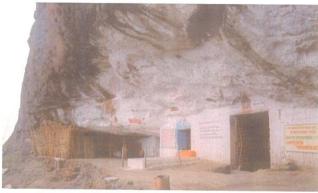


The rock-cut cells, excavated within a hard scarp of rock, has been converted into a shrine of *Shri Swami Samarth* and also has a bust of the great Maratha ruler Shivaji. The inside of these cells is extremely cool and acts as a congregation area during the offering of prayers by sporadic devotees. Both the exteriors and interior of these cells have been completely lime washed and there is no inscriptive evidence noting the original of these excavations. Another narrow pathway, with steep chasm on one side and the hill scarp on the other leads to a fortified bastion, the only significant portion of Peb fort. Along this pathway are several curious square shaped excavations. These narrow chambers (barely 2' x 2' and can accommodate a single person on all fours at one time) are actually



2.9 hill forts - PEB / VIKATGAD

tunnels through the heart of Peb hill and cover a distance of more than 20' before widening out into a larger chamber, meant for meditation and repose. Such a chamber is even found on Prabal.

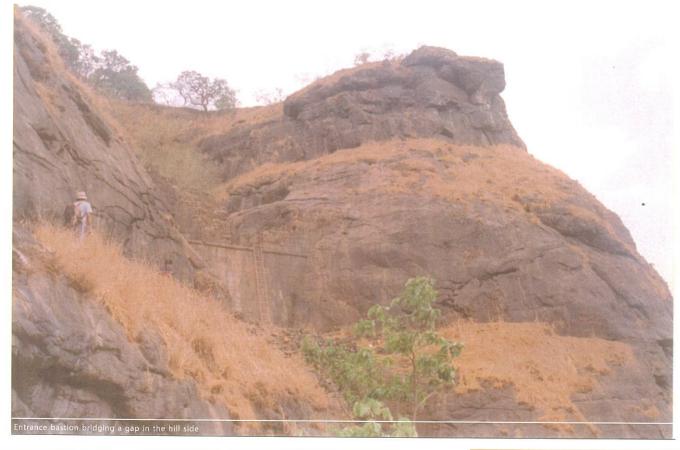




A bastion consisting of a high fortification wall built to bridge the gap between two adjacent high points along the fort is the next architectural remain on the route. Constructed out of rectangular (almost square) blocks of stone, access to the fort beyond is gained by scaling this high wall. A temporary foot ladder has been provided for this purpose, but which was probably retracted during sieges. The upper portion of this fortification, beyond the rounded cornice band, has

been dismantled. The broken remnants indicate that this was perhaps a high parapet behind which soldiers would be stationed to foil attempts by enemy forces to scale the fort. This is further reinforced by the presence of ruinous guard rooms on either side of the central passage behind the bastion. A flight

of steps leads to a higher point on the hill, where two paths diverge, one leading to a rock-cut water cistern with clear water all round the year and another to the upper portion of the fort.



2.9

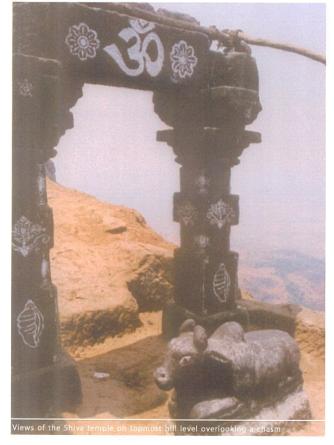
2.9 hill forts - PEB / VIKATGAD

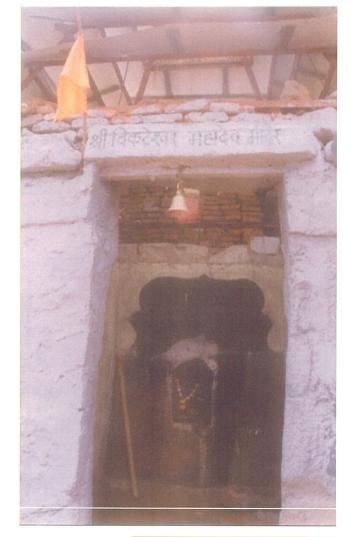




Very few remnants survive beyond the bastion, the only evidence of fortifications being another built water tank (presently overgrown and devoid of water), another strong bastion towards the south looking out over Matheran and Peb, remains of a few houses (now reconstructed in a few cases) and a Shiva temple with adjoining rock-cut water cisterns. Of these the most interesting are the small temple complex dedicated to Shiva, which consists of a stone

temple (with modern steel superstructure), the inner chamber of which houses the stone shw ling, recently installed and the older one lies in a corner. The outer open air chamber contained within a stone colonnade houses a stone nandi. These stone columns show some influence of Vijayanagara and Deccani stone carving technique. The rock-cut water cistern shows a few dancing figures along the excavated walls. This point offers spectacular views of the deep valley below.







2.9 hill forts - PEB / VIKATGAD





Materials

There is no designated access to the fort, characterized at most instances with rough boulders and rocky steps. The surviving fortifications are made of regular courses of stone masonry with uniform joinery. The primary surviving remnant of the Peb fort is the bastion consisting of huge blocks of rectangular (almost square) shaped basalt stones with their corners cut to act as dowels for surrounding stone masonry. This construction methodology is also observed in the fortifications at Hampi, the former Vijayanagara Empire, indicating an inflence of Deccani style of fortifications. This type of fortification did not require use of mortar for binding material and the fitting of stones (almost like a jigsaw puzzle) made the wall stable against impending attack.





hill forts - PEB / VIKATGAD

2.9.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

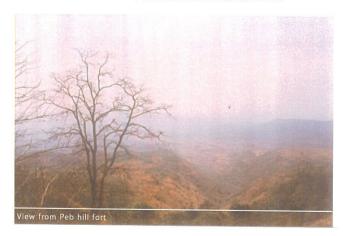
The fort does not currently fall under any heritage protection.

Current Management Framework

The fort falls within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.

Maintenance & Past Repairs

As recorded in the architectural description not too much of the original fort survives, with most the fortifications in the form of parapets dismantled post occupation by the British in 1818. Since the fort does not fall under any State or Central heritage protection, it does not fall within the maintenance ambit. Apart from this, the inaccessible situation makes it difficult even for periodic site visits, which also means that any form of restoration would have to be carefully planned to account for working in such arduous conditions. So far no maintenance measures have been undertaken to sustain this fort.



2.9.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, undertaken in the following manner:

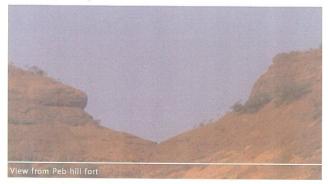
Significant Topographical Features:

- Unique contour levels and forms twin peak combination with adjoining Matheran
- 2. Rock-cut reservoirs
- Rock-cut cells (currently housing a religious shrine)

Important Architectural Characteristics:

- Remnant fortifications in the form of bastions, entrance wall and chambers, water tanks etc.
- 2. Temple shrine with water cistern.
- 3. Rock-cut tunnel features
- 4. Original rough access route

In order to evaluate the historic integrity of Peb fort to arrive at a feasible plan of action for its preservation as well as to understand its scale of importance in the present scenario, an assessment is made by means of comparing its present state with its physical characteristics during the historic period. The National Register of Historic Places defines historic integrity as the "composite effect of seven qualities present within the landscape – location, design, setting, materials, workmanship, feeling and association".



Location	Characteristic quality of Peb fort as its central location with the chain of forts makes its vantage setting singular to the hill fort.			
Design	Minimal archaeological evidence make it difficult to construe the original layout and design of this fort.			
Setting	Exemplary setting with sweeping views of the countryside around.			
Materials	The surviving remnants display excellent mode of construction and use of good quality material that has withstood weathering action.			
Workmanship	The construction methodology of surviving architectural remains display outstanding quality of workmanship and are marvelous feats of engineering due to the sheer difficult working conditions.			
Feeling	Largely lost due to redundancy of fort function and minim built fabric.			
Association	Like the other hill forts, Peb too has lost its association as a hill fort and is primarily identified as a difficult trekking excursion near Matheran.			

Disassociation as a historic site has led to vandalism and neglect of this once significant hill fort. The assessment of the surviving remnants and the historicity of Peb fort classifies the fort within the Grade II category as per the prescribed grading format.

Compilation Date

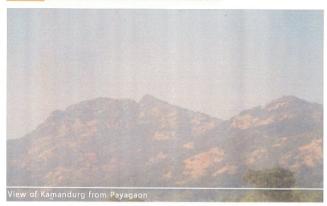
September 2005

HART, SUSAN, Carl Sandburg Home National Historic Site – Cultural Landscape Report stional Park Service, Department of the Interior, 1993



210 hill forts - KAMANDURG

2.10.1 LOCATIONAL INFORMATION



Reference no

FT/TH/HF/KD/10/2004

Geographical Co-ordinates

19° 22′ N and 72° 59′ E

District

Thane

Access & General Information

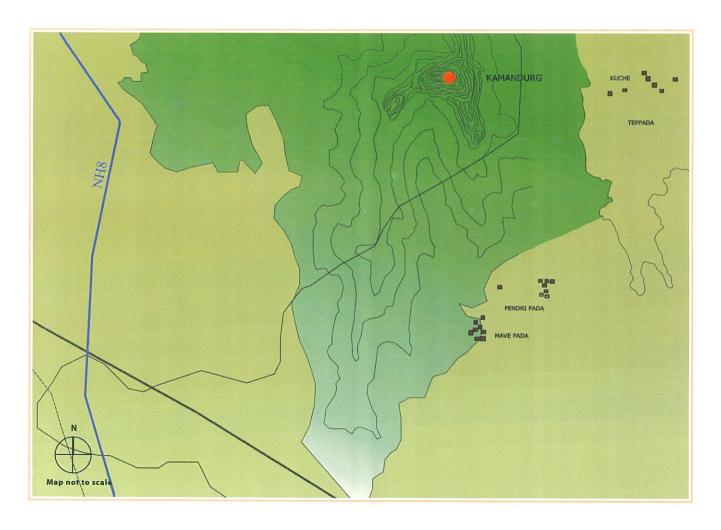
Built near Kaman village, 10 miles east of Manikpur on a conical hill 2160' (654 m) high, forming the southern end of the Tungar range, around 17 km. from Vasai in the Thane district. A shorter access route is through the road leading to Payagaon from NH 8. The trek to Kaman Durg is very difficult rendered even more so by the absence of a set route.

Classification

Hill Fort - Fortified Outpost

Present Usage

The fort falls within the Forest Zone (eco-sensitive zone) as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.





0 hill forts - KAMANDURG

2.10.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

Believed to be fortified by the Portuguese in the 16th century to man their trading activities in north Konkan particularly in Bassein. Since a large number of timber required for ship building in the yards of Agashi, Sopara and others was used from the Tungar hills, Kaman Durg was perhaps fortified as a outpost in this hill range. In the West Coast Pilot of 1926, it is described as a conical mountain easily recognized from the seaward, 10 miles eastwards from Bassein Creek entrance. It was also known as Bassein Peak and was earlier a trigonometric station.

Archaeological Significance

Topographical Features

The conical hill profile of Kaman Durg is another distinctive hill of the Tungar range, reinforcing the fact that the Western Ghats or the Sahyadris characterize some of the most unique topographical features.

Architectural Description

Apart from a rock-cut water cistern, provided water through a perennial water source, there are very few almost non-existent remains of fortifications. The trek to the hilltop of Kaman Durg is very arduous and should not be attempted without expert supervision.

2.10.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

The fort does not currently fall under any heritage protection.

Current Management Framework

The fort falls within the Forest Zone as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.

Maintenance & Past Repairs

Very few archaeological remnants would perhaps make it very difficult to reconstruct the feeling of a fort, let alone implement any conservation measures at this fort. No preservation techniques have been attempted at Kaman Durg as the fort does not fall within any heritage protection.



hill forts - KAMANDURG



RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, undertaken in the following manner:

Significant Topographical Features:

- 1. Distinctive hill contours
- 2. Rock-cut reservoir with perennial water source

Important Architectural Characteristics:

No archaeological remnant survives at Kaman Durg.

An assessment of the remnant historic integrity of Kaman Durg would enable a critical evaluation about its present status and help generate guidelines for effective preservation.

Location	The strategic location of manning the Vaitarna Creek and surrounding territory from a high vantage point is retained.		
Design	Completely non-existent and difficult to reconstruct on account of absence of available historic evidence.		
Setting	Perhaps the most crucial factor at Kaman Durg that is still visible.		
Materials	Non-existent architectural fabric makes it improbable to construe the materials used for construction.		
Workmanship	Very difficult to ascertain on account of the lack of histor fabric.		
Feeling	Largely lost		
Association	The hill fort is not associated anymore as a fort on account of loss of historic material.		

Kaman Durg is not classified as a heritage site either with the local, State or Central Archaeological departments. It however finds mention in a much older 1884 list drawn up, classifying it as Grade III, "those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve." The non-existent built fabric qualifies the fort as Grade III within the prescribed grading format.

Compilation Date

September 2005



Up to the close of the 18th century, it is probable that most of the fill forts were intact and fit for occupation and defence. On the close of the long series of wars in 1818, most of those that fell into the hands of the British were dismantled. Their armaments were removed, and the walls where necessary were blown up. Since then the recurring storms of the rainy season have completed the work of destruction, and year by year their disintegration goes on. It would be hopeless to attempt to restore them. But as relies of a past age and a system gone by, they will ever be interesting even to the most presaic and careless of observers. Even now they are well worth inspection.

-- Progress Reports of the Archaeological Survey of Western India, 1891-92



2,11 coastal forts - BASSEIN

2.11.1 LOCATIONAL INFORMATION

Reference no

FT/TH/CF/BN/11/2004

Geographical Co-ordinates

19° 20' N and 72° 51' E

District

Thane

Access & General Information

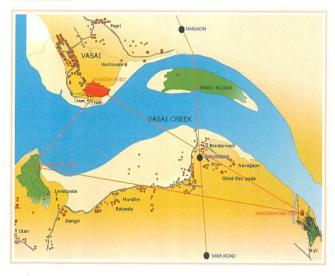
Bassein fort is located in Vasai at the mouth of Ulhas Creek. Regular buses ply from Vasai station on the Western Railway corridor on the west side up to the entrance of the fort.

Classification

Coastal Fort - Main Fort

Present Usage

Declared as a national monument as per the Ancient Monuments & Sites Act, 1958, Archaeological Survey of India. A housing complex for Customs officials has been constructed within the fort enclave along with a school and few dwelling units. An old settlement of fisher folk is housed abutting the fort walls on the outside.





(Source: Sea and Hill forts of Western India – Aerial views and historical perspective, Ed.: NARAVANE, M. S., PHOTOGRAPHY: BODHE, GOPAL, Maritime History Society)



2.11 coastal forts - BASSEIN

2.14.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

Concise Chronology of Events:

1184-1318	Believed to be the head of district under the Devagiri Yadavas			
1514	Barbosa described it as Baxay a town of Moors and Gentiles, a good sea port belonging to the King of Gujarat.			
1526	Portuguese established a factory at Vasai.			
1529 &1531	Portuguese laid waste the Vasai coast, in retaliation to the hostility displayed by the Gujarat rulers.			
1532	Gujarat King Shah ordered Malik Tokan Governor of Diu, to fortify Vasai, to prevent raids and curb the Portuguese spread further North. A citadel was built by Garcia Disa, both the creek and the Sea sides were strengthened with ramparts surrounded by a ditch full of salt water. The fort was attacked by Nuno Da Cunha, the Portuguese General who, along with his troops led by Diogo de Sylveria and Manerel de Maceedo, landed a little North of the Citadel, scaled the ramparts and dashed the enemies. The Muslims fled leaving large stores of provisions and ammunitions. On account of its nearness to Chaul, and not enough troops for Vasai, the Portuguese razed the Citadel to ground and retired to Goa.			
1533	Sultan Bahadur of Gujarat ceded Vasai to the Portuguese for protection against the Mughals and agreed to grant right of levying duties to the Portuguese on Red Sea Trade.			
1536	Portuguese established factory at Vasai, but did not strengthen it, when the Mughals attacked, they thought of abandoning it. The attack was resisted by Antonio Galvao and the Mughals withdrew. On arrival of Nuno Da Cunha, the Portuguese Viceroy, the foundations of the new citadel were laid. Some Muslim mosques were pulled down and in their place the Cathedral of St. Joseph was built.			
1590	New fortifications began and were complete by 1600 A.D			
1607	Vasai had a large trade in timber and building stone which was fine and hard as granite and which was apparently used, in all the Goa Churches and palaces.			
1612	Attacked by Muslims but without success			
1618	Storm ruined monasteries and convents of Franciscans and Augustinian. The three largest churches in the city and both the house and church of Jesuits was unroofed and there was a major destruction of the Palm groves.			
1674	Arab pirates from Muskat plundered Vasai.			
1690	Marathas tried to seize Vasai but were unsuccessful.			
1728	Besieged by a combination of climatic factors, plague and bad administration, A Portuguese officer sent from Goa to examine fortifications, found the outposts in poor condition.			
17.02.1739	Seize and capture of Vasai under Chimaji Appa Bajirao Peshwa'brother.			
1774	British took Vasai but soon returned it to the Marathas.			
1783	Vasai returned to Marathas, under the terms of the Treaty of Salbai.			
1818	Finally passed into British hands.			
1825	Bishop Heber found it inhabited and a melancholy display of ruined houses and churches covered with trees and brushwood.			
1830	Attempt made to revive industries in Vasai by establishing sugar factory. A mill was built but the scheme failed due to the death of Mr. Lingard, the promoter.			
1834	Traveller's bungalow was built.			
1838	Fort was deserted; the only inhabitants were a few fishermen and hunters.			
1852	The ruined Church of Nossa Senhora Da Vida was converted into a sugar factory, but was soon closed down as it was not able to sustain and the old city became desolate.			
1856	Road was built through the town to the landing place.			
1860	Leased to Major Littlewood, for cultivation. This made proper preservation of ruins impossible.			



coastal forts - BASSEIN

Archaeological Significance

Topographical Features

Bassein fort, like the fort of Belapur, was once an independent island fort now contiguous with the mainland of Vasai due to silting and incremental reclamations. The island fort was on Bassein island cut off from the mainland by the Sopara Creek. Bassein on the north side, a fort called Dharavi on the south of the Ulhas Creek and Ghodbunder towards the interior of the creek formed a trio of forts to control this backdoor entry to the Kalyan port and Thane as well as the Bombay Harbour.

Architectural Description

Bassein fort was one of the most significant forts of the Portuguese dominion and their main base in North Konkan, which is evident from its size and the extent of remains. Apart from the actual fortifications comprising of eleven bastions, two main entrances and a postern, the fort complex includes six churches, four convents, two colleges (a Jesuit and a Franciscan), a citadel, two palaces, a pond, a tank, temples and several smaller structures. With straight streets and large squares, a regular planning feature of most European towns, the fort of Bassein in addition to housing a strong garrison was more of a fortified town.

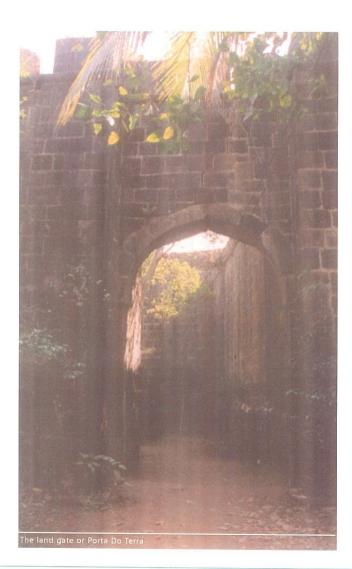
The footprint of Bassein fort is an irregular decagon, 1.5 miles round, built of stone masonry 15' high and approximately 5' thick. The bastions were given the names of apostles and holy saints, such as Nossa Senhora dos Remedios, Thiago, Sam Joao, Cavalerios, Sebastian, Paulo, Pedro, Elefanta, Madre de Rens, Reis Magos and Goncalo and were typically of the four sided ear-shaped jutting typology common for Portuguese forts. The two double gateways were the west entrance from the land called the Porta Da Terra and Porta Do Mar or the sea gate on the east, along with a small postern on the south leading to the koli settlement. Another postern in close proximity to the land gate behind the cloisters of the Franciscan church existed but was closed by construction of the St. Sebastian bastion. This was the place from which the Marathas gained entry into Bassein fort during their siege of the Portuguese in 1737. A stone with a Portuguese inscription lay near the gateway stating, 'During the reign of the most high and most mighty King Dom Joam of Portugal, the third of this name, and when D. Afonso de Noronha, son of the Marquis of Villa Real, was Viceroy, and Francisco de Sa, Captain of the fort and city of Bacai, this bastion named Sam Sebastian, was built on the 22nd February 1554'.

Access to the fort is from an opening in the ramparts close to the land gate, where information signs and the Archaeological Survey of India office are located. The entire space within the fort complex, except the roads and the

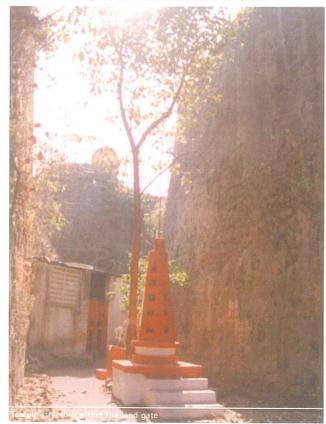


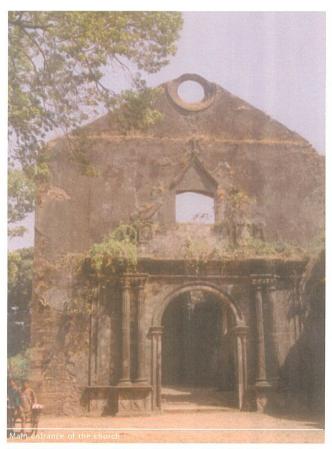
contemporary structures and including the ruins are completely overrun with vegetation. It is extremely difficult to locate most of the historic sites because of this rampant growth, aided by absence of direction or information signs. The land gate, not more than 15' height, consists of a double gateway, placed within the ramparts. While the arched entrance opening on the outside is faced with dressed stone masonry with no embellishment, the inner second entrance opening in the fort complex is provided with lime stucco details and stone carved columns capitals with fluted shafts. Apart from the main entrance the remaining portion of the gateway is constructed of random rubble stone masonry and the massive timber doors of the entrance no longer exist.

coastal forts - BASSEIN



A temple is constructed within the double entrance with a deepstambh in front that blocks the clean passage through this land gate. Although the origin of this temple could be old, it has been completely reconstructed in modern materials affecting the architectural integrity of the building envelope surrounding it. The doors of the sea gate are still intact and it opens out into marshy land overlooking the Bassein Creek. Approximately 13' in height, the gateway doors had an inscription stating 'The 20th November 1720'. At the right of the inner entrance of the sea gate had remains of a former market place.



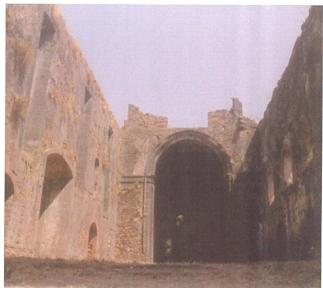


The municipal road from the land entrance near the ASI offices leads to the citadel, originally believed to be constructed by the commandment of the Gujarat Sultans, abutting which is the Church of Nossa Senhora Da Vida. Built in 1536, this church is one of the oldest churches in Bassein and mentioned by Gemelli Careri in 1695 as intact with three good altars. The entrance is through a semi-circular dressed stone archway with fluted twin Corinthian pillars on either side. On the architrave is the holy cross on top of which is a round opening.

2011 coastal forts - BASSEIN



The floor of the church is currently unpaved, which could be just layers of debris, and the roof is non-existent. The altar on the east has a high arch with coffered ceiling, characteristic of Portuguese churches of Bassein. Oblong lancet windows provided light inside the church and seem to have earlier had glazing. Some of the larger windows, segmental in profile, are lined with brick and the composition of windows on the walls is not uniform and differ in placement and type. This could perhaps be that this church was constructed over a period of time. A sugar refinery was located in the nave of the church which was closed down in 1874. While digging the foundations for this refinery the bones of a man and horse were found buried together in a grave. Such cases of joint burials of master and animal were frequent till as late as 1781 at Treves in Germany.



Constructed of random rubble masonry, often lateritic in appearance due to its advanced decomposition, the citadel wall displays one of the oldest Portuguese inscriptions in Bassein which reads, 'The first Captain who built this fortress was Garcia de Sa, by command of the Governor Nuno da Cunha in the year 1536'. Semicircular bastions at the corners of this extensive rectangular structure are the

coastal forts - BASSEIN

only ones in the fort which primarily has bastions of the angular variety. These are perhaps debatably the only surviving Muslim remnants at Bassein fort.







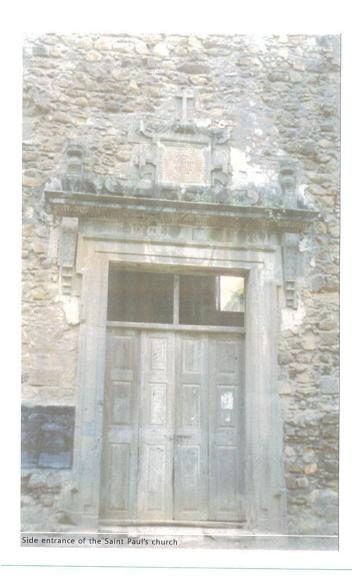
The entrance to the citadel is from the east through an arched entrance with a stepped portal at the top similar in appearance to Dutch structures of the 15th century. The area above the arch is decorated with lime stucco with embellishments featuring a Maltese cross, a coat of arms, a sphere and the date 1606. The space above it consists of a composition of twin Corinthian capitals with a central niche, which probably earlier housed a saintly figure. Completely overgrown the interior of the citadel cannot be accessed but displays ruins of a few buildings including a tank.



Towards the south of the fort complex is the most preserved structure in the ruins of Bassein fort, which is the St. Paul's Church or Church and Monastery of the Jesuits. The side entrance on the north is rectangular with dressed stone jambs and frames with carved stone bracket supporting the lintel above. On the space above the lintel the monogram IHS with a cross is sculpted. The main entrance to the church is on the north through semi-circular arch with paneled timber doors. It is flanked on either side by fluted twin Corinthian columns with a high base and supporting a stone lintel above the doorway with decorative brackets. A dressed stone rectangular opening above the arched entrance has the decorative IHS mongram on either side topped by a triangular pediment with a round opening above. The surface of the external face on the north displays much decoration in lime stucco. Similar to Goan churches, the top of the north façade of St. Paul's ends in a U-shape conveying the appearance that the church had a vaulted ceiling but this is only a visual feature.

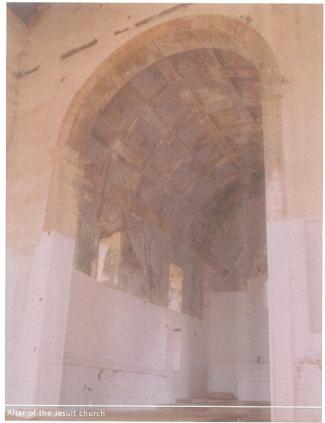


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The terracotta tiled roof above is comparatively new, introduced during repairs in 1905-06 (the older roof was steeper), it gives an indication of how the layout and form of the church structures. The date over the door (1636) is probably that of repairs as the foundation of the Church and Monastery were laid in 1548 by Fr. Malchior Gonsalves, a lose friend of St. Xavier, by whom the Jesuits had, in the year before established Bassein. Fryer (1675) speaks of a goodly church, a spacious refectory and a college of polite structure, with fine square cloisters and side cells above stairs as well as below, in the portico was a copy of



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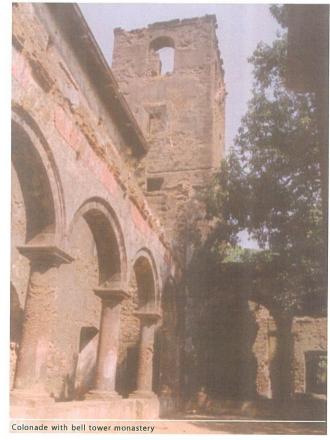
coastal forts - BASSEIN



Michelangelo's picture of the Resurrection.¹ The space on the inside is well paved with the altar on the west with a high arch and vaulted coffered ceiling. This is the one of the few instances where the fine quality of the floral lime stucco work on the ceiling is visible as elsewhere it has deteriorated. Traces of old paint too have survived.

At the right of the altar is a separate chamber ending in the form of a bell tower. In the altar floor a tombstone is placed with Portuguese inscription, 'The grave of Isabel de Aguiar, a widow lady, the noble helper of this college. Died on the 24th January 1591' and another one runs, 'The grave of Dona Filipa da Fonseca, a widow lady, the noble helper of this church to which she gave during her lifetime

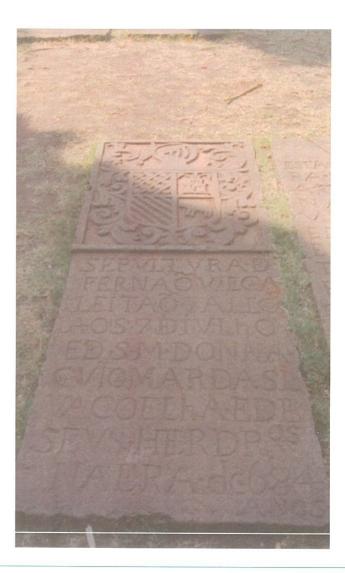
all she possessed. She died on the 20th July 1628'. A pedimented entrance near the main north arch of the church and other accesses from the church interiors leads to a cloistered space reserved for a college or monastery. It originally had five square cloisters with cells on two sides, a spacious refectory and a fine library of commentaries and works on history and morals. In 1690s the church was decorated with rich gilt and the gardens had a few European fruits such as fig and grape.

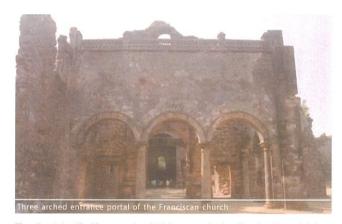


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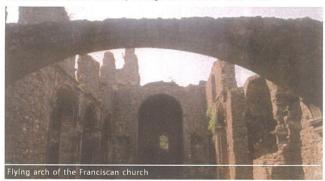
Beyond the St. Paul's church abutting the land gate, is the Franciscan church of the Invocation of Santo Antonio, the oldest and largest religious buildings in Bassein. It is also one of the most beautiful churches in the fort complex with great spiritual quality. Entrance to the church is from the east through a portal of three arches that leads to the church enclosure completely paved with beautifully carved memorial tombstones till the altar. While the roof of the church has completely collapsed, the interiors displays one of the best renditions of a structural arch that spans the entire space and because the roof above has collapsed gives the appearance of a flying arch.







The altar is typified by an arch, which has a vaulted coffered ceiling with lime stucco decoration. The naves on either side of the central aisle are also provided with slabs of tombstones. A staircase behind the altar leads to an upper level and attached to the church is a colonnaded area with a square central courtyard reserved for the college. This was the central church of the missionary Fr. Antonio de Porto, who between 1530 and 1540, established many churches in Bassein and Salsette. About 1550, when the Jesuits first appear, the power of the Franciscan was much reduced by dissensions and schisms. Among the tombstones in the nave and the chancel are, 'The tomb of His Majesty's Councilor, who died on the 24th August 1558, and of his wife Dona Luizza da Silva, and his heirs. St. Francis Xavier stayed in this monastery during his visits in 1544 and 1548.



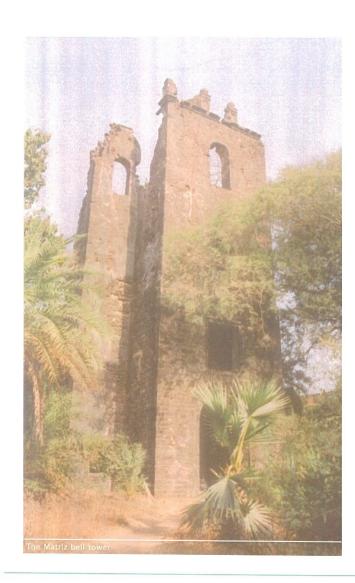
coastal forts - BASSEIN

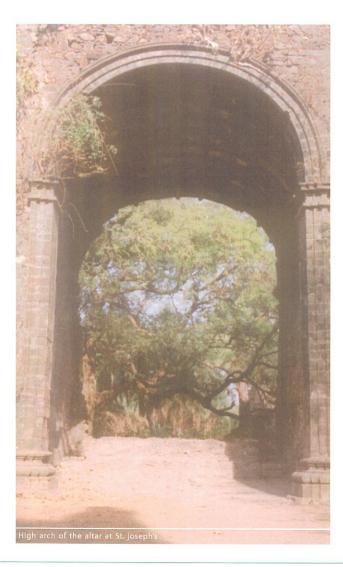


Near the sea gate, abutting the ramparts is an extensive church. Over the door of the Cathedral or Matriz of St. Joseph is a Portuguese inscription in stone which reads, 'In the year 1601, when the most illustrious Sr. Dom Frei Aleixo de Menezes was Archbishop Primate and the Revd. Pedro Galvao Pereira was Vicar, the Cathedral was rebuilt'. This was the earlier spot for a mosque established during the Muslim rule and the foundation stone of the first church installed when Nuno da Cunha, the Portuguese Viceroy, arrived in Bassein to proclaim Portuguese rule. It is also the site of a former church St. Joseph built in 1546 by the Viceroy Dom Joao de Castro. Comprising of a bell tower of impressive height, entrance to the church is through a semi-circular archway that leads to a roofless enclosure with the altar on the east and the bell tower on the west. The altar, the rear wall of which has collapsed, consists of a semi-circular high arch with coffered ceiling originally painted. Access to the bell tower is through ruinous stairs, the top of which has collapsed. The church walls are adorned with oblong lancet windows and a tombstone in the chancel to the right of the main altar held a tablet with the Portuguese inscription, 'To this grave are transferred the bones of Pedro Galvao, a servant in the Lord, who managed and enlarged this temple. He died at Goa on the 19th March 1618'. A half buried tomb at the west of the nave bore the name, 'Antonio de Almeida de Sampajo e Su'. A cloister, now filled with debris, led to a private house from the church.

Abundance of ruins choked with debris and vegetation characterizes the fort of Bassein. Ruins of two palaces, Palace of the General of the North and Palace of the Captain of Bassein, near the citadel consist of single storied structures steadily crumbling but can still be salvaged if adequate clearance operations are undertaken. Apparently around 1635 or 1639 a jail once stood near the Captain's palace with a stone tablet stating, 'Pero da Silva being Viceroy and Ruis dias da Cunha Captain of this fortress, the city of Bassein, Dom Luiz d'Athaide, Francisco Pereira,and Alvaro Coelho caused this jail to be built, which was completed while Andre Salema was Captain and Antonio Teles, Tristam.....Aldermen'. Of the stately mansions that once adorned the landscape of Bassein fort none survive, except a shell bath that bespeaks the grandeur of the fortified town. It consists of an ornamental bath of hard cement studded with shells and pieces of porcelain.

2,11 coastal forts - BASSEIN





In the square made by the congregation of the two palaces and Nossa Senhora Da Vida at the end of the municipal road from the land gate is a tank fronting a modern temple dedicated to Mahadev (with older origins) with hall for ceremonies, the Damodar Padam Patil Yagna Mandap. Behind this structure, abutting the palace of the General of the North is the Dominican Church and Convent, also known as the Church and Hospital of Pity. Adorned with dressed stone front and fluted columns the Church comprises of a stone escutcheon with a Maltese Cross in the centre on either side of which are a dragon with a roll in its mouth. The interiors, now overgrown, were paved with stone flags with two significant Portuguese tombstones with the words, 'The grave of Po. Cabral de Navais and of his son P. Hieronimo Po. Cabral and his heirs'. The convent or hospital appears to be an extensive building with a square courtyard surrounded by a colonnade.

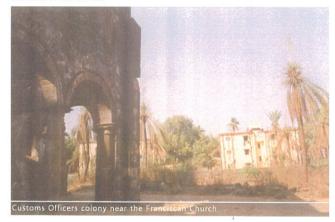
Other ruins include those of the house of the Captain or the Court of Justice or the Church and Convent of the Augustinians at the end of the street from the sea gate along the wall. Extensively degenerated, it had a portico approached by a flight of steps supported by four pillars dividing the entrance into three sections leading to the vestibule. In the background were the Portuguese royal arms and some worn devices. Two inscribed stones have fallen, one from the architrave to other from the tympanum. The writing on the architrave ran, 'This portal was built during the government of the Viceroy Dom Miguel de Noronha, Count of Linhares, and on it St. Francis Xavier was placed as a patron of the city. The 10th May 1631' and the writing on the tympanum, 'When Gaspar de Mello de Miranda was Captain of the city, and Goncalo Coelho da Silva, Pero Ferreira, and Joao Boto Machado and other officers were aldermen, this portal, which took St. Xavier as its patron, was built in the year 1631'.'



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Some interventions have been made inside the historic fortified Bassein complex, notable amongst which is the conversion of a bungalow near the postern on the south near the citadel into a school, the Gonsalo Garcia school. A tank is seen near the postern accessed through a flight of steep steps but which is completely overgrown and devoid of water when the survey was undertaken in May 2005. Such a water collection tank is also seen at the Portuguese fort of Sion. Amongst the most insensitive interventions has been the establishment of a Customs Officers housing colony near the land gate and the Franciscan Church.



Materials

The actual construction methodology was random rubble with a facing of dressed basalt stone for the jambs and details of the openings, quoins at corners etc. While no trace of an external plaster exists, few plastered surfaces on the inside confirm that these structures could have been covered with plaster originally. The vaulted ceilings of most churches show presence of lime stucco decoration. A few arches also display brick in the construction material.

2.13.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

The fort falls in the jurisdiction of the Archaeological Survey of India.

Current Management Framework

As per the Regional Plan 1996 – 2011 for the Mumbai Metropolitan Region, Bassein fort falls in Urbanisable Zone – 1 (U – 1). But since it is notified as a Centrally protected archaeological site under the Ancient Monuments and remains Act, 1958, development within the fort is restricted. However, the establishment of the Customs Officers colony in the heart of the fort amongst some of the best historic sites has undermined the jurisdiction of this Act. Any other such accretions could result in a spate of development activity that will completely disrupt the authenticity of the site.

Maintenance & Past Repairs

Since its inclusion as a heritage site in 1882, repairs in the form of clearance works have been undertaken by the conservation officers of the Archaeological Survey of India. The following is a recording of all the Past repairs undertaken at the Bassein fort complex as mentioned in the progress reports or the annual journals such as the *Indian Archaeology – A Review*.

Mention is also made of Bassein in the annual progress report of 1905-06, ASI western Circle, which was a visit intended to evaluate the scheme of the Agricultural Department, for converting the interior of the Fort into a Botanical Garden. The condition of the Fort is said to first –rate owing to the good work put into the walls and bastions. The walls are covered with a network of roots and branches of pipal and banyan, giving them a most picturesque appearance, without apparently injuring them to any appreciable extent, since the mortar is so good that nothing can penetrate it.

Apprehensive about the Botanical scheme, mention is made of one Mr Gammie, who is said to have been entrusted with the work, who laid to rest rumours that the interiors of the old churches were to be converted into conservatories or rockeries. Ensuring adequate conservation, the scheme was to introduce choice plants in open spaces in the cloisters attached to the ruined churches and quadrangles open to the sky. The only clause suggested was that a clear space be left around every building and the buildings themselves to be under care of the PWD for repairs as ancient monuments. As the ruins were extensive with abundance of old masonry, it was proposed that a certain area of ruins be preserved intact, as a specimen showing how the old city was like.

There is also mention of incongruous alterations made with the collector's permission to the church of the Jesuits, which till then was roofless and now roofed by the local Catholics in bright red Mangalore tiles. Regretting this act, the report states that along with some crude white washing and plastering and painting of eaves boards in bright blue, has been carried out absolutely disfiguring the original. Stressing the need for preservation of the buildings, it is suggested to the Government that in any further lease of the interior of the Fort, the old buildings should be exempted.

The fort is presently ruinous with most of the ancient structures in disrepair. The roofs of all have caved in and the details hidden behind huge swaths of tree growth. The previous observation of the vegetation being picturesque and not harmful is perhaps inaccurate, as many stones of the masonry walls have been dislodged.

Progress report of ASI, Western Circle, 1907 (pg. 21)

In my last report I described Bassein. I visited it again with the Executive Engineer, Mr. Ahmadi and Mr. Gammie, to determine upon what should be done to the old ruined buildings with the Fort. It was arranged that PWD should do all necessary repairs, while Mr. Gammie would do the clearing of debris from the interiors and precincts. Preliminary measures of conservation were settled upon and the Executive Engineer has since submitted estimates.

Progress report of ASI, Western Circle, 1911 - 12 (pg. 11)

The fort of Bassein is full of Portuguese remains, but we have for the present selected only six of the old buildings for conservation. They are (1) Franciscan Church, (2) St. Paul's Church, (3) Nossa Senhora's Church, (4) St. Joseph's Cathedral, (5) Dominican Church and (6) Palace of the Captain of Bassein. Estimates for these amounting to Rs. 7, 494 were submitted and approved by us nearly 5 years ago, but owing to the urgency of conservation works elsewhere no provision could so far be made for them. For the year 1910 – 11, however, it was possible to make some allotment, but more than Rs. 1000 could not be provided. The Executive Engineer, Thana District, was somewhat at a loss to know how to spend this small amount, and also wanted to ascertain the exact nature of the conservation work that was here intended. So we made an appoint and met in the fort on the 9th of December last. It was agreed that the work to be taken in hand should be limited to jungle clearance in Ruins Nos. 4, 6, 2 and 1 and the preservation of the arched roofs of Ruins Nos.4, 3, 2 and 1 (as marked), to the extent to which the allotment for the year would permit. Such trees, as were affording support to the walls, should be left as they were, that is, their trunks should not be interfered with but their branches cut off. Such trees, as were affording support to the walls, should be destroyed by injecting into them

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asafetida solutions. The repairs should be confined strictly to the preservation of the structures, and no attempt was to be made at restoration beyond replacing in position any original carved stones which might be found amongst the ruins. No pointing of joints was to be attempted; the cementing material should be placed only in the actual joint and should not come on to any outside surface of the stones. Outside each of the ruins should be a board with the name of the Ruin printed on it and fixed on a post about 5' high, clear of the building.

On the 19th of February last we again visited Bassein fort to see whether repairs were being done in accordance with these requirements. Thanks to the deep interest taken by Mr. Bader, the Executive Engineer, Thana, work was being done here quite satisfactorily and there was nothing to find fault with. The removal of the jungle was being pushed on vigorously to completion, and the buildings were being cleared of all debris. This led to the discovery of an epitaph near the chancel of St. Joseph's Cathedral and to the opening of a hitherto inaccessible side chamber on the northwest, whose dome was found to be decorated with painting. The high pinnacles of this building on the west, which are full of ominous cracks and are consequently dangerous, were afterwards examined carefully, and it was decided that the ground outside these up to the roadway should be closed by a wooden railing of battens 3' high to keep the public out of the danger zone and that similar railing for the protection of the public should be put up at other buildings where the structures were in a dangerous condition and likely to collapse at any time. It was also decided to place notice boards on these railings and inside near the cracked masonry. The boards with the names of the buildings were found by me to be put up rather prominently and quite in front of them. We agreed that they should be moved away to

Progress report of ASI, Western Circle, 1912 - 13 (pg. 8)

I was delighted to see that the archaeological buildings at Bassein were cleared of all jungle which originally was so thick that it had prevented a close inspection of them. An idea of the thickness of the jungle can easily be formed by the fact that the trees, which, after being cut, were sold off, fetched no less than Rs. 200. This jungle clearing has, in particular, opened up the convent attached to the Dominican Church, which formerly was quite inaccessible.

Though the jungle has thus been cut down, vegetation in the floor and joints has not been thoroughly eradicated. This, therefore, still gives the buildings an appearance of being neglected. This is particularly the case with the Palace of the Captain. Small shrubs and grass, I was told, were twice removed from the joints and floor of this monument after the monsoon, but they have grown again. To prevent the growth of this vegetation, it may be suggested that the

floors should be spread with rabit or old debris and consolidated with a hand roller and that after removing shrubs from the joints their roots should be touched with tar or shrub eradicator. This remedy may now be tried soon after the monsoon is over.

I am sorry I have to complain of the pointing that has been done to these buildings. It is particularly hideous in the case of St. Paul's Church. This should be carefully scraped out without opening the joints and should so far as possible be tucked back ¼" from the face of the stone.

Progress report of ASI, Western Circle, 1913 - 14 (pg. 48)

The following is the report of inspection of the archaeological monuments in the Thana district by the Executive Engineer, Thana:

Franciscan Church – All jungle was further removed around the building, due to the recent heavy monsoon, and in some places an attempt was made to remove certain dangerous roots by means of acids with a favourable result. The floor of the nave was further remedied by having a Steam Roller to be worked in this place, and has set advantageously as the monsoons were over, only dry rolling was resorted to, but every possible advantage will be taken in the ensuing monsoon to do the needful, as the Steam Roller is located at Bassein. Repairs to fallen masonry were done in certain places to the portico and the north wall of the nave and also to the back wall of the latter where the statues originally were kept. Plastering was made to the top of the main arch in the nave to make it water tight.

St. Paul's Church – The growth of jungle has been kept down around surroundings. Masonry filling has been done to the north wall, in many other places where required. All jambs to doors and windows were in a very disorderly and fallen state and were repaired. The door steps to the main and side entrance were thoroughly repaired. The pulpit which was in a very dilapidated condition was strengthened. It may be noted that the end wall of the nave was repaired to restore the positions where the statues were formerly places.

Church of Nossa Senhora Davida – Jungle in places was kept down around surroundings. The Church is in fair condition of preservation, but the numerous walls in the nave apparently erected long after the Church was constructed and does not appertain to the Church, may be removed and the nave kept clear.

St. Joseph Cathedral – Jungle around the building was kept down, also the growth inside was removed. Advantage was taken by the Steam Roller to dry roll the floor, and means will be effected by further action in this matter during the ensuing monsoon. The front tower is in a very dilapidated condition,

and an attempt was made to fill in some gaping holes, but the tower above requires attention. Means will be taken in future to attend to the small vault at the north side adjoining the tower in order to preserve the pointing on the inner dome by grouting the vault above.

Dominican Church – The jungle has been greatly cleaned within and without of the building and the Steam Roller was also utilized for dry rolling in the nave, which produced good results. Masonry repairs were done to the jambs of the entrance and filling of the broken entrance in many places to the north wall of the nave was completed. The entrance to the tower were thoroughly repaired and gaping holes to the adjoining east corridor were filled in. The entrance to the main large hall were repaired and a large division of the corner walls of the west room were raised, with new masonry, to prevent the dangerous portions of the walls falling.

Palace of the Captain of Bassein – All jungle surrounding the buildings were removed outside as well as in the inside. The tops of arches to the east veranda were made water tight and in gaping places masonry was filled in.

Progress report of ASI, Western Circle, 1919 - 20 (pg. 13)

Very little progress was made in the conservation of Portuguese monuments at Bassein. Rs. 3000/- were sanctioned for this work out of which Rs. 2,500/- were surrendered by the Executive Engineer, at the end of the year. The Executive Engineer, Thana, reports, that only removal of debris from the interior of certain buildings could be done at the cost of Rs. 627/- on account of scarcity of labour. The monuments of Bassein were inspected and Conservation Notes were drawn up by Mr. Henry Cousens, the Superintendent of this Circle in 1907. But the measures proposed to Mr. Cousens have not been fully carried out as yet. The second Conservation Notes of Bassein was written by Mr. J. A. Page in 1913, when he was an Assistant Superintend in this Circle. The estimates for the measures proposed by Mr. Page 6 years ago were received very late in the year under review. In the meanwhile large trees had grown on the majority of monuments at Bassein and unless they are conserved speedily, there is every likelihood of their total collapse in the near future.

Progress report of ASI, Western Circle, 1918 - 19 (pg. 50)

The conservation of Portuguese remains inside the fort at Bassein was commenced by Mr. Cousens in 1905. According to the information supplied by the Executive Engineer, Thana, the measures suggested by Mr. Cousens in 1907 have not been carried out fully as yet. The measures suggested by Mr.J. A. Page in 1914 have not been attempted as yet with the result that the decay of monuments have been more rapid. As has been stated above, the ancient monuments in Bassein Fort were buried in deep jungle at the time of my visit

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coastal forts - BASSEIN

on 16th August 1918. When I visited Bassein for a second time in March 1919, the jungle had been partly cleared but large trees had grown on the walls of the Fort and on the monuments themselves and are serving to hasten their disintegration. These should have been removed long ago and all fresh growth weeded out carefully every year. A large sum of money will be required during the ensuing year to clear the remains of the jungle but unless care is taken to prevent further growth of rank vegetation the rapid decay of these ruined buildings cannot be prevented.

The area around many of these ancient buildings is now leased out to cultivators and in many cases land up to the margin of the buildings is being cultivated. In the first place it is necessary to reserve certain portions of the land around each monument and to keep it clean and tidy and the second place footpaths would be required from the Municipal roads to each of the monuments.

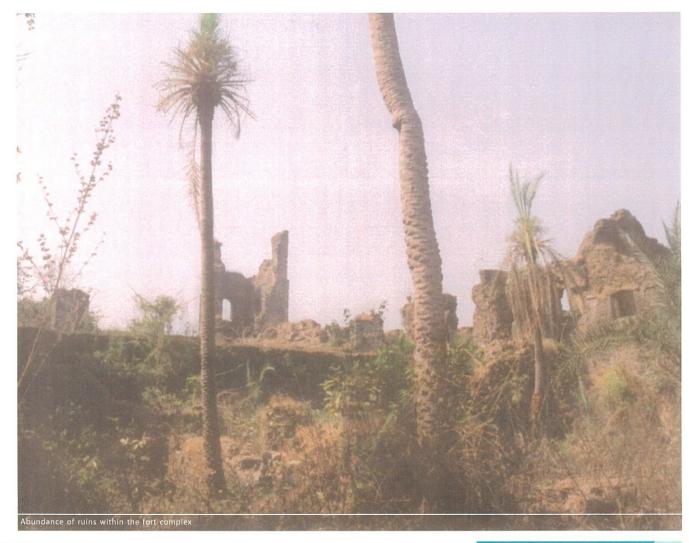
Indian Archaeology - A Review, 1987 - 88 (pg. 174)

The dilapidated bastion near the gate was restored followed by the parapet wall on top in combination mortar. The missing stone pavement was also provided. The fortification walls near the gate were underpinned and reconditioned. The inner faces of the walls of Gonsalo – Garcia Church were repointed in combination mortar.

Indian Archaeology - A Review, 1988 - 89 (pg. 139)

Replacement of damaged teak wood planks and rafters of the roof of St. Gonsala Church was in progress.

On of the most urgent measures that need to be undertaken at the Bassein fort is clearance of the profuse vegetation in and around the ruins. This needs to be done under the supervision of an expert and with the help of archival drawings identifying the ruins as well as modern vectorised drawings so that during clearance works none of the archaeological remains are disturbed and masonry dislodged. An archaeological assistant should be appointed to record all the remains carefully in the form of photographic record as well as in drawing format. An inventory of all the movable artifacts within the fort complex, such as the memorial stones, should be undertaken to preserve these in-situ. Since the extent of the fort is immense, children living in the settlement alongside use the interior spaces of the churches as playing fields often damaging the already eroded historic fabric. Development in and around the fort also needs to be controlled by implementation of the mandatory 500m pristine no development zone around historic sites. While it might not be entirely feasible to remove the existing settlement, any further development should be curbed and awareness programs initiated to prevent vandalism and apathy towards the site.





coastal forts - BASSEIN

2.11.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, which have been described earlier as part of the archaeological recording, and is undertaken in the following manner:

Significant Topographical Features:

- Coastal fort
- 2. Natural sandy stretch and marsh
- Natural landscape with indigenous tree growth (such as coconut palms etc.)

Important Architectural Characteristics:

- Construction methodology of random rubble masonry and dressed elements
- Massive ramparts and double gateways
- 3. Angular bastions with parapets
- 4. All structures mentioned in the architectural inventory

In addition to identification of the principal significant elements an evaluation of the historic integrity of the Bassein Fort would enable a cumulative assessment of its current significance as a heritage site. Since it is already listed as a nationally protected monument, there is little doubt about its historicity or significance. But within the fort cluster nomination an evaluation along with identification of the key topographical and architectural features would facilitate grading of this historic site.

Location	Initially island fort built to man activities along the western sea front especially along the Ulhas estuary. Bassein was the main fort of the Portuguese in north Konkan, the siege of which by the Marathas in 1739 put an end to the Portuguese domination and the restriction of their control only to Goa.	
Design	Since most of the ramparts are intact a precise idea of the extent and significance of the fort is evident.	
Setting	Largely intact.	
Materials	The sturdy construction methodology and quality materials are largely responsible for the survival of the fordespite the natural weathering.	
Workmanship	Excellent random rubble construction indicates the rob methodology while the cut stone carving of the dres openings, jambs and details points to the skill of workmen.	
Feeling	Bassein still conveys a strong impression of a fortified tow primarily because of its massive ramparts and the numerouruins within.	
Association	Its declaration as a national monument has led to it automatic association as a fort monument and is perhap one of the few forts that have such a distinction of being perceived by even tourists as a fort.	

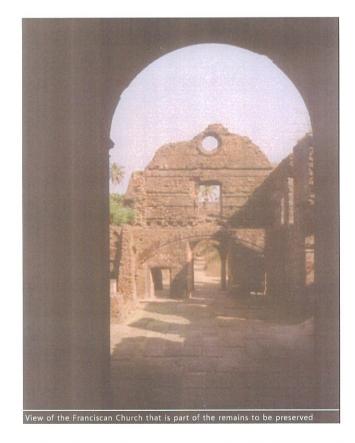
The fort is already listed as a nationally protected monument and by virtue of its historicity and extant built fabric is a Grade I monument.

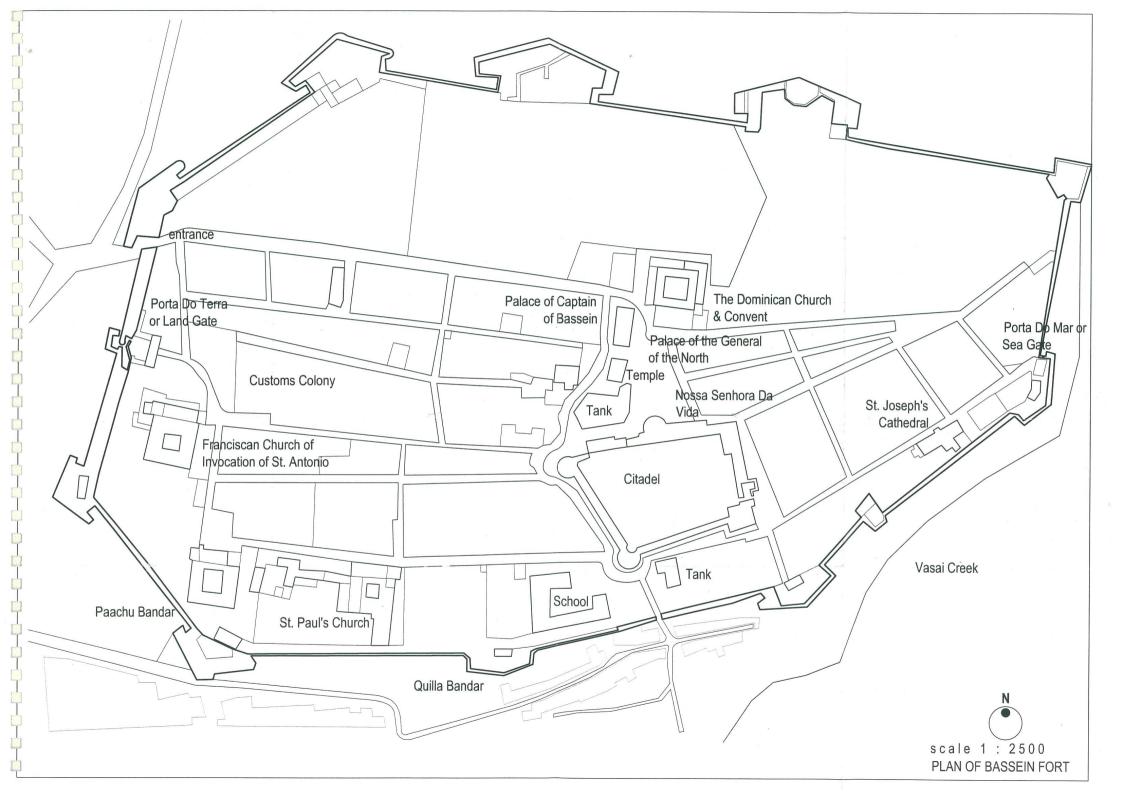
Area of Inscripted Site

45,000 sq.m

Compilation Date

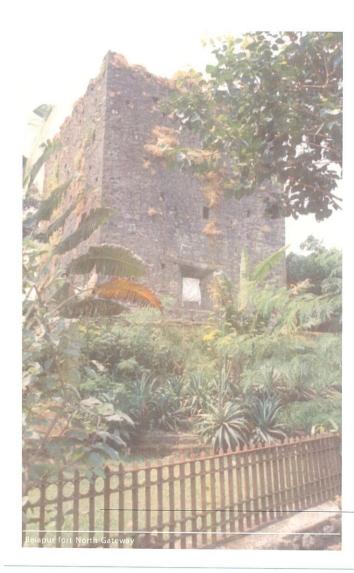
October 2005







3 coastal forts - BELAPUR



2.13.1 LOCATIONAL INFORMATION

Reference no

FT/RD/CF/BR/13/2004

Geographical Co-ordinates

19° 00' N and 73° 07' E

District

Raigad

Access & General Information

The fort of Belapur was built on an island of the same name, commanding the entrance to Panvel Creek about 7 km. from Panvel. It is located close to the Palm Beach Road and can be accessed from the bridge over Panvel Creek commonly called the Uran Road. Belapur Railway station is the nearest rail connection and the fort is located in Kille Gaothan near Seawoods Estate.

Classification

Coastal Fort - Fortified Outpost

Present Usage

The fort falls in the Urbanisable Zone and is hence the area around is being rapidly developed. Not only has a Club sprouted next to the fort but a residential colony too has sprouted in close proximity that has already broken the fort wall boundary.



coastal forts - BELAPUR

2.13.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

Under the Portuguese dominion, Belapur isle was one of the seven divisions subject to Bassein, the capital of the north. Fortified with five bastions and equipped with twenty guns, 11 inside and 9 on the port, Belapur was considered one of the strongest Portuguese forts in Salsette. It also acted as a supporting fort to the other Portuguese fort at Uran. A description of Belapur Fort in the Thana Gazetteer¹ provides a clue about its extent:

"It was described by Captain Dickinson in 1818 as about 400' from north to south, and divided mid-way, its breadth being about half its length. Near the north point, on a rising ground about 75' high and about 800' from the river, were the ruined remains of a battery, part of which supported the roof of an old guard room. On a somewhat lower point of the land, nearer the mouth of the river, were the remains of another battery like the first, supporting an old roof on either side of which were the ruins of a breast work. Both batteries were under cover of the fort guns. Except the north gateway and two round towers on the south face, the fort works were utterly ruinous. The works, including wretched parapets from 2' to 4' wide, were nowhere more than 8' thick and varied from 6' to 20' high. The facing or revetment of part of the works was destroyed by violent rain in 1818. Except a low hut and a low ruined wall, whose water lasted only a short time after the rains, the interior of the fort showed nothing but ruins. The harbour, about 55' from the fort, was defended by a low wall running along the top of the river bank. In the wall were two towers the better placed of which was about 20' high, and from its height and capacity was a little fort in itself. The battery above was excellent and roofed. A store room of the same size underneath the ground floor was formerly used as a prison. The enclosure was entered by a gate and had at one end a battery much like the other two, and like them commanded the fort above. In 1781 a British resident was stationed at Belapur and in 1817 (23rd June) it was taken charge of by Captain Charles Gray."

In the 1737 contest of the Marathas and the Portuguese, Belapur fort fell in the hands of the Marathas until it came in the dominion of the British. It was here that the imposter, impersonating the deceased Bhau Saheb, was arrested by Manaji Angre and dispatched to Pune.

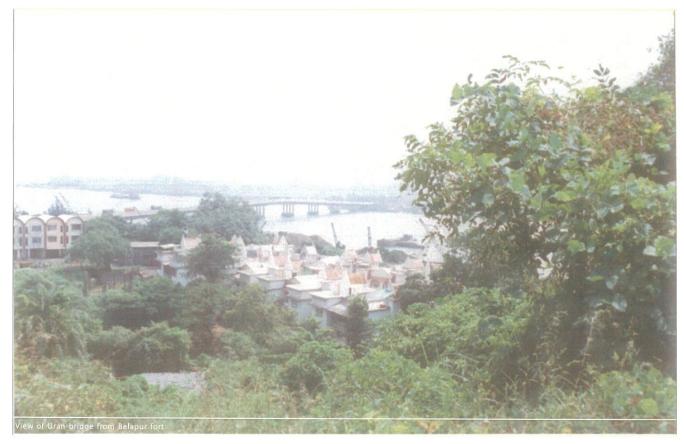
Archaeological Significance

Topographical Features

Belapur fort, like Bassein fort, once stood on an island 1 mile long by 1 mile wide 5 miles from the mouth of the Panvel river. Subsequent reclamations have made the island part of the mainland, which has lost its significance because of this topographical change as well as minimal surviving remains. The fort stood on a small rise of the ground very near the harbour and led to the presumption that the it was actually a fortified harbour.

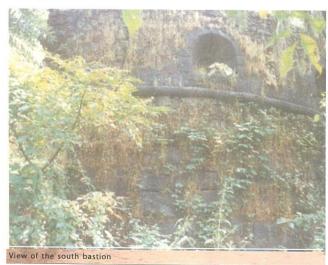
Architectural Description

The area demarcated currently as part of Belapur fort within Kille Gaothan is completely overgrown with dense vegetation with insects like leeches and snakes within that make it extremely difficult to get an idea of the exact extent of the remnant fortifications. As mentioned earlier, the setting of the fort has been largely destroyed due to the reclamations and few architectural remains have contributed to loss of its heritage value. The only surviving remnants when the survey was undertaken in 2005 were the north gateway and south bastion. These too are mere shells with only the walls surviving and no trace of the roof. The north gateway marking the entrance to the road leading to the housing



coastal forts - BELAPUR

complex and club consists of a square enclosure approximately 20' height faced with random rubble masonry. It is provided with rectangular openings with slanting jambs and narrow slits at the upper levels. The general appearance of this gateway indicated that it could have been a significant structure when the fort was being utilized. The south bastion is a U-shaped structure located in the interiors of the dense vegetation and can be accessed by climbing over a broken wall of loose stones from a housing complex, whose compound wall has run through the original fortified wall. This structure was the complementing bastion along with another, as mentioned in the historical description, which manned the mouth of Panvel Creek. While the other bastion was dismantled in the 1990s, apparently during a film shoot, this bastion is also severely threatened both by development pressure as well as by vegetation. The roof mentioned in 1818 too has collapsed. This U-shaped structure, serving as a lookout point over the Belapur Harbour (known as Belawal by the Portuguese in 1570 as a European Konkan Port) consists of two levels, the floor of which has also collapsed. Faced with random rubble masonry, the bastion is approximately 15' high with small arched openings, arch niches on the inside and a half round stone cornice indicating the floor level on the external face. An opening on the ground was the subterranean store mentioned in the historical description, but the proper access to it does not exist unless hidden underneath the rubble within the enclosure.





At the base of the high point where the south bastion is located is a temple dedicated to Govardhani Devi renovated in 1953 and managed by a trust.

Materials

Typical to most Portuguese fortifications in the region, the north gateway and south bastion are both faced with random rubble masonry. The openings are lines with dressed grayish-blue basalt stone masonry.



coastal forts - BELAPUR

2.13.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal Protection

The fort does not currently fall under any heritage protection. The area development authority is CIDCO.

Current Management Framework

The fort falls within the Urbanisable Zone – 1 (U-1) as demarcated in the Regional Plan of the Mumbai Metropolitan Region 1996 – 2011.

Maintenance & Past Repairs

As mentioned earlier the access within Belapur fort is extremely difficult due to profusion of vegetation, which also makes it impossible to record the remnant archaeological fabric. For instance, the wells mentioned to be part of the fort complex especially the one bearing an inscription as being built in *Shake* 1732, could not be traced. These remains along with others lie buried within, gradually succumbing to degeneration. Overgrown vegetation is also an issue with the south bastion, collapse of which imminent unless urgent measures to stabilize it are undertaken. This would perhaps only be possible if the fort is listed as part of the State list of Archaeological Sites and Remains or if a conservation grant is provided by CIDCO and it is listed as part of Navi Mumbai heritage. Rampant development eroding the historic fabric and indiscriminate use of the space within the fort enclave is the other issue seriously affecting the historicity.

2.13.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

In order to afford protection to the original features of the fort along with its setting, it is important to identify these key elements, undertaken in the following manner:

Significant Topographical Features:

1. Slight high point from surrounding are

Important Architectural Characteristics:

 Remnant fortifications in the form of the south bastion, north entrance and any other historic remains found post clearing of vegetation. The following is a tabulation of the chief features of Belapur fort to arrive at its significant value, culled from the historical and archaeological description provided earlier:

Location	Still survives but is somewhat marred due to its conversion from a island fort to a coastal fort on account of reclamation	
Design	Minimal archaeological evidence makes it difficult to construe the original layout and design of this fort.	
Setting	Disrupted due to large scale development around.	
Materials	The surviving remnants display good construction qualit with typical Portuguese construction methodology.	
Workmanship	Both the random rubble masonry facing and cutting of dressed stone for lining openings display good workmanship.	
Feeling	eling Largely lost due to redundancy of fort function and minimulation built fabric.	
Association	Non-existent	

Minimal surviving historic fabric along with loss of setting and associative value, classifies Belapur fort within the Grade III category as per the prescribed grading format

Compilation Date

October 2005

¹ GAZETTEERS DEPARTMENT (EXECUTIVE EDITOR AND SECRETARY), Bombay Gazetteer-Places of interest in the Thana District, Government of Maharashtra, Bombay, 1882 (First Edition) (pg. 43 and 44)

coastal forts - DURGADI

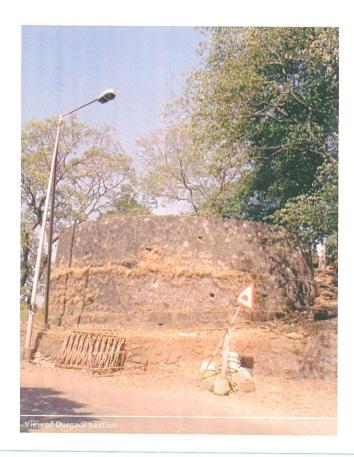
2.14.1 LOCATIONAL INFORMATION

Reference no

FT/RD/CF/DG/14/2004

Geographical Co-ordinates

19º 14' N and 73º 06' E



District

Thane

Access & General Information

Durgadi fort is located on the way from Kalyan to Bhiwandi at the end of the Ulhas estuary. Public transport in the form of buses and even auto rickshaws ply till the foothills of the fort.

Classification

Coastal fort - Fortified Outpost

Present Usage

The fort houses two shrines of two different religious communities, because of which it is also a communally sensitive area with round-the-clock police presence.





2.14

coastal forts - DURGADI

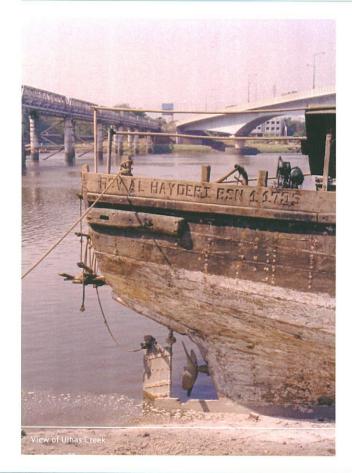
2.14.2 SIGNIFICANCE OF THE SITE

Historical Perceptions

The earliest reference to the fort is during the period 1628 to 1658, when it was under the Mughal General Mohtawar Khan. The fort of Kalyan started as a fortification during the reign of Shahjahan. Prior to 1657, the fort was under the Adilshahi reign. In October 24, 1657, Shivaji Maharaj came in possession of Kalyan, well known for trade and shipbuilding activities and soon afterwards construction of warships commenced with the first ship of the Maratha navy was built in this area. Timber used for shipbuilding was high quality teak from the Kalyan and Bhiwandi area. Foundation of the Durgadevi temple was also done at the same time. The fortifications were strengthened and extended by Aurangzeb. In 1730, Shahu Maharaj built a protective fort wall around, of which fragments still remain. Although Kalyan was a fortified town, it was treated as a fort because it served as a military post for a long period. Its possession was strategic as control of the fort meant effectively manning the area of upper Konkan and Thane.

Concise Chronology of Events:

1628 to 1658	Under the control of the Mughal General Mohtawar Khan and the Adilshahi dominion.	
October 24, 1657	Kalyan captured by Shivaji Maharaj, who soon afterwards commenced construction of warships. Foundation of Durgadevi temple.	
1730	Shahu Maharaj builds protective embankment around fort.	



Archaeological Significance

Topographical Features

Located at the end of the Ulhas estuary, just across Bhiwandi, and built at around 100' on a small hillock, Durgadi fort enjoys a vantage point. This key location was also significant to protect or monitor any approaches to the Kalyan Port. Since the Ulhas estuary was also considered the backdoor entry to the Bombay Harbour, its citing was very strategic. Archival maps show the presence of a large water body at the foothills, of which nothing survives.

Architectural Description

Access to the fort is through a modern gateway, built to resemble a fort entrance, but largely fails on account of the modern materials used and the garish finishes. A series of wide steps and ramp lead to the Durgadevi temple located on the highest point. Built on a high plinth, the shrine is covered with a dome. Beyond the fort are the remains of a Muslim Idagah, comprising of a narrow structure with several arched recesses. Entries to the temple and Idagah are through separate steps and at a lower level of the fort a police chowky has been built.

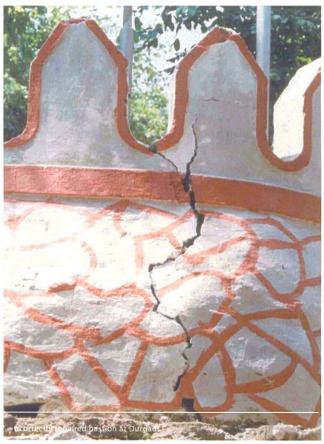


214 coastal forts - DURGADI



Materials

The original construction methodology has been replaced by random rubble masonry embankments. At several instances the bastions have been plastered and a pointing pattern has been painted over to resemble pointed masonry construction. The Public Works Department is in charge of the repairs at the fort.



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coastal forts - DURGADI

2.14.3 PRESENT STATUS & STATE OF PRESERVATION

Ownership / Legal protection

The fort comprises of religious shrines from two different communities and previous communal problems have led to its being under police surveillance and constant stationing of police officers.

Current Management Framework

Repairs to the fort are undertaken by the Public Works Department.

Maintenance & Past Repairs

The original construction methodology has been completely replaced with random rubble masonry. Due to collapse of the entrance bastion, measures were undertaken to stabilize it and this was plastered on the external face with cement mortar like several other fortifications. Most of the original materials and finishes have been entirely altered not in conformity with the authentic mode.







coastal forts - DURGADI

2.14.4 RECOMMENDED ACTION & SUGGESTIONS FOR IMPLEMENTATION

Proposed Grading & Notification of Features

The following is an assessment of qualities and features of the Durgadi fort, a summarization of the topographical and architectural characteristics to identify the critical elements to be necessarily preserved.

Significant Topographical Features:

1. Setting and location of the fort along the Ulhas Estuary

Important Architectural Characteristics:

- 1. Footprint of the fortifications
- 2. Durgadevi temple and Muslim Idagah

An assessment of the remnant historic integrity of the Durgadi fort would enable a critical evaluation about its present status and help generate guidelines for effective preservation.

Location	This is perhaps the only original feature about Durgadi fort.		
Design	The footprint is retained but most of the built fabric h undergone extensive repairs and major alteration.		
Setting	The original setting is still retained.		
Materials	Completely altered, the mode of construction is not authentic.		
Workmanship	Large-scale repairs have gradually replaced the origina building finishes.		
Feeling	Non-existent, the fort is treated more like a religious shrine.		
Association	Garish finishes and incorrect replicas of typical fort-like elements have tried to promulgate the fact that Durgadi was a originally a fort.		

Durgadi fort is not classified as a heritage site either with the local, State or Central Archaeological departments. The surviving built fabric and loss of authenticity of material, qualifies the fort as Grade III within the prescribed grading format.

Compilation Date
December 2004



planning & policy framework

Conservation policies should be based on a critical process starting with the survey, documentation, and definition of the intrinsic cultural resource, and the values related to it.

-- FEILDEN, BERNARD M. & JOKILEHTO, JUKKA, Management Guidelines for World Cultural Heritage Sites, ICCROM, Rome, 1998.



planning & policy framework

Legal and policy framework are effective tools to facilitate appropriate conservation of historic sites and to effectively monitor and regulate growth of the surroundings. Such mechanisms need to be in place even before the restoration of a monument can be initiated so that it forms an interim or regulatory control to protect the significant features of the monuments from being irretrievably destroyed. Hence, after inventorying and cataloguing the historic sites, it is imperative to notify them as heritage sites, within policy guidelines to ensure their preservation. In the case of the Mumbai Metropolitan Region and Maharashtra State, certain heritage protection laws and land use policies are in place, which could be made use of and a case for listing of the forts as a 'cluster' or 'group' nomination can be made within this framework. While two of the fourteen forts under the study are already covered under the "Ancient Monuments and Archaeological Sites and Remains Act, 1958" and are protected as monuments of National Importance, the remaining fall within the ambit of sites within various zones for controlled development. It is under these zones and heritage laws that the forts are further categorized and the impact of such regulations studied. The concluding part of this section then deals with the zoning guidelines and management framework of these historic sites, with a focus on regulatory development within each zone and permissible land use.



current management framework

The forts within the scope of the study fall in the Mumbai Metropolitan Region and hence need to conform to the Development Control Regulations for the Mumbai Metropolitan Region, 1999. Hence, as per the Regional Plan the various forts fall within the following zones:

3.1.1) Urbanisable Zone - 1 (U-1)

- a. Bassein
- b. Ghodbunder
- c. Durgadi
- d. Belapur

3.1.2) Recreational and Tourism Development Zone (RTD Zone)

a. Kulaba

3.1.3) Green Zone - 1 (G - 1)

a. Arnala

3.1.4) Forest Zone (F - Zone)

- a. Kaman Durg
- b. Malang Gad
- c. Chendani
- d. Peb
- e. Prabal

3.1.5) National Park / Sanctuary

a. Karnala

The forts of Kulaba and Bassein are heritage monuments covered under the "Ancient Monuments and Archaeological Sites and Remains Act, 1958", protected as monuments of National Importance by the Archaeological Survey of India and are hence discussed with reference to the prescribed guidelines. Khanderi and Underi island forts are shown as part of the water body with no specific regulations in place.

3.1.1 URBANISABLE ZONE - 1 (U - 1)

As per the provisions of the regulations for the Urbanisable Zone, the lands within the zone may be developed for residential, commercial, industrial, warehousing or other urban uses. Such development shall be in conformity with the detailed land use provisions of the Development Plan, Planning Proposals, Town Planning Schemes, Layout proposed as a part of the final Regional Plan 1973 for area of Wangani and Neral and the related Development Control Regulations as may be enforced by the concerned planning authorities for their respective areas.

The development of lands in U-1 zone for which no Development Plan Planning Proposal, Town Planning Scheme or Development Control Regulations exists, shall be regulated in accordance with the provisions of regulations stated for Urbanisable Zone (U – 2) until Development Plan or separate Development Control Regulations are enforced for the area.

Bassein, Ghodbunder, Durgadi and Belapur forts fall under this zone. Since Bassein is already a nationally protected monument developmental threat is far reduced for this fort. But in case of the other three, due to no heritage protective cover, these monuments face partial or even complete obliteration. Such a scenario of near complete depletion of features has already been noted at the Belapur fort where rampant construction activity has made inroads into the historic building fabric. Both the forts of Ghodbunder and Durgadi lie in the vicinity of important arterial roads and hence face yet another threat of ubiquitous street side commercial development. On account of insensitive maintenance, Durgadi fort has undergone massive repairs that have completely replaced the original construction methodology, putting a question mark over the authenticity of its material. Hence, it is urged that the authorities concerned with the development control of the areas around these monuments enlist these forts as heritage sites, which in case of Ghodbunder would be the Mira-Bhayandar Municipal Corporation, for Durgadi it would be the Kalyan Municipal Corporation and for the fort of Belapur it would be the task of CIDCO. A collective petition for all the forts could be also made to the State Government to list these sites as State protected heritage sites.

3.1.2 RECREATIONAL & TOURISM DEVELOPMENT ZONE (RTD ZONE)

As per the provisions of the regulations for the Recreational and Tourism Development Zone, for the purposes of these Regulations, the Recreational and Tourism Zone shall consist of:

- a) Areas specifically marked in the Regional Plan as RTD Zone;
- b) Places of recreational and tourism value, such as,
 - i) Forts:
 - ii) Archaeological and historical monuments;
 - iii) Major religious places;
 - Objects, features, structures and places of architectural, natural and scientific interest, and educational value;
- c) A belt of 500 meters around the places mentioned in (b) above, but excluding existing gaothan.
- d) Hilly areas, plantation areas, forest areas, areas of natural scenery or other areas having recreational or tourism value;

Provided that the places or areas mentioned in (b) and (d) above are either shown in the Regional Plan or subsequently identified by the Government in consultation with the Maharashtra Tourism Development Corporation and MMRDA.

No development shall be permitted within the places mentioned in Regulation b) or within 100m there from except for the purposes of restoration, conservation, improvement, maintenance and management of the places of recreational and tourism value as mentioned in b) and d).

The maximum permissible FSI in RTD Zone shall be 0.2. The FSI shall be calculated on the gross area of the plot.

Where the owner surrenders to the Planning Authority, or an agency nominated by it, free of cost, any land for arterial roads, access roads, social facilities and amenities, public utilities and services, an additional FSI of 0.2 of the land so surrendered shall be permissible.

Kulaba fort at Alibag falls under this zone and is also a nationally protected site under the "Ancient Monuments and Archaeological Sites and Remains Act, 1958.



current management framework

3.1.3 GREEN ZONE - 1 (G - 1)

The lands in G-1 Zone may be used for any of the following purposes, namely,

a) Gaothan and gaothan expansion schemes in accordance with the prescribed regulations.

- **b)** Farm buildings as permissible under Section 41 of the Maharashtra Land Revenue Code, 1966.
- c) Holiday resorts, holiday homes subject to guidelines.
- d) Single family houses on plots not less than 2000 sq.m in area.
- e) Educational, medical, social, cultural and religious institutions along with residential quarters and shops for the staff on plot not less than 2.5 ha. and the primary school, pre-primary school and health center on plot not less than 0.4 ha.
- f) Film and video shooting sites on land not less than 5 ha. with studio and other related facilities, subject to condition that the permanent built up facilities shall not cover more than 10% of the gross land area.
- g) Subject to safety margins within the plots and environmental clearance under relevant legislation, storage of obnoxious or hazardous goods, includes bottling, packing, re-packing of LPG but excluding any manufacturing activity.
- h) Godowns, container park, open ground storage of non-hazardous and non-obnoxious nature on the nature on the major district roads, state highways or road having width 15m or more and away from 500m from Gaothan and National Highway.
- j) Agricultural and allied activities and agro-based industries, rice mill, poha mill, saw mill, cold storage, horticultural project, poultry farms, cattle stables, piggeries, sheep farms.
- k) Religious places, crematorium and cemetery.
- I) Parks, gardens, play fields, golf courses, swimming pools, race courses, shooting ranges, camping grounds, facilities for water sports, amusement parks, theme parks.
- **m)** Fish farms, fish drying, storage of boats, servicing and repairs of boats.
- n) Quarrying of stone, murum or earth including mechanized stone crushing or stone dressing and temporary housing of laborers, office of the supervisors, managers and other accessory buildings related

to quarrying activity in accordance with the guidelines and an undertaking to observe all necessary care and precaution during quarrying operations as required by these guidelines.

- o) Small scale industries and resource based industries and processing plants employing local resources and giving employment to the local population in the rural areas having land requirements of not more than 4000 sq.m subject to not more than 2.0 ha. in each village may be freely allowed in villages located 8 km from major industrial department.
- p) Roads and bridges, railways, heliports, airports, ports, jetties, dams, pipelines, electricity transmission lines, communication towers, rope ways and such other essential services.
- **q)** Highway amenities and services such as petrol pump, small shops, service stations including emergency repair services, restaurants, parking lots, police check-post.

Arnala fort falls under the Green Zone – 1 (G – 1). Some amount of farming is done within the fort and the village settlement is housed just outside the fortifications, almost threatening to engulf the fort. Construction of landing jettles around this largely low lying primarily rural setup if undertaken should be in keeping with the scale, massing and construction style of the fort and its environs.

3.1.4 FOREST ZONE (F - ZONE)

As per the provisions of the regulations for the Forest Zone, Where any land in the F – Zone is situated in the Reserved Forests or Protected Forest as defined under the Indian Forests Act, 1947, or the forest acquired under the Maharashtra Acquisition of Private Forests Act 1975, with the prior permission of the Forests Department, such lands may be used for any of the following purposes, namely:

- a) Gaothan and gaothan expansion schemes in accordance with the regulations.
- b) Hotels, tourist resorts, holiday homes, motels and club houses.
- c) Retail shops, restaurants and banks.
- d) Religious places and allied activities.
- e) Parks, gardens, play fields, golf courses, camping grounds, swimming pools, facilities related to water sports, race courses, amusement parks, theme parks.
- f) Temporary constructions for limited period, such as, during fairs, ceremonies, etc.
- g) Essential public services and utilities, such as, public toilets, water and sewage treatment facilities, electricity sub-station and bus shelters.

The maximum permissible FSI shall be 0.2 and calculated on the gross area of the plot.

Where the owner surrenders to the Planning Authority, or an agency nominated by it, free of cost any land for arterial roads, access roads, social facilities and amenities, public utilities and services an additional incentive FSI of 0.2 of the land so surrendered shall be permissible.

No development or activity listed above shall involve construction of buildings more than 2 storeys (i.e. Ground + upper floor) with height not exceeding 9m.

Most of the hill forts such as Kaman Durg, Malang Gad, Chendani, Peb and Prabal fall under this zone. The inaccessible situation and Forest Zone notification has to a large extent led to the preservation of the authenticity of the setting. Unfortunately, inherently there are not too many remnants extant in cases of the above mentioned forts. In forts such as Malang Gad, change in user has altered the environs and access to the fort to such a degree that all associational value has been lost.



zoning guidelines - FORT HERITAGE MANAGEMENT PLAN

HISTORIC SITE BOUNDARY (HSB)

Definition:

This zone constitutes the core of the site and would include all architectural vestiges as well as topographical features as summarized in the 'Notification of features' inventory card for each fort. The elements within the HSB comprise all the features affecting the visual quality and perception of the monument and are of paramount importance, necessary to be preserved in an authentic manner. Distinctive stylistic features (as listed in the inventories) and examples of skilled craftsmanship which characterize the historic site shall be treated with sensitivity.

Development Control Guidelines:

No development shall be permitted within the HSB or within 100m from this boundary except for the purposes of restoration, conservation, improvement, maintenance and management.

At instances where development already exists, efforts should be taken to curb its spread.

The land use within the HSB should be continued and no change in the usage or modified use would not be permitted. No new use can be undertaken within the HSB.

Repairs and Maintenance

Repairs within the HSB shall be undertaken strictly in accordance to the recommendations provided in the 'Conservation recommendations and Guidelines for preservation' (Chapter 4). Authenticity while restoring the built form or surroundings must be retained. Hence, replacement with like material and finish is also discouraged unless critical to the structural stability of the monument. In most cases, a lot of heritage material has fallen in-situ, which could be utilized to restore the edifice.

Removal, alteration, replication or duplication of features or materials shall be strictly discouraged.

The final aim and the principles of conservation and restoration must be kept in mind; generally the minimum effective intervention has proved to be the best policy.

PERIPHERAL ZONE

Definition:

In case of extensive ecological sites, which include the historic site, it becomes imperative to provide additional buffer so as to regulate and control development. This area in its immediate vicinity affects the perception of the site and should be regulated, particularly necessary in case of hill forts. Since the hill forts are in any case included within either a Green Zone or Forest Zone in the Regional Plan, the demarcation is simplified and a distinct boundary based on the Planning Authority boundary can be undertaken.

Development Control Guidelines:

Development within this zone would be in conformity with the land use regulations provided in the Regional Plan, except in case of the Urbanisable Zone. In case of the Urbanisable Zone, it should be ensured that reconstruction, additions or new construction should be inconsonance with the surrounding low lying development and should not exceed two storeys. All such development would conform to the additional 100m boundary provide after the Historic Site Boundary.

New additions or temporary constructions shall be undertaken in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the site would be unimpaired.

VISITOR MANAGEMENT

Provision of visitor and administrative facilities should be utilitarian but at the same time sensitive to the delicate historic and environmental setting of the heritage site. The current access routes and finishes are genuine and should be retained. For instance in case of the hill forts, the original rock-cut or stone paved access should be retained. In case of the island forts, infrastructure projects to improve access in the form of jetties should necessarily conform to the material and construction finishes of the monument. The current accesses, although slightly difficult to negotiate contribute to the visitor experience and are at the same time sensitive to the historicity.

Provision of amenities is integral to every public monument, but the placement should be in the proximity and at a discreet location in order to facilitate the visitors but at the same time be sensitive to the ancient site. This should be provided outside the HSB and in the Peripheral Zone. In case of the island forts, where it is not practicable

to provide a peripheral area, amenities should be provided at the locations as marked within the zoning guidelines in the individual inventory cards. Emphasis should also be to maintain universal design standards for implementation of amenities.

Other measures for visitor management would also involve introduction of interpretation tools such as information signboards and perhaps a Site Museum. This museum could consist of information regarding the individual fort but could also feature the other local forts, giving rise to such specialized information dissemination centers.

Since the natural setting is integral to the perception of the monument these should not be altered and all installations provided such that these do not interfere with the vistas. No installations should be permitted at or in the vicinity of this natural features obscuring the view in any manner.



grading & notification of features

- MAKING A CASE FOR 'CLUSTER' NOMINATION

Barring the two historic sites of Bassein and Kulaba, none of the remaining twelve forts enjoy heritage protection. Several instances of insensitive development, vandalism due to ignorance of heritage value and degeneration of built fabric on account of disrepair has led to perhaps irretrievable damage of heritage property. In order to prevent such undesirable occurrences in the future it is vital to enlist these sites under some sort of heritage regulatory framework. Rather than reinventing a specialized legislative procedure for protection of the forts, it would perhaps be advisable to make use of the exiting Acts and Regulations to at least bring these fast depleting edifices under a protective bracket. Hence, it is advised that the Forts within the Mumbai Metropolitan Region either be added on to the existing Heritage List for Greater Mumbai or enlisted as sites within the "Maharashtra Ancient Monuments and Archaeological Sites and Remains Act. 1960".

Considering the unique architectural typology of the forts, a special case for 'cluster' or 'group' nomination can be made within the Heritage Regulations of Greater Mumbai (the forts do not technically fall within the boundaries of Greater Mumbai). Just as groups of buildings of collective architectural merit and cultural value are classified as a heritage precinct with separate precinct guidelines, similarly these forts (there are as many as 24 forts within the entire MMR area, including the 10 forts within the MCGM limits) could be categorized on the basis of their unique architectural typology, with special preservation guidelines. Then, even the forts presently listed within the Heritage List, such as Mahim Fort, Bandra and Sion Forts etc., could be brought under this select list as heritage sites within a Cluster Nomination, calling for a dedicated and specialized system of maintenance and repair. A similar grading system that is currently in place (Grade I, II and III) could be followed for classifying the forts.

If for logistical purposes, since the MMR forts do not fall within the Greater Mumbai limits, enlisting of the forts cannot be undertaken within the present list, these historic sites should be notified as sites to be protected by the State Department under the "Maharashtra Ancient Monuments and Archaeological Sites and Remains Act, 1960".

It is clear that any conservation management plan, especially that for the hill forts, should be made considering the merits of their natural setting and not as a series of isolated monuments, as these are evidences of a unique symbiotic association between man-made structures and their natural environment. Hence, this overarching conservation plan envisages an inscription of both the topographical features and the archaeological evidence, as listed in individual inventory cards, but also undertakes the critical evaluation of the factors contributing towards the historic integrity of the monument. Integrity is determined by comparing the present state of a landscape with its physical characteristics during the historic period. The National Register of Historic Places defines historic integrity as the "composite effect of seven qualities present within the landscape – location, design, setting, materials, workmanship, feeling and association".

Although the following evaluation of historic integrity is a listing of the characteristics of the individual forts, it is not a comparative assessment as this could demerit the seemingly less significant structures.



- MAKING A CASE FOR 'CLUSTER' NOMINATION

HISTORIC INTEGRITY	ISLAND FORTS						
QUALITIES	KHANDERI FT/RD/IF/KH/1/20		UNDERI /IF/UN/2/2004	KULABA FT/RD/IF/KU/3/2	2004 FT/Th	ARNALA FT/TH/IF/AN/4/2004	
LOCATION	√		V	√		√	
DESIGN	√		V	V		V	
SETTING	√		V	1		V	
MATERIALS	$\sqrt{}$		V	V		V	
WORKMANSHIP	√		V	1		V	
FEELING	V		V	V		V	
ASSOCIATION	√		V	√		1	
			HILL F	ORTS			
	KARNALA FT/RD/HF/KN/5/2004	MALANG GAD FT/RD/HF/MG/6/2004	CHENDANI FT/RD/HF/CH/7/2004	PRABAL FT/RD/HF/PR/8/2004	PEB FT/RD/HF/PB/9/2004	KAMAN DURG FT/TH/HF/KD/10/200	
LOCATION	√	√	V	V	√	V	
DESIGN	√	×	×	V	×	×	
SETTING	√	V	V	V	√	V	
MATERIALS	V	V	×	V	×	×	
WORKMANSHIP	√	V	×	√	×	×	
FEELING	1	. 1	×	V	×	×	
ASSOCIATION	√	×	×	×	×	×	
	COASTAL FORTS						
	BASSEIN FT/TH/CF/BN/11/20	GHODBUNDER 2004 FT/TH/CF/GB/12/2004		The state of the s		URGADI F/DG/14/2004	
LOCATION	√	√		√		V	
DESIGN	√		V	×		×	
SETTING	V		V	×		1/	
MATERIALS	√		×	×		×	
WORKMANSHIP	V		×	×		×	
FEELING	V		×	×		×	
ASSOCIATION	V	×		×		×	

If a grading system were to be evolved for the forts broadly based on the present listing system of the heritage buildings within Greater Mumbai or by sourcing the original Ancient Monuments and Archaeological Sites and Remains Act, 1904, the three grading categories would be:

Grade I

Definition:

Historic sites with outstanding historical significance, archaeological evidence and architectural articulation. These sites display original mode of construction and to a large extent have preserved the authentic materials with minimal intervention. Although the sites could be ruinous, a clear coherence of the design and plan form must be visible and all factors contributing to the historic integrity of a monument, such as the location and setting must be intact. Not only are the sites architecturally significant but are also exceptional even in terms of the ecological and cultural context,

Extent:

The extent of the site is defined by the Historic Site Boundary (HSB) and in cases of ecologically sensitive sites a peripheral zone is also included, defined in the zoning guidelines, also including the access routes.

Ownership and protection:

It is urged that as far as possible the forts should retain their present land use, so that these sites are not mere monuments but are also living sites in order to sustain them. For sites that are not in the ownership of the Government, an agreement of maintenance of the monument should be made, where the owner or caretaker is responsible of the maintenance but deputed archaeological officers supervise the work. In case, after periodic site visits by such officers, it is found that maintenance is not being undertaken as per the prescribed guidelines mentioned in the Conservation Recommendations (Chapter 4), this agreement shall be invoked and the owner would be liable to undertake measures to rectify or undertake repairs as specified.

The owner cannot utilize the historic site for any other purpose, except as mentioned in the inventory card. He cannot destroy, remove, alter or deface the monument and proposals for additions, reconstruction or new development within the site should be sent to the requisite Government body for scrutiny and approvals. Unless absolutely critical for the sustenance of the monument, no development would be permitted within the Historic Site Boundary. In case the owner wishes to sell the property, intimation must be



- MAKING A CASE FOR 'CLUSTER' NOMINATION

provided to the Archaeological Department from the State Government, who could then initiate acquisition proceedings.

Forts listed as Grade I sites:

Khanderi, Underi, Kulaba (already nationally protected), Arnala Bassein (already nationally protected) and Karnala.

Grade II

Definition:

Historic sites with outstanding historical significance, archaeological evidence and architectural articulation, but which over the years have lost coherence of the built form either due to obliteration of parts of the built form or on account of change in land use and consequent inappropriate development. The remnants within the sites display original mode of construction and to a large extent have preserved the authentic materials. Since the sites are ruinous, a clear coherence of the design and plan form would perhaps not be visible but the factors contributing to the historic integrity of a monument, such as the location and setting must be intact.

Extent:

The extent of the site is defined by the Historic Site Boundary (HSB) and in cases of ecologically sensitive sites a peripheral zone is also included, defined in the zoning guidelines, also including the access routes.

Ownership and protection:

It is urged that as far as possible the forts should retain their present land use, so that these sites are not mere monuments but are also living sites in order to sustain them. For sites that are not in the ownership of the Government, an agreement of maintenance of the monument should be made, where the owner or caretaker is responsible of the maintenance but deputed archaeological officers supervise the work. In case, after periodic site visits by such officers, it is found that maintenance is not being undertaken as per the prescribed guidelines mentioned in the Conservation Recommendations (Chapter 4), this agreement shall be invoked and the owner would be liable to undertake measures to rectify or undertake repairs as specified.

The owner cannot utilize the historic site for any other purpose, except as mentioned in the inventory card. He cannot destroy, remove, alter or deface the monument and proposals for additions, reconstruction or new development within the site should be sent to the requisite Government body for scrutiny and approvals. Unless

absolutely critical for the sustenance of the monument, no development would be permitted within the Historic Site Boundary. In case the owner wishes to sell the property, intimation must be provided to the Archaeological Department from the State Government, who could then initiate acquisition proceedings.

Forts listed as Grade II sites:

Malang Gad and Prabal.

Grade III

Definition:

Historic sites that are relics of the past, have lost most of the built fabric and contextual meaning, but are nevertheless significant because of the historical and cultural background. Such sites have few remnant archaeological fabric either due to obliteration of parts of the built form or on account of change in land use and consequent inappropriate development. The remnants within the sites might not display the original mode of construction and replacement of authentic material has irretrievably destroyed the significance. Since the sites are ruinous, a clear coherence of the design and plan form would perhaps not be visible but the factors contributing to the historic integrity of a monument, such as the location and setting must be intact.

Extent

The extent of the site is defined by the Historic Site Boundary (HSB) and in cases of ecologically sensitive sites a peripheral zone is also included, defined in the zoning guidelines, also including the access routes.

Ownership and protection:

It is urged that as far as possible the forts should retain their present land use, so that these sites are not mere monuments but are also living sites in order to sustain them. For sites that are not in the ownership of the Government, an agreement of maintenance of the monument should be made, where the owner or caretaker is responsible of the maintenance but deputed archaeological officers supervise the work. In case, after periodic site visits by such officers, it is found that maintenance is not being undertaken as per the prescribed guidelines mentioned in the Conservation Recommendations (Chapter 4), this agreement shall be invoked and the owner would be liable to undertake measures to rectify or undertake repairs as specified.

The owner cannot utilize the historic site for any other purpose,

except as mentioned in the inventory card. He cannot destroy, remove, alter or deface the monument and proposals for additions, reconstruction or new development within the site should be sent to the requisite Government body for scrutiny and approvals. Unless absolutely critical for the sustenance of the monument, no development would be permitted within the Historic Site Boundary. In case the owner wishes to sell the property, intimation must be provided to the Archaeological Department from the State Government, who could then initiate acquisition proceedings.

Forts listed as Grade III sites:

Chendani, Peb, Kaman Durg, Ghodbunder, Belapur and Durgadi.



- MAKING A CASE FOR 'CLUSTER' NOMINATION

REFERENCE NO.	NAME OF THE FORT	GRADE
FT/RD/IF/KH/1/2004	KHANDERI	I
FT/RD/IF/UN/2/2004	UNDERI	I
FT/RD/IF/KU/3/2004	KULABA	Already notified as a nationally protected monument with the Archaeological Survey of India
FT/TH/IF/AN/4/2004	ARNALA	I



- MAKING A CASE FOR 'CLUSTER' NOMINATION

REFERENCE NO.	NAME OF THE FORT	GRADE
FT/RD/HF/KN/5/2004	KARNALA	I
FT/RD/HF/MG/6/2004	MALANG GAD	II
FT/RD/HF/CH/7/2004	CHENDNI	III
FT/RD/HF/PR/8/2004	PRABAL	II
FT/RD/HF/PB/9/2004	PEB	II



- MAKING A CASE FOR 'CLUSTER' NOMINATION

REFERENCE NO.	NAME OF THE FORT	GRADE
FT/TH/HF/KD/10/2004	KAMAN DURG	Ш
FT/TH/CF/BN/11/2004	BASSEIN	Already notified as a nationally protected monument with the Archaeological Survey of India
FT/TH/CF/GB/12/2004	GHODBUNDAR	· III
FT/RD/CF/BR/13/2004	BELAPUR	Ш
FT/RD/CF/DG/14/2004	DURGADI	III



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