

s t u d y o f f o r t s



within the Mumbai Metropolitan Region - Vol.1

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MMR Heritage Conservation Society

prepared by

Academy of Architecture, Mumbai



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introduction

Map showing forts in India



*“A country without a past
has the emptiness of a barren continent;
and a city without old buildings is like a man without a memory”*

-- Graeme Shankland

Mumbai Metropolitan Region with its historical variety, comprising of Asokan relics in Sopara to Colonial Architecture in the Fort, is truly blessed with the amazing menagerie of monuments. In addition to these, this region extending from Virar in the North to Alibag in the South to Karjat at the east, also boasts of at least 25 forts, several of which date to the 12th to 16th century. Caught between a time warp of functional redundancy and contemporary urban pressures of development, several of these gradually face extinction. These vestiges are a crucial section of Mumbai's history between an ancient historical settlement and the relatively modern Colonial past. They serve as testaments to the colonial zeal of the Portuguese or English and the territorial forays of the *Siddis* and the *Marathas*.

Falling at a strategic location along the western sea front of India, the area in and around Mumbai was always fiercely defended. The numerous forts, crowding every important creek or mouth of rivers, are evidence of the importance of the Mumbai harbour. In fact the entire Konkan coastline was divided into zones and every zone manned

with a strong fort. The area extending from Surat to Bassein was Mughal, Bassein and surrounding including Thana was under the Portuguese dominion, Bombay island with the English, Khanderi with Marathas and nearby Underi with Siddis. The coastline from Kulaba up to Chaul was Maratha territory, Chaul and Revdanda was Portuguese, Janjira with the Siddis, Janjira to Goa under the Maratha occupation and Goa was under Portuguese dominion in the 17th century.

These forts were flashpoints of several power struggles and doubled to form trading ports. Such was the influence of the need for defence that even houses and religious structures were provided with defensive outworks and every promontory capped with a fortified outpost. The impregnable western Sahyadri hill range also provided an excellent look out point and was heavily fortified along important trade routes. Hence a concentration of hill forts and coastal forts is observed along the western region.

1

introduction

Map of the Western regions showing forts



In fact the western region and surroundings comprising approximately of the Mumbai Metropolitan Region, records a maximum concentration of forts in Maharashtra. Although, many of these forts may not rate at par historically or strategically with important forts such as *Shivneri*, *Panhalagad* or *Daulatabad*, they are in their own right landmarks of the minor (or sometimes even major) battles for supremacy within the many territorial rulers.

Map of Forts within the MMR



The study, which is Volume 1 of the entire project, is divided into 4 sections. The first section is a general historical background and specifically the Fort Architecture of the Marathas, Portuguese and Siddis. The second section titled "*Geographical considerations*" is basic topographical information of the western region of Maharashtra and classification of forts based on the same. The third section is an inventory of all the forts included in the study and the fifth section a more detailed study of Ghodbunder fort, to set a prototype for studying the other forts in the next stage.



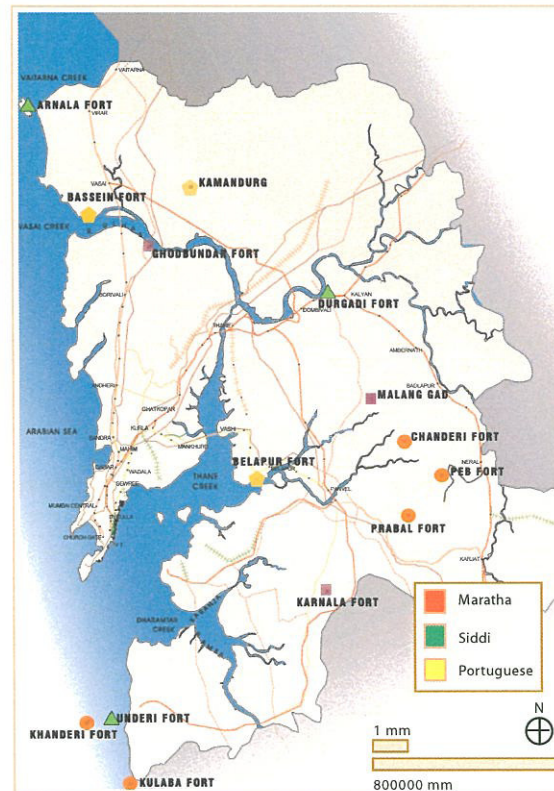
2 historical background

2

historical background

The forts within the MMR broadly comprise of three historic periods; *Siddi*, *Portuguese* and *Maratha*. As the forts under study were only later occupied by the English and not actually built by them, English Fort architecture is not studied as part of this phase. A brief summary of fort construction is supplied at the beginning, as these are the roots of Maratha fort architecture.

Map of the Mumbai Metropolitan Region showing the classification of forts based on historical periods



Fort Architecture Predating The Maratha Period

The *Mauryan* invasion of Maharashtra took place between 321 and 181 B.C. In 315 B.C. the *Mauryas* entered Sopara via Gujarat. Later on between 192 B.C. and 100 B.C. the northern parts of Konkan region were under the descendents of *Shatkarni-Satvahan*. Maharashtra came under the domination of series of conquerors, their rule spanning nearly 1000 years. Among these dynasties were *Shalivahanas*, *Vakatakas* - Some who ruled over Vasai are *Chalukya* - 300 - 500, *Rashtrakut*- 767 - 950, 970 - 1182 once again *Chalukya*. Between 1182 - 1294 north Konkan was under the royal family of *Devigiri Yadavas*. The long and peaceful reign under the powerful *Yadavas* ended in 1294 A.D., and it was followed by a series of Muslim dynasties. In 1294 *Aladdin Khilji* defeated *Ramdev Raja*, a descendent of *Devigiri Yadav* family. The *Bahamanis* ruled for two hundred years, when Persian language influenced Marathi.

It is crucial to identify key aspects of fort architecture derived from the styles of the *Devigiri Yadavas*, *Kakatiyas* and *Shilaharas* as these characteristics were adopted by the Marathas. Of the forts under study, Malang Gad, Karnala and Ghodbunder belong to this period. Some key features of the fort architecture of this period are described below.

The gates of the forts, palaces and towns had some unique characteristics. The principal portal was framed by a rectangular stone band slightly projecting the surface of the stone masonry. Just above the portal and below the stone band are carved two lotus flowers at the two corners. The lotus flower was sometimes substituted by a *shakti chakra*. The principal portal was embellished with garland like ornamentation. It is observed that most forts had a niche in the gateway for the protective deity *Ganesha* and a rectangular window like opening above the portal of the main gate known as *gavaksha*. Essentially this opening was used for sprinkling rose water, holy rice or *akshata*, vermillion, and flowers on warriors when they were returning or going for battle. The main gateway was usually a teak wood door with iron spikes arranged in horizontal tiers. The gateway had a parapet above, this supported two *chattris* at either ends. The entrance gate had two lofty bastions on either side, reinforced by merlons and embrasures. The forts built during the ancient period, belonging to the dynasties of the *Rashtrakutas*, *Shilaharas*, *Chola* and *Chauhans* displayed the use of the pointed arch, surprisingly even before it was introduced in the western world.

2

historical background

Maratha Fort Architecture

Maratha history is synonymous with Shivaji. Although Fort Architecture was undertaken before and treatises on fort planning such as the *Arthashastra* or references to forts in Vedic literature existed, the birth of Maratha power is related to Shivaji's territorial forays. Known for his immense foresight, Shivaji was amongst the few Indian rulers to realise the importance of sea power and hence established several coastal strongholds. The dictum followed by Shivaji was

"Forts are the very soul of the kingdom".

Shivaji, the founder of the Maratha Navy

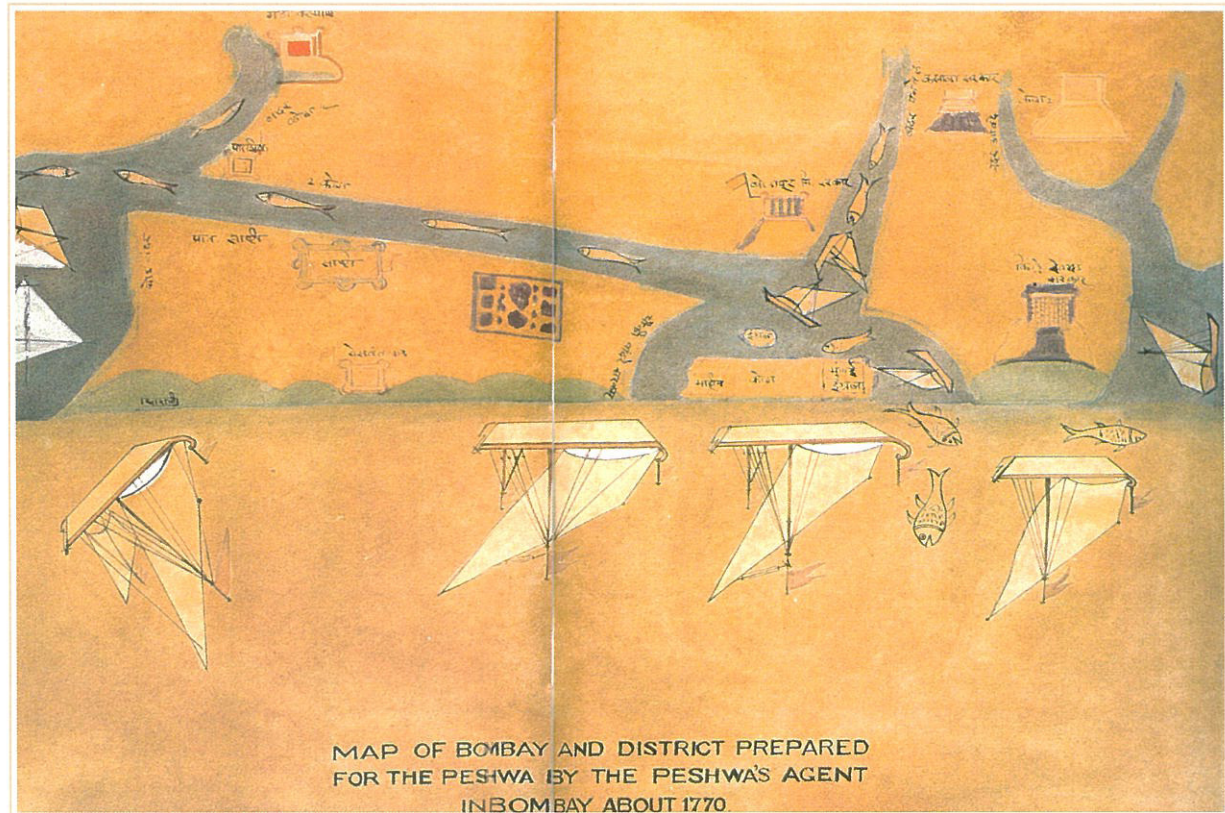


The history of Marathas can be divided into two distinct phases, early and late, first the reign of *Shivaji, Sambhaji, Rajaram* and the first decade of *Shahu's* rule and second the Peshwa period. Forts were a key factor in the foundation, expansion and preservation of the Maratha Empire. Territorial ambition of the Marathas to gain regional superiority was aided by the geographical diversity of Maharashtra, which had a long coastline, an equally long and daunting western hill range and the flat Deccan plateau.

So feared was the Maratha domination of Konkan that post-occupation the British destroyed and dismantled all the forts, to ensure that the Marathas could not use these strongholds again to gain superiority. In most cases a few disjointed ramparts, water tanks and plinths of structures are the only records of the might of these hill forts. Fortunately, detailed description of these forts was recorded in the *Bombay Gazetteers*. The treatise by *Ramchandra Amatya*, Chhatrapati Shivaji's trusted lieutenant, *Ajnyapatre*, consisting of a separate chapter on the importance and maintenance of forts, is also useful in generating some insight into Maratha Fort Architecture.

Some key aspects of fort construction were the location, access and presence of a water source. In fact, only a few forts were situated so that they could afford direct protection to a town, as most were located such that they were effective in stopping the siege much before reaching the town. Capitals of Maratha territories were often located in forts instead of cities and even in their conquests the Marathas took the land first, the forts next and left the cities for the last.

Archival map showing forts along the Bombay harbour (Source: Shivaji And Facets Of Maratha Culture, Marg Publications)



As part of this study two types of Maratha forts are studied based on their topographical features: hill forts and island forts. Forts built or strengthened by Marathas, which are included in this study are:

- Chendani
- Peb / Vikatgad
- Prabal - Moranjan

- Kulaba
- Khanderi

Of these, Chendani, Peb and Prabal are hill forts, whereas Kulaba and Khanderi are island forts.

2

historical background

Maratha Fort Architecture

Hill Forts

The location of a hill fort was chosen so that it suited a distinct strategic purpose such as to command a trade route, a town or a vast plain. Hence it is interesting to note that these forts were located along the *Bor Ghat*, the *Nana pass*, the *Thal pass* etc. Thus the numerous forts dotting the Sahyadri peaks ensured that almost nobody could cross the Western Ghats without being noticed first. The proximity and number of these forts also indicates that perhaps communication was established by means of fire signals.

A Fort was located on strategically important hill of considerable height and not easily accessible. It was ensured that no other hill could command it and if any such hill existed it was blown up or fortified, thus giving rise to pairs of forts. Again the proximity was stressed such that the hill forts were within viewing distance of each other. A hill surrounded by a group of mounds usually preferred, providing a strong protective curtain all around the main fort. Many minor forts were only administrative centres. Of the Hill forts under study, all fall under the category of being minor outposts and were merely meant to be check posts to keep a watch on the surrounding territory. Although Karnala perhaps was the only prominent fort in the 13th century as it occupied a strategic location due to command of the high road between Bor pass and the Panvel and Apta rivers.

Access

A particularly difficult approach was chosen and made even more arduous by introducing narrow passes, steep winding paths and sometimes even subterranean passages. A stiff climb, particularly for accessing portions of the upper fort in case of Prabhal, is a definite part of Maratha military architecture.

Archival image of Maharashtra woman climbing hill fort of Karnala



Scarp

Where not naturally scarped, the original profile of the hill was shaped by hewing rock. A peculiar feature of the Western Ghats is that the west side is extremely steep, whereas the east gradually slopes to the base. The nature of the Deccan trap also creates an impression of steps in the hill contours.

Elements

- 1) **Metas:** A place from where a watch could be kept on the communications to the forts. A flat piece of land on the road leading up to the fort, without fortifications often one or more.
- 2) **Machi:** A plain piece of land or plateau of considerable length or breadth situated at a distance from the summit, with fortification, often functioned as independent forts or outposts.
- 3) **Fort walls:** Provided along the summit, fort walls provided an addition line of defence. In hill forts a peculiar feature known as *chilkhat* meaning armour, indicating a closely set double line of curtain walls was provided, with the second line higher than the first. Curtain walls were of height generally 4.5 to 7.5 m and the average width at base was about 3 m tapering to 1.5 m at the top. Wall walks were usually provided with *padkot* - stone parapets or battlements, consisting of *ardhadal* - merlons, *falika*- embrasures and *jangya* - loopholes.
- 4) **Bastions:** Built at certain look out points along the forts walls and were occasionally independent towers also erected at strategic location commanding ascent. Except at instances flanking gates, bastions were usually semi-circular without lobes and often had small guns or cannons mounted atop.
- 5) **Ramparts:** These were constructed of large blocks of stone fitted with dry mortar and sometimes dressed. For important forts, construction was undertaken using large blocks of stone fitted with mortar and strengthened with iron clamps if necessary. These unyielding bulwarks were vulnerable at gateways.
- 6) **Gateways:** Barbicans and right-angled or crooked gateways were considered outmoded and a single entrance to a fort a drawback. The practise of having a succession of gateways or double gateways was common in medieval period. Being most vulnerable and usually the point of conflict, the gates were constructed as strong if not stronger than the ramparts. The gate generally consisted of pointed arches and

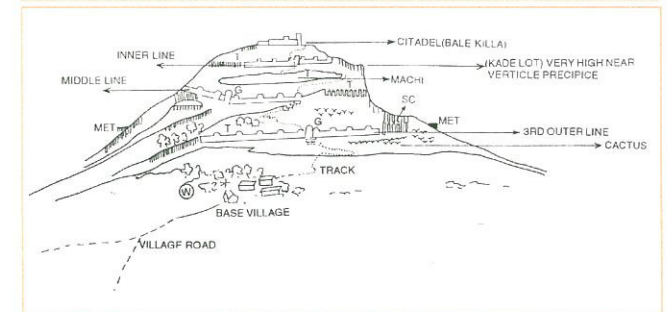
use of cusped arches was rare. Doors were thick and made of timber fitted with long iron spikes and timber bar across. Stone cells or guardrooms were placed on either side of the door in addition to strong bastions. Above the gates and the towering bastions were parapets with embrasures for gunnery. The height ranged from 2.5 m to 7.5 m and occasionally approaches to the gate were cut through rock. Sometimes doorways were erected at weak points along the ascent. Common motifs for surface decoration were *Gajashardula* depicting lion or tiger trampling on elephants and *Gandabherunda* representing lion or tiger standing with small elephants under each of its hind feet and a two-headed eagle under its front feet.

7) **Storehouses:** Rock-cut cells usually used for stores but during Shivaji's times, built-up granaries were preferred. However, ammunition of storage was done in rock-cut cells as a precaution against bombing. The location of granaries was such that there would be no hazard due to fire, rat or insect infestation and were generally paved.

8) **Water source:** This was the fundamental requirement of a fort, and all medieval hill forts were provided with rock-cut cisterns, some of which had their own springs and others supplied by rain water enough to provide drinking water till the next monsoons.

9) **Residential quarters:** These were rarely found in the case of hill forts and usually no permanent structure was provided for the officials and garrison.

Sketch view showing the various elements of a hill fort
(Source: Maratha Architecture - 1650 A.D. to 1850 A.D., M. S. Mate)



2

historical background

Maratha Fort Architecture

Island Forts

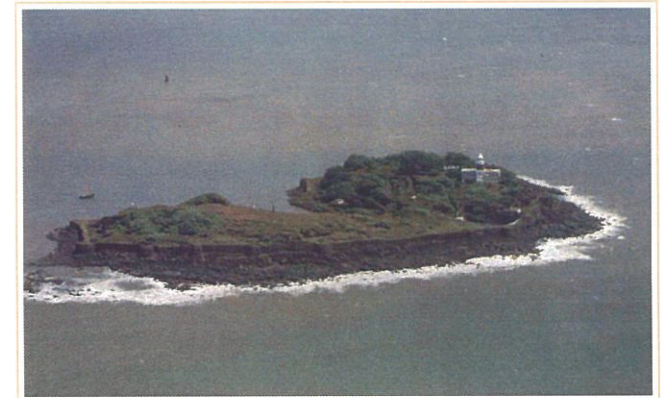
Western sea frontiers were guarded fiercely, both for control of trade as well as for politico-military purposes. Strong forts commanded openings of the rivers and important ports on the coastline. Naval forts served as supply depots and prevented enemy ships from entering creeks. These were also a retreat in case of defeat on land. Thus they formed a basic element in the tactics and strategy adopted by the Marathas in their naval sieges.

Chhatrapati Shivaji Maharaj laid the foundation of the Maratha Navy by establishing the fort at Sindhudurg on 25th November 1664, completed in three years. In fact he is known to be one of the first modern rulers to build a navy from scratch. As every river mouth had a port or a fort, Shivaji realised soon that occupying these forts meant almost total control of the coastal zone. Hence the establishment of the navy was preceded by the possession on 24th October 1657 of Kalyan, well known for trade and ship building activities and also Bhiwandi. Soon afterwards construction of warships commenced. In the 17th century, *Thana, Kalyan, Bhivandi, Alibag, Bankot, Vijaydurg* and *Malvan* were the chief shipbuilding centres of the Marathas. As well as, *Chaul, Dabhol, Kalyan, Bhivandi* and *Vengurla* were great port towns. In order to control the entrance to the Bombay harbour and to keep a check on the activities of the English and the Portuguese, in 1679, Khanderi island (11 miles south of Bombay- in English control and 30 miles north of Janjira – a stronghold of Siddis) was fortified by Shivaji (although fortifications were begun earlier in 1672).

No account of coastal forts would be complete without mention of the Angre family. They were instrumental in maintaining superiority of the Maratha Navy and furthering the cause of naval warfare, founded by Shivaji.

The elements for hill forts such as the bastions, ramparts and gateways were also common to island forts with a few variations. Walls and bastions of marine forts were much stronger than those of hill forts, as there was no buffer of a scarp as in the case of hill forts, which formed the first line of defence, in an island fort. These were constructed of huge square-shaped stones, fitted with dry mortar bedding. For escape in times of crisis, provision was always made for postern gates. It was always ensured that the fort was supplied with an abundant supply of

Aerial View of the Khanderi Island fort (Source: Sea And Hill Forts Of Western India – Aerial Views And Historical Perspective)



fresh water by means of constructing stone-lined reservoirs. Both Khanderi and Kulaba had fresh water well for private use and a large reservoir for public utility.

Development of Fort Architecture was clearly driven by development of artillery and constant changes to ensure better protection. Initially use of artillery proved useless in the case of hill forts that in themselves were impregnable. But with the advent of firearms and artillery with further trajectory offering long range of projectile, even the hill forts lost their military significance.

Infighting amongst the Marathas, Angres and Peshwas ultimately led to their downfall and the complete occupation by the British on their strongholds in 1818 and end to a glorious chapter of Maratha defence architecture.

A Koli fisherwoman on the Arnala wharf



2

historical background

Portuguese Military Engineering

The Portuguese were the first colonialists and came to India with the intention of traders looking for spices. *Vasco Da Gamma* arrived in Calicut in 1498, made a trade agreement with *King Zamorin* and set up trading posts, or factories, along the Malabar Coast. The Portuguese soon found themselves in conflict with Arab traders who had already established themselves in that part of the world.

Due to the geographic location lending a large coastline, the Portuguese were the first to explore the sea. In the 16th Century ports were established all along the African and Asian coasts and trading was done in spices and other precious goods by sea, eventually breaking the monopoly of land trade by Venice, Turkey and Middle East. Later the Dutch and the British challenged their monopoly.

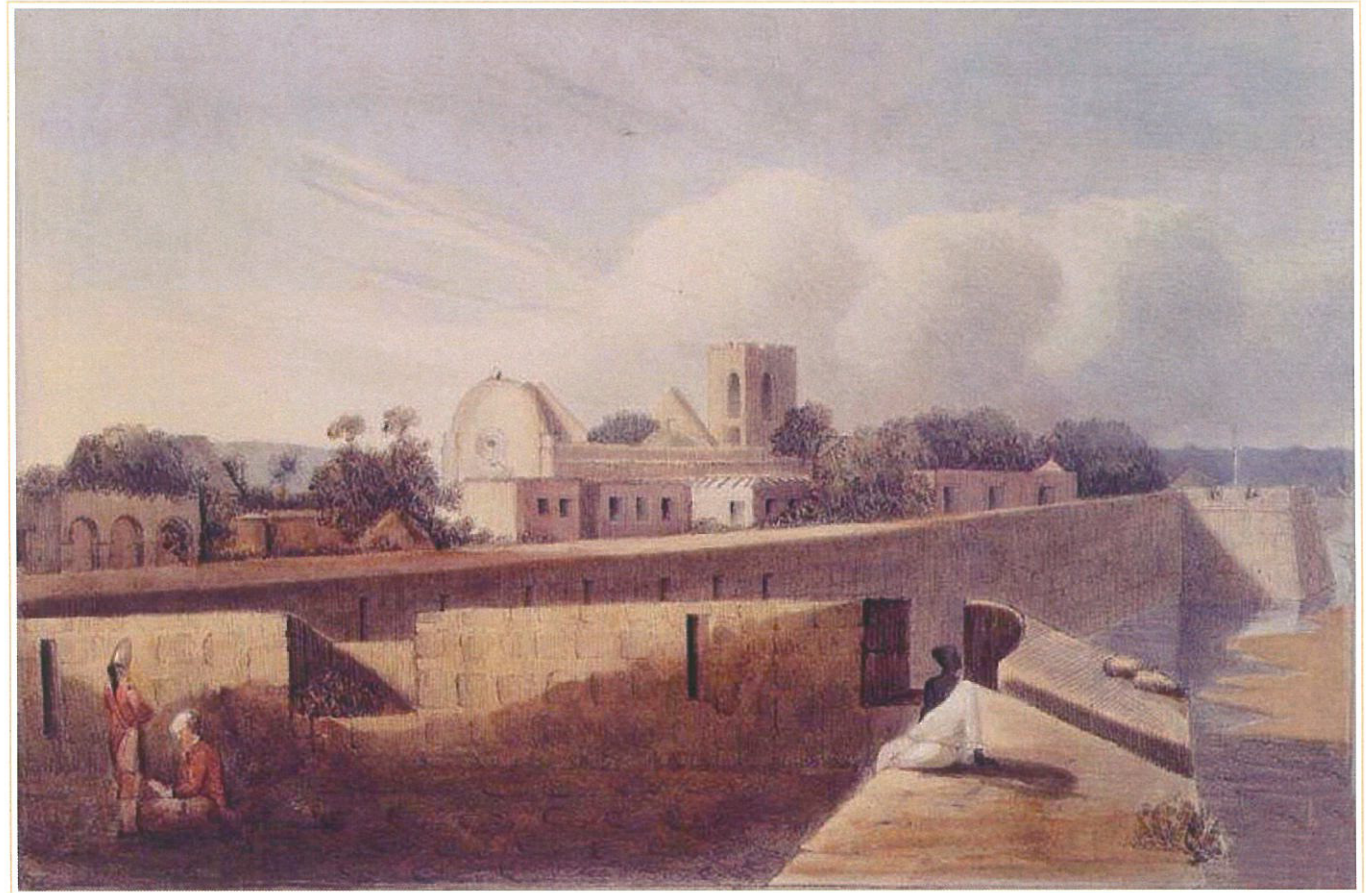
In 1509 *Alfonso de Albuquerque* conquered Goa, which eventually became the capital of the Portuguese possessions in India and other parts of the East. By 1540 the Portuguese had added other enclaves to their empire in India: *Daman, Diu, Bombay, Chaul* and *Bacaim (Bassein)* etc. To the south of Goa they established factories and forts, and churches in *Cochin, Cananore* and *Mangalore*.

Bassein was lost to the Marathas after a bitter siege in 1739. This war resulted in a loss of the entire north province of the Portuguese, which "stretched to 22 leagues in length on contiguous coast from Versova to Daman with four important ports and three hundred villages." The Marathas captured this province in addition to Bassein, eight fortresses, twenty forts, two mountains of defense, *Salsette Island* including *Thana fortress* and city, the island of *Arnala* and *Karanja*. Only *Chaul, Daman* and *Diu* of the Northern Province remained with the Portuguese. In 1880 the Portuguese stopped building forts since they had become obsolete.

Portuguese stamp with the map of Bassein Fort



Archival painting showing the view of Bassein Fort



2

historical background

Portuguese Military Engineering

During the four and a half centuries in India the Portuguese built churches, factories, public buildings and forts. A large number of Portuguese forts, such as Ghodbunder and Arnala, had their origins in the Pre Portuguese times and were taken over later. The forts of Portuguese India may be divided into four parts

- Goa forts.
- Bombay Forts
- Bassein Forts
- Northern Forts

The architecture of each period is typical of the style of the period in which the forts were being built in Europe. The earlier ones were conspicuous with their high towers from which heavy mortar pieces could be fired. An examination of the fortresses built in Asia and Africa by the Portuguese, shows that all the architecture was close to medieval concepts and did not show innovations. It was basically enclosures with long ramparts with round towers or enclosures of square format. Main towers that are characteristic elements of medieval fortresses dominated these. Eg: *Cochin, Ormuz, Calicut* and *Goa*.

In the later ones the towers were eliminated since they realised that it was prone to enemy fire. The new element, which was introduced, was the jutting "ear shaped" bastions or angular bastions built to conform to the military architecture of the Renaissance period.

Typical Portuguese Town Planning

There are two types of Portuguese coastal towns, fishing (small and compact) and large cities (ports and international riverine estuaries which were trading centers). The gridiron pattern typical of Roman military camps was observed for the layout of the towns and fortified settlements. The house of the military head, monarchical head or primary religious structure was built on the hilltop. This is observed at Ghodbunder, where at the highest point the St. John's Church is built. Towns spread out on to the hill slopes and were surrounded by strong walls with towers and gates at intermediate points.

A typical feature of Portuguese towns was that the important streets connected the town gates to the town's principle areas as opposed to the European town where they radiated from the central piazza or

citadel. Along this street the main commercial activities took place. Less important streets were narrow, irregular and often ended in cul de sacs. The main streets were commercial and secondary ones were residential. Built within the urban milieu of regular streets were several churches and chapels. The cathedral was usually located within or close to the castle wall.

The renaissance movement resulted in straightening and widening of existing major streets and opening of new ones to allow for faster and more efficient traffic. These were called *largo*. Arrangement was also reserved for formation of *parcas* or geometrically planned squares of formal characters of which at least one of the sides faced an important edifice like a cathedral or other important institutions and palaces. A monument or fountain at the centre unified the space and emphasized the centrality and formal character.

In the 16th to 18th century the general height of the buildings was two storeys. The important buildings however were four to five storeys high. Scale giving elements included archways, windows, door openings, arcade, columns, and cornices.

Daman and Bassein show regularity in their layout, which was essentially a Renaissance idea. The city plans obeyed rigorous rules of symmetry. Daman was supposed to be an ideal city in terms of symmetry, proportion, geometric layout of streets etc.

Ear-shaped Bastions

These were introduced because the tall towers were at a threat from the enemy fire and it was required to lower the wall. The renaissance saw the emergence of two types of fortresses namely regular fortresses and irregular

fortresses. Preoccupation with symmetry and perfect geometric forms made one look for solutions inside perfect geometric forms. New bastions were triangular with pointed angles in front could not be easily be damaged by artillery. At each side of each bastions heavy guns were placed such that they could shoot in the direction of the next bastion without reaching it, thus protecting the wall between them. A peculiar feature of a Portuguese fort was that the bastion was named after a saint.

Aerial view showing Bassein Fort (Source: Sea & Hill forts of Western India – Aerial views & historical perspective, Ed.: M. S. Naravane, Photography: Gopal Bodhe)



2

historical background

Fort Architecture of the Siddis

Siddis, originally Abyssinians, settled down on the west coast at Janjira, a rocky island 75 kms. South of Mumbai at the mouth of Rajapuri creek. *Danda-Rajapuri* was the Headquarters of the Siddis, who came to India in the 15th century at the instance of the Sultans of Ahmednagar. They became practically independent after extinction of the Nizamshahi of Ahmednagar in 1636 and later the Siddi chief joined the Adilshahi and was designated as the wazir of that kingdom. The Siddis were constantly at loggerheads with the Marathas, with whom they had several territorial conflicts, mostly for coastal dominance.

Of the forts under study those which fall under the classification of Siddis are Durgadi –a coastal fort and Arnala and Underi – island forts.

Some key aspects of Siddi fort architecture are:

Site selection

Based on strategic location, presence of water and near the chief routes leading to the kingdom. Durgadi, a coastal fort at the end of the Ulhas estuary, was significant as possession of this outpost along with the Kalyan port meant effective control of upper Konkan and Thane area. Arnala was built at the northwest corner of the island close to the water's edge commanding the southern and main entrance to the Vaitarna River, which is the most extensive inlet in the North Konkan. It was also logistically closer to Gujarat, the dominion of the Siddis.

Layout

The fort layout had provision for granaries, ammunition stores, a few government houses and water sources. Regular streets, running parallel and perpendicular to each other were planned, with the one running east west particularly wide. This arrangement facilitated military transport.

Ramparts

Strong stone masonry walls, more than 5' to 7' thick and 15' to 20' high constituted the defensive outworks. Embasures were provided both in the parapets and walls. They were so arranged and their angles adjusted that very large areas adjoining the fort came within range. This was particularly essential at Underi as its proximity to the nearby Maratha Khanderi fort, called for adequate security measures.

Bastions

Generally semi-circular in plan, bastions were placed at regular intervals along fortifications and were embattled. Sometimes they were also octagonal or hexagonal in plan and very often-domed cells were built in the body of the towers, acting as observation posts. Strong bastions were erected at certain points along the line of fortifications to act as gun-turrets and provision was made for storing ammunitions. Jutting land promontories were secured with towers. This is observed in the case of the island fort of Arnala, where an isolated tower stands guard and faces the mouth of the Vaitarna creek.

View of the Underi Island fort



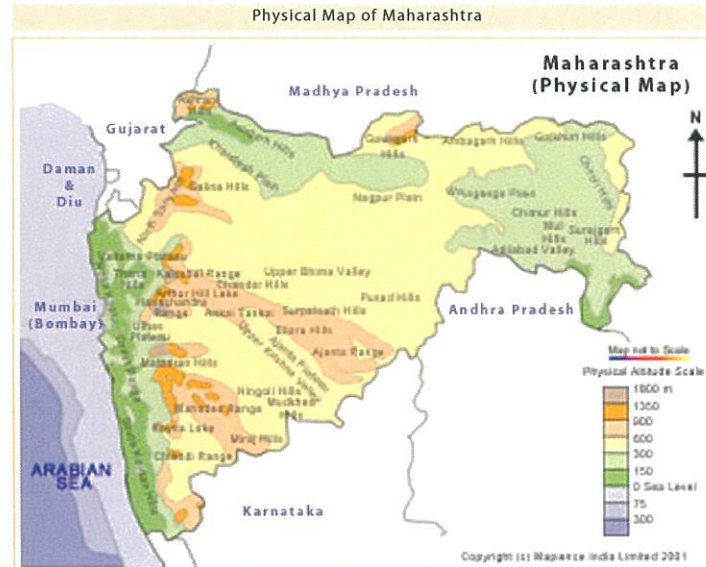


3

geographical considerations

3

geographical considerations



Maharashtra can be divided into three distinct areas: *Konkan*, *Ghats* and *Desh*. This division gave rise to geo-political constraints, as any kingdom based in the *Desh* must control the *Ghats* in order to control trade routes to the coast and to access the fertile agriculture of the *Konkan*. The year was divided into the campaigning season – October to May and farming season – May to September.

Konkan:

Narrow strip of coastal land about 50 kms. wide, characterised by presence of important ports. *Konkan* used to get isolated during the monsoons, as *Ghats* were difficult to traverse. This strip was not very wide and rivers rising from the spurs of the *Sahyadris* only at a short distance met the sea. Where the river met the sea, a small bay or creek was formed. These entrances to rivers and ports were guarded by location of either coastal forts or island forts or sometimes even both. The entire area was densely forested and movement within the coast was difficult. Movement of trading goods was easier by river than by land and thus many ports are observed far inland from open seas.

Ghats:

Sharp peaks and few passes comprised this north-south strip 50 kms. wide, which has more than 200 hilltops. Defensive strength of *Ghats* made an ideal retreat for raiders who could then raid the productive areas of *Konkan* and *Desh*. There was in any case no option, as *Ghats* did not have scope for agriculture to support even a small army.

Desh:

Broad plateau extending eastwards from the *Ghats*.

3

geographical considerations

Topographical Classification of Forts

According to the Shilpa Shastra there are nineteen varieties of forts. Of these the ones that are relevant to the study are classified as below.

Giridurg (Mountain Fort)

This fort is situated on mountainous terrain. It had an ample supply of water in the shape of a subterranean stream or fountain. The road leading to it had to be narrow and difficult to ascend. Most of the hill forts in Western Maharashtra are classified as *Prantara*. A Prantara is basically a hill fort built on the top of a mountain with subterranean tunnels.

Jaldurg (Water Fort)

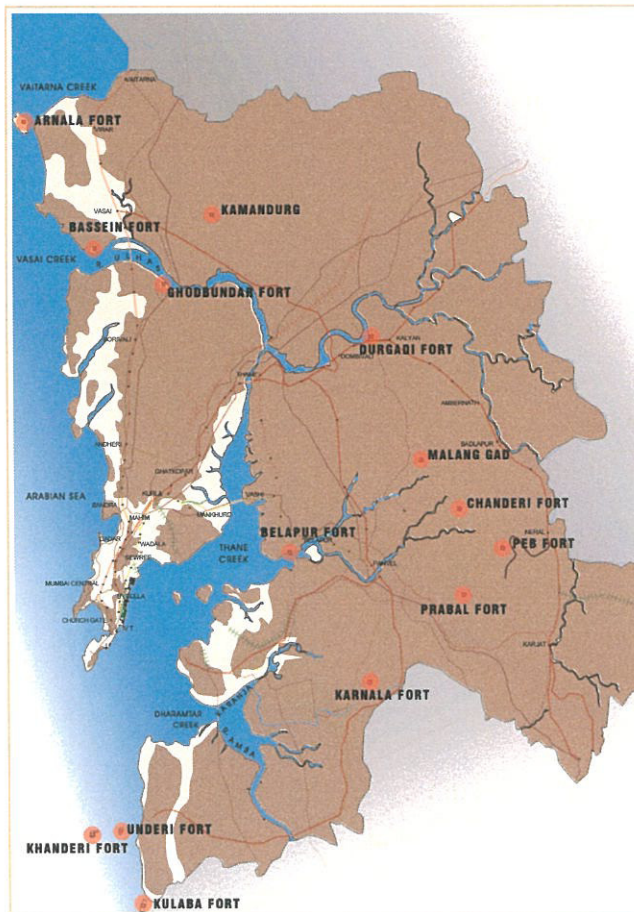
This was further classified into coastal and island. The island forts were called *Antradvipa*, these had natural circumfluent water. These were generally flanked by rivers or built in the sea.

The Forts within the Mumbai Metropolitan Region outside the MCGM limits are 14 in number and can be classified into three groups:

- Coastal forts
- Island forts
- Headland or Hill forts

It should be understood that due to the geographical alterations, in form of reclamations that have happened around these historic edifices they seem to be out of place in the setting. For instance, islands forts such as Bassein and Belapur due to land filling within the creeks are now categorised into coastal forts.

Map of the Mumbai Metropolitan Region showing the location of forts based on the original geographical plan. The original islands are overlaid on the existing profile of the landmass.



Coastal Forts (4)

A coastal fort is essentially a fort built on the seashore, on banks of creek or mouth of river, either on a flat ground or on a hill. The main purpose of these forts was to control and administer the coastal region up to the western edge of Sahyadri. Of the forts within the scope of the study the ones that fall under this category are:

- 1) **Ghodbunder** – at Ulhas estuary
- 2) **Bassein** – mouth of Bassein creek
- 3) **Durgadi** – end of Ulhas River, near Kalyan Port
- 4) **Belapur** – mouth of Panvel River

Island Forts (4)

An island fort is basically a rocky outcrop of mountain now under the sea. These were mainly used as Naval depots and ship building yards and more importantly controlled maritime operations on the open sea. Of the forts within the scope of the study the ones that fall under this category are:

- 5) **Kulaba** – off Alibag shore (although this fort can be accessed on foot during low tide, it is classified as an island fort)
- 6) **Arnala** – off Agashi coast
- 7) **Khanderi** – off Thal coast
- 8) **Underi** – off Thal coast

Headland (6)

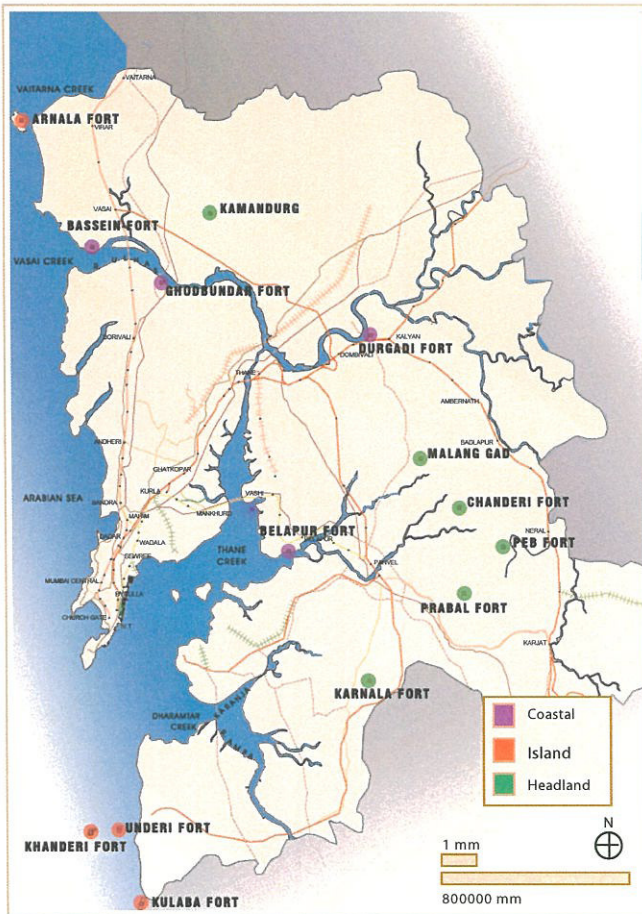
A hill fort is built on a hill or mountain, on crest of range or at the tip of spur before it merges with the plains. They were principally located near the trading routes. The primary purpose of these forts was defence. Of the forts within the scope of the study the ones that fall under this category are:

- 9) **Kaman Durg** – near Jivadan pass
- 10) **Chendani**
- 11) **Malang Gad**
- 12) **Peb / Vikatgad**
- 13) **Prabal** - Moranjan
- 14) **Karnala** – near Bor pass

3

geographical considerations

Map of the Mumbai Metropolitan Region showing the classification of forts based on geographical considerations



Classification Based on Fort Capacity

Main Fort

A main fort is essentially a large fort capable of holding a garrison of over 500 troops. It was well stocked with weapons and ammunitions, well provisioned, capable of withstanding a long siege, and from where offensive and defensive sorties could be mounted. Of the forts included in the study, only Bassein and Kulaba, not only on account of its size but also considering the number of structures and provision of amenities within the town plan fall in the category of a Main Fort.

Secondary Fort

This is basically a large fort capable of holding garrison of more than 200 troops. The main function was defense and it acted as an extension of the main fort. Of the forts included in the study, only Arnala falls in the category of a secondary fort. Arnala served as an extension to Bassein when under the Portuguese dominion. Bassein was a major port and was also a ship building complex with a constant requirement of timber. The timber hinterland of Bassein was Tungar and Bassein hills, and in the 17th century extended into *Vaitarna, Tansa* up to *Wada* and *Jawahar*. The timber obtained from these forests was floated down Vaitarna and its main tributary and collected at *Arnala, Agashi* and *Papdi*.

Fortified Outpost

This is a small fort and it generally did not hold a garrison of more than 200 troops. The main function was to act as a screen for the main or secondary fort, to increase range of reconnaissance, patrolling and communication. Of the forts included in the study, the following fall in the category of a fortified outpost:

- **Ghodbunder Fort** – this fort along with Dharavi and Bassein guarded the mouth of Ulhas River
- **Durgadi** – Outpost to the main Kalyan Fort and PortBelapur Fort – Fortified on account of its proximity to Karanja, a Portuguese fort.
- **Khanderi** – A screen for the main Kulaba fort.
- **Underi** – For surveillance of the Maratha activities at nearby Khanderi as well as to have a Siddi presence at the mouth of Bombay Harbour

- **Kaman Durg** – Surveillance of Bassein Port activities
- **Chendani Fort** – A chain link of the hill forts
- **Malang Gad** - A chain link of the hill forts
- **Peb / Vikatgad** - - A chain link of the hill forts
- **Prabal – Moranjan** - - A chain link of the hill forts
- **Karnala** – Surveillance of Bor pass

Map of the Mumbai Metropolitan Region showing the classification of forts based fort capacity





4

inventory of forts

4 inventory of forts

Inventory of Forts

In order to prepare a comprehensive report outlining the future conservation strategies for the Forts of the Mumbai Metropolitan Region, it was felt necessary to create a basic inventory. The inventory is broadly based on the Council of Europe cards for *"Protective Inventory of the European Cultural Heritage"*, but has been modified taking into account the present context and lists the following details:

- Name of Fort
- Location
- Classification
- Historical background
- Special features
- Topographical
- Architectural
- Materials
- Present condition
- Usage
- Ownership / legal protection
- Landuse

Supplemented with photographic documentation, it is strongly felt that this initial exercise would enable preparation of a more active conservation strategy.

Map of the Mumbai Metropolitan Region showing the jurisdictional status of forts.



4 inventory of forts - ghodbunder

Ghodbunder Fort

Location : 19° 16' N and 73° 53' E

Built on the southern bank of the Ulhas River, at the mouth of the Bassein creek in the small village and port of Ghodbunder, around 10 km from Vasai in the Thane district. The nearest railway station along the Western Railway is Bhayandar; from here periodic BEST public transport buses ply to and from Ghodbunder village. A motorable road leads to the base of the Fort, through Ghodbunder village from the Western Express Highway (NH 8).

Classification

Coastal fort – Fortified Outpost

Historical Background

Primarily a Portuguese Fort, the fortifications were strengthened by Sambhaji when the Fort was taken over by the Marathas in 1737. A chronological progression of events and activities around the Fort are described below:

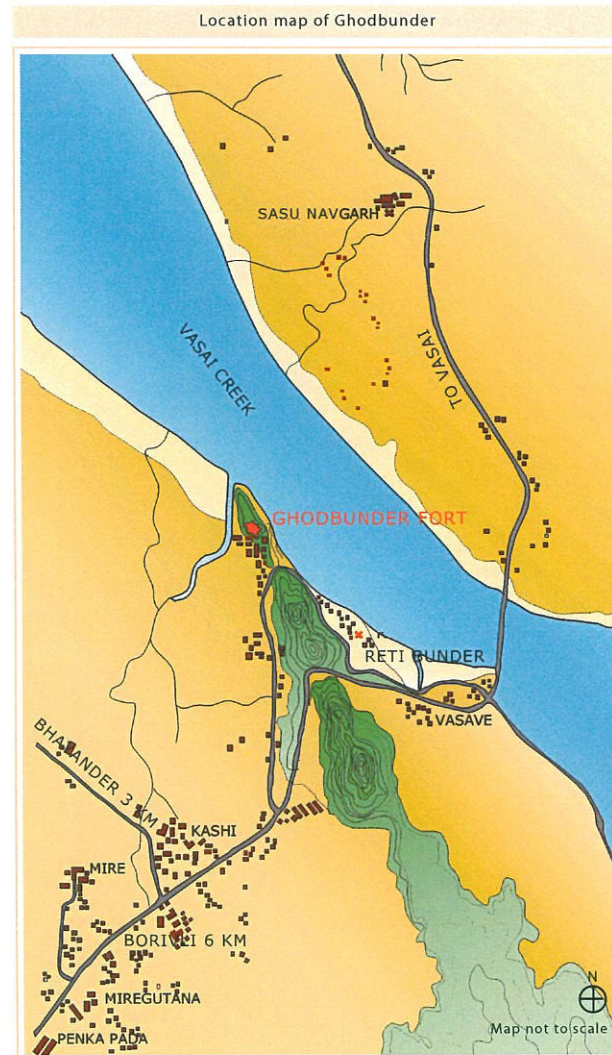
1672 - Portuguese resisted attack by Shivaji

1675 - It was called *Grebondel* and described, as a large neat built town of Martin Alfonso's (the richest son north of Goa) and the top of all his house, fort and church by Fryer.

1695 - It is described as a hill whose slopes were covered with houses and on whose top was the palace of the lord of the village.

1737 - The Marathas, under Chimaji Appa, captured Ghodbunder. This was followed by a strong and sustained attack on the Portuguese stronghold at Bassein.

The most noticeable feature from the highway is the Maharashtra Tourism Development Corporation (MTDC) guest house, originally the Collector's residence on a wooded knoll about a quarter of a mile southwest of the former landing place. It is reached by a broad flight of stone steps and commands a beautiful view. The building, originally a Portuguese Church dedicated to St. John, is large, with the nave leading to a circular chancel, covered with a high cupola or dome and surrounded by a veranda with stone arches. The church later became



the bungalow of the Nawab of Ghodbunder and is now used as the M.T.D.C guesthouse.

Below the Fort, within the property of the Jhaverbhai Patel Trust II is believed to consist of the ruins of the cloister of a large Portuguese monastery. The largely overgrown area also consists of two English tombs without inscriptions (which could not be located) and one, which bears the inscription:

*"Sacred to the memory of
Catherine 'Eliza,
infant daughter of Capt. P. Saunderson 15th Regiment,
Bombay Native Infantry,
who departed this life 13th October 1834,
aged three months and ten days."*

The property also consists of an RCC rest house which was the location of an original rest house on the shore near the landing place built by *Mr. Navroji Jamsetji Vadia*, the Parsi head boat builder of Bombay in 1828. Archival material also exists on the presence of another rest house, perhaps at the entrance to Ghodbunder village (next to the Portuguese cantonment site) built by *Karamsi Ranmal*, who is believed to have funded construction of stone steps leading from the landing pier to the well-known 8th century rock-cut caves at Elephanta.

English tomb dated 1834 bearing an inscription within the Jhaverbhai Patel Trust compound.



4

inventory of forts - ghodbunder

Special Features

Topographical

The geographical location of the Fort and landing place were very significant, as there existed unobstructed river passage for small boats from Bassein to Kalyan – a prominent shipbuilding port in the 17th century. Hence, although a minor outpost in terms of its size, Ghodbunder finds mention in several old maps and texts drawn up by the Marathas. This key location and picturesque setting is enjoyed by the Fort to this day.

Architectural

The principal architectural remains and archaeological sites in Ghodbunder village consist of the Portuguese Fort, Maharashtra Tourism Development Corporation (MTDC) guest house, a large privately owned property originally believed to be the site of a Portuguese monastery, site of Portuguese base camp and cantonment and site of a small light-house (also known locally as a *Deep-stambh*). Unfortunately no remains are found of the Portuguese cantonment, save a few leveled platforms, and of the lighthouse. Of architectural interest and historical importance is the Portuguese Fort and MTDC guesthouse, of which the Fort is studied in detail for heritage protection.

The remnants of the Fort boundary consist of an enclosure made of rough-cut stones piled to a height of 4', running continuously around most of the site, save a few places where

settlements have encroached. Portions of the wall have also collapsed on account of neglect as well as pilferage by residents, who used the stone for constructing foundations for their houses nearby.

Within the enclosure are a strong circular bastion at the highest point and lower down are remnants of single-storeyed stone masonry structures and a water tank. Coastal forts such as Ghodbunder were used for various purposes like storehouses, or as sentinels to guard the sea against the activities of the enemy and it could be that the

bastion was a look out and the surrounding structures were granaries.

The surrounding structures (80 cm thick), in all of which the roof has caved in, open out into a courtyard. There are some remnants of a flat-topped vault in one room, whereas in another a niche along the roofline to house the roofing joists is observed. The walls, although completely covered with vegetation and disintegrating, display evidence of arched niches and circular windows at some instances

Bastion of Ghodbunder with the remains of the wall behind.



Remains of a flat-topped vault in one of the rooms in the fort



Materials

The principal construction material used was buff basalt, also known as Deccan Trap. It was used to face the stone rampart and perhaps obtained from the old quarries of Dongri nearby, known for its excellent basalt. However, even this hardy stone has deteriorated considerably perhaps due to the salt action of the sea-laden winds of the Bassein creek. What is most apparent is the dislodging of the stone due to the penetration of the root structure of several overgrown trees on the walls of all structures.

4

inventory of forts - ghodbunder

Present Condition

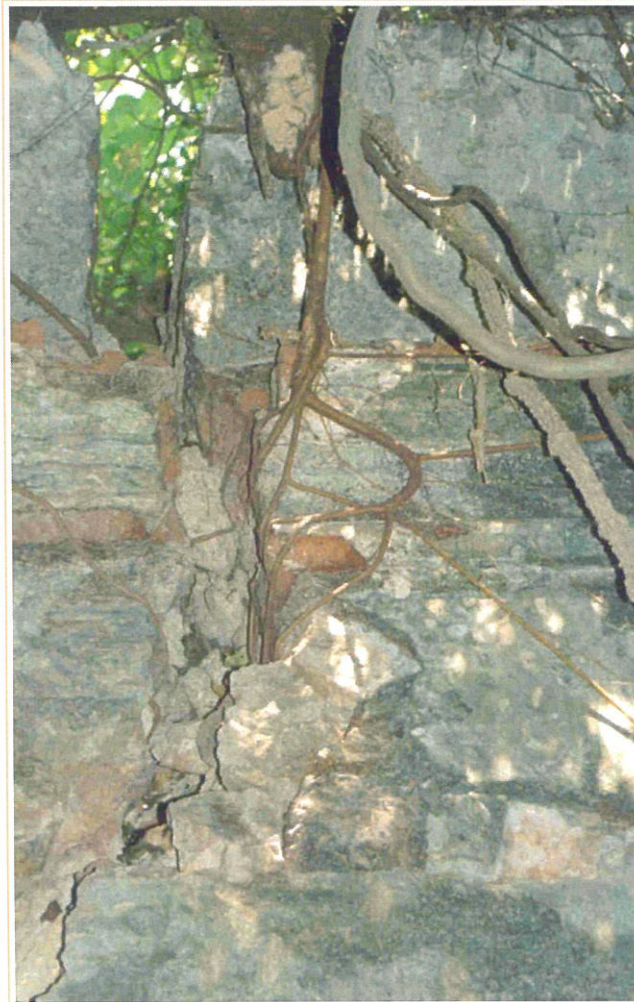
Centuries of dilapidation have taken its toll on the fort, as today most of the structures are damaged. It is left as a medley of scattered walls and ruins, covered by overgrown vegetation.

The chief problem faced by these derelict group of structures, is the deterioration of built fabric due to profusion of vegetation, much of whose root system has been deeply entrenched into the masonry joints. All the surrounding structures, especially, are already under severe distress due to the structural instability caused by the dislodgement of masonry by root penetration. Moreover, surface vegetation has led to large-scale degeneration of stone.

Vegetation not only on the masonry walls but also on the surrounding site has contributed to the eventual deterioration. Ground water seepage is rampant as water-retaining plants near the structures convey damp to the walls. Ground vegetation has also made access to most of the structures difficult and in order to undertake an accurate inventory of the entire site, some measures must be undertaken to clear the site. All the vegetation in the courtyard must be removed in order to restore it along the original lines.

Some amount of basic fencing needs to be undertaken at Ghodbunder Fort to ensure protection of the structures. Vandalism is rampant at the Fort with pilferage of stone and carting away of earth for construction purposes by the locals.

Root penetration in the masonry structures leaving the fort in distress



Excessive overgrown vegetation leading to the deterioration of the fort



4

inventory of forts - ghodbunder

Usage

In complete disrepair, the Fort is unfortunately not in any specific use. Not featuring on any regular tourist itinerary, due to its relative unimportance as a tourist spot and being devoid of special architectural features, the Fort does not even have a signboard directing tourists to this historic structure. The only signboard at the entrance is completely covered with vegetation and does not mention the historical significance of the Fort.

Thus being completely ignored in terms of legal protection and maintenance, Ghodbunder Fort is currently used by the locals as a playground and an open-air toilet. The heartening aspect is the initiative taken by the teachers of the local school "*Raja Shivaji Vidhyalay*", who clear surface vegetation post-monsoons. It is also used by them for exhibitions and as an open-air auditorium.

Ownership / Legal Protection

The Ghodbunder village and Fort fall in the Urbanisable Zone under the jurisdiction of the Mira-Bhayandar Municipal Authority. It is currently not included under any heritage protection and hence faces greater threat of degeneration due to neglect and ignorance.

As per the "Revised List of Antiquarian remains in the Bombay Presidency" drawn up by J. Burgess in Jan 1884, Ghodbunder was classified in the Grade III category which states, "*Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve.*" In Thana district, Salsette Taluka, it is said to comprise of "*old church dedicated to St. John, monasteries and fort. The church is now a bungalow.*" There is no accurate record of when the Fort was removed from this list or why it was not included in subsequent listing. Efforts are underway at the Directorate of State Archaeology to notify this Fort under their protection.

Landuse

The Fort is currently not in any use, but is under threat due to encroachments sprouting right at the entrance. The neighbourhood is primarily residential with a few shops along the main Ghodbunder Street.

Bastion of Ghodbunder used as a backdrop for performances



4 inventory of forts - bassein

Bassein Fort

Location : 19°20' N and 72°51' E

On the coast about 48 km north of Bombay in the village of Vasai, on the north bank of the Thane creek in the Thane district.

Classification

Coastal fort – Main Fort

Historical Background

A chronological progression of events and activities around the Fort are described below:

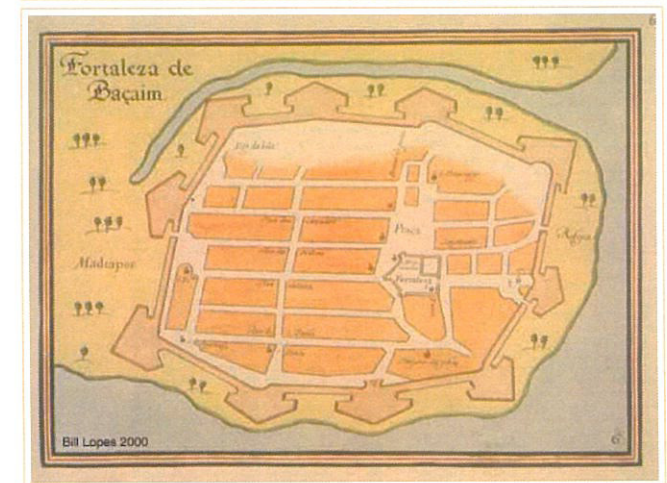
- 1184 -1318** Believed to be the head of district under the Devagiri Yadavas
- 1514** Barbosa described it as Baxay a town of Moors and Gentiles, a good seaport belonging to the King of Gujarat.
- 1526** Portuguese established a factory at Vasai.
- 1529 &1531** Portuguese laid waste the Vasai coast, 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 Muscat 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's brother.
- 1774** British captured Vasai but soon returned it to the Marathas.
- 1783** Vasai returned to Marathas, under the terms of the Treaty of Salbai.
- 31.12.1802** Treaty of Bassein signed between Peshwa Baji Rao II and East India Company. This treaty eventually led to expansion and influence of the East India Company over the Indian subcontinent.

- 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.

Portuguese Archival Map of Bassein Fort



4 inventory of forts - bassein

Special Features

Topographical

The Portuguese ruins were on the island of Bassein cut off from the mainland by the Sopara creek. The ruins stand about 15' above high water level on a low flat plot of land. The space within the fortifications was reserved for the higher class of Portuguese who tolerated no artisan or native among them. With straight streets, large squares and stately two storied dwellings embellished with covered balconies and large windows, and many churches.

Architectural

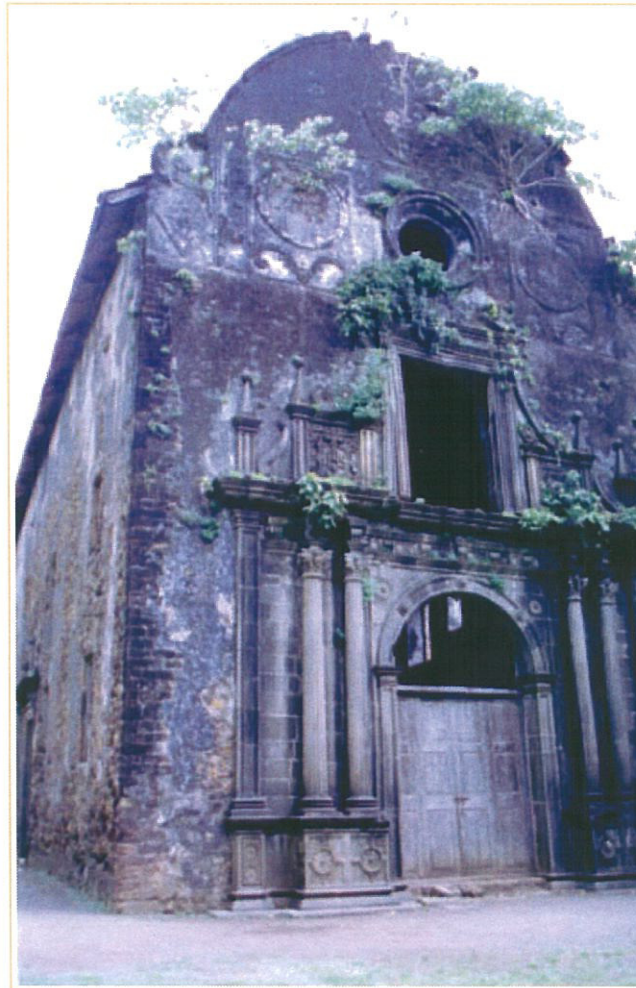
Except two openings for the landing place, and one or two beaches along the sea face, the old city walls were recorded in fair repair in 1882. They were about 1.5 miles round and in shape an irregular decagon, built of stone from 30-35' high and except on the west they were as much as 45' and not more than 5' thick. There were eight bastions, namely Cavaleros, St. Sebastian, St Paulo, St. Pedro, St. Elefanta, Madre De Rens, Reis Magos and St Goncalo. On the south or seaside where there was a little risk to an attack there was only a single wall. At each of the ten corners was a four-sided bastion (often described as angular or ear-shaped) and in the whole circumference three entrances, two main double gateways, and a postern, the sea gate. The two gateways are, Porta Do Mar, the East or Sea Gate and Porta Do Terra, West or Land Gate. There are as many as seven churches within the entire fort complex, which are briefly described further.

At the sea gate on the left was the small temple of Hanuman, and with massive high tower

Entrance to the Citadel



Main entrance to St. Joseph



and tree covered walls was the Cathedral or Matriz of St. Joseph. There are two temples; that of Vajreshwari built by Chimaji Appa after he captured Vasai. Within the fort is also the equestrian statue of Chimaji Appa.

Facing the sea, the open space at the end of the street to the left of the sea gate, is the great square or market, around which are the ruins of buildings. The round doorway beyond the market belongs to the castle or round citadel, with two pillars with Corinthian capitals embellishing the entrance. A little behind the gate of the citadel and near the end of the street that leads from the sea-gate along the wall, were the ruins of a very large building supposed to be the house of the Captain or court of Justice.

A little beyond, in front of the square are the ruins of the Church and monastery of Jesuits. The Church has a noble arch, columns with fluted shafts and Corinthian capitals and the monogram IHS and a cross sculpted on the lintel and above the pillars.

A little beyond the ruins of the Jesuit buildings is the Franciscan church of the Invocation of Santo Antonio. The arched ceiling of chief chapel with elaborate mouldings, the great arch and the corridor near the cloisters on four sides of the square courtyard are some of its principal features.

The ruins of the Dominican Church lie between those of Franciscan and Jesuits. The road between the Dominican and Franciscan ruins and the fort wall leads to the bastion of Sam Sebastian, the point from which the Marathas entered during the siege of 1739.

On both sides of the old street nearly parallel to the new highroad, which leads along the middle of the Fort to the sea gateway, are the remains of mansions. Near these old mansions are in a square overlooking the road, are the ruins of the Augustin Chapel of Nossa Senhora de Annunciada, the front of which is double arched, with a vaulted roof. The Church of Nossa Senhora da Vida consists of Corinthian Columns on each side of main entrance and is also known to have many secret passages.

4 inventory of forts - bassein

The Matrix of St. Joseph displaying the use of a variety of stones



The Matrix of St. Joseph consisted of a winding flight of steps leading to a watchtower overlooking the sea gate and the Bhayandar Creek. This structure was built in 1601 on demolition of a mosque in 1546, although as per the treaty of 1534, the Portuguese had agreed to retain all existing mosques.

Materials

Most of the structures comprise of random rubble masonry, except for the entrances, which were dressed. Very often the walls were covered with lime plaster, of which very few portions survive.

Present Condition

As per the "Revised List of Antiquarian remains in the Bombay Presidency" drawn up by J. Burgess in Jan 1884, Bassein is classified in the Grade II A category which means, " those monuments which it is now only possible or desirable to save from further decay by such minor measures as the eradication of vegetation, the exclusion of water from the walls, and the like. Monuments in possession and charge of the Government, or in respect of which the Government must undertake the cost of all measures of conservation." In the Thana District, Bassein Taluka, the fort is described as " Fine Fort and Old Portuguese Churches with inscriptions well known".

Then again 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.

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.

Usage

Koli settlement outside the Fort. A recent addition of the Customs building has completely disturbed the historical integrity of the fort.

Ownership/Legal Protection

Archaeological Survey of India. A caretaker's office is located right at the entrance to the fort.

Landuse

Residential

4

inventory of forts - durgadi

Durgadi Fort

Location

North Latitude 19 ° 14' and East Longitude 73 ° 06' in Kalyan Taluka, Thane district

Classification

Coastal fort - Fortified Outpost

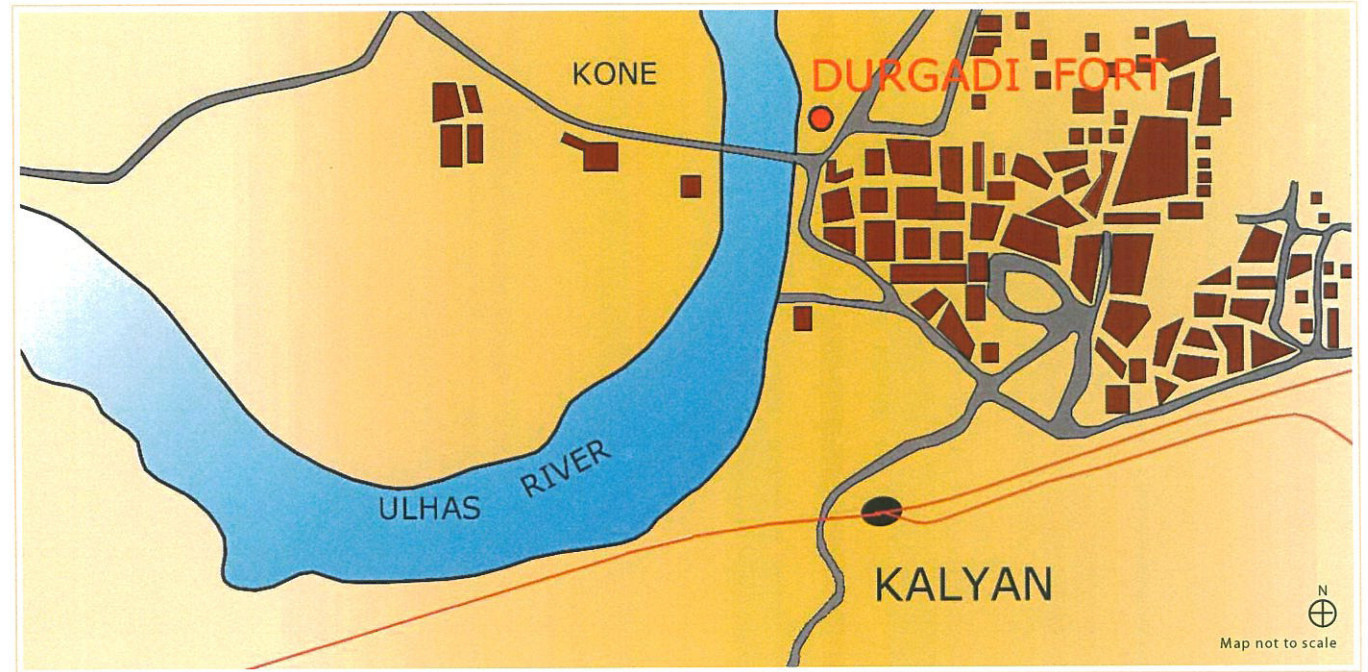
Historical Background 1628-1658

Was under the Mughal General *Mohtwar Khan*. The fort of Kalyan started as a fortification for the town during the reign of Shahjahan. The fortifications were strengthened and extended by Aurangzeb. Prior to 1657 was under Adilshah, and after being captured by Shivaji, a temple of Durgadevi was built. In 1730, Shahu Maharaj built a protective fort wall around of which the fragments still exist. Kalyan although a fortified town, was treated as a Fort because it served for a long time as basically a military post; its possession was necessary to effectively control upper Konkan and Thane area.

View of Durgadevi temple within the fort



Location Map of Durgadi Fort



4

inventory of forts - durgadi

Special Features

Topographical

The fort is located on the western coast of the creek at the end of the Ulhas estuary across Bhiwandi, built at about 100 ft on the hilltop. It occupied this strategic location with respect to the Kalyan Port.

Architectural

The fort is accessed through a gate, and is approached by steps and a ramp from the entrance on the right. The temple was built on a high platform and its shrine is covered with a dome. The fort also shows few remains of a mosque or idagah, which is accessed by a separate flight of steps.

View showing the remains of Idagah within the fort



Materials

The fort walls consist of random rubble masonry on dry mortar bedding. The temple of the fort is covered with a masonry dome. The walls and bastions of the fort are lime plastered.

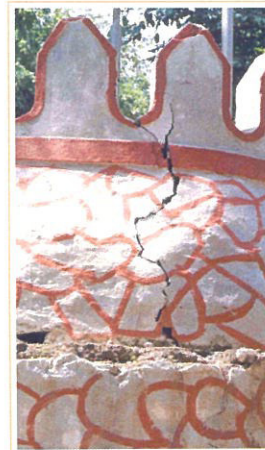
A view of newly painted bastion with the original ramparts.



Present Condition

An arched entrance gate is recently built at the foothill, adjoining the road, which marks the boundary of the fort. Not only is it incongruous but completely different from the architectural composition of the fort. The main structure is under the care of the local authority. Although the repairs undertaken are necessary but are often not in keeping with the original mode of construction. For instance, some of the ramparts have been lime washed and an aesthetically disruptive design of random masonry prepared.

Cracks observed in the masonry of the lime washed bastion.



Usage

The fort was mainly used for the defence and administration purposes in the past. Presently it is only used for public purposes. Festivals like navaratri and id are celebrated within the fort.

Ownership / Legal Protection

Government ownership (past and present). A police chowky with round-the-clock surveillance is maintained at the fort, as it is communally sensitive due to the presence of shrines of two different religions.

Landuse

Religious

4

inventory of forts - belapur

Belapur Fort

Location : 19° 00' N 73° 07' E'

Built on the Belapur Island (since reclaimed), commands the entrance to the Panvel river about 7 km from Panvel in the Raigad district.

Classification

Coastal fort - Fortified Outpost

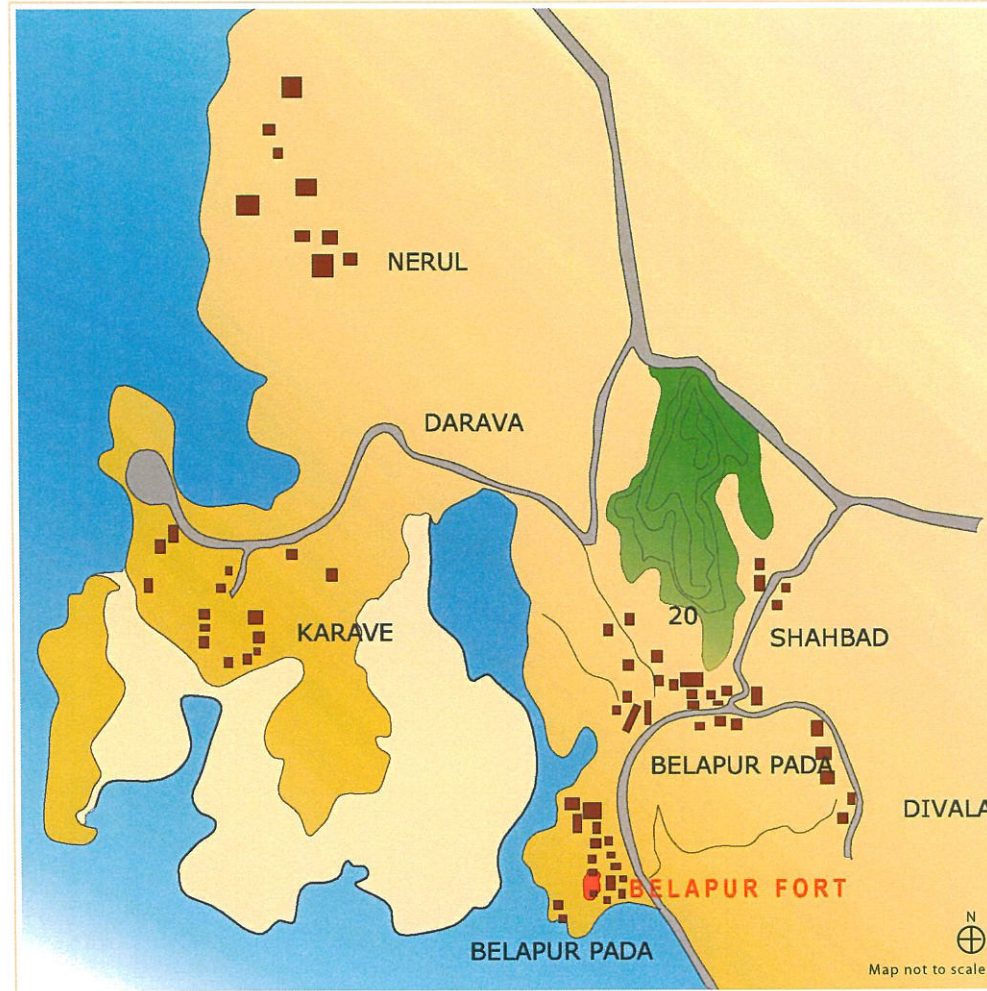
Historical Background

Under the Portuguese rule, 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 was here that the impostor, impersonating the deceased Bhausahab, was arrested by Manaji Angre and sent to Pune.

The fort was captured by the Marathas in 1739 and subsequently passed on into the British hands in 1818 AD. It is also recorded that a British resident was stationed at Belapur in 1781.

Location Map of Belapur Fort



4

inventory of forts - belapur

Special Features

Topographical

West of Panvel 5 miles from the mouth of the Panvel Creek was the island of Belapur roughly 1 mile long by 1 mile wide. As the surrounding creek is now reclaimed, it is no longer an island fort, and hence has lost much of its significance.

Architectural

In 1818 Captain Dickinson described the fort as a small fort, of about 120 m in length and 60 m in breadth. Near the north point, on a rising ground about 75' (25m) high and 800' (240 m) from the river were the ruins of a battery, part of which supported the roof of an old guard room. Near the mouth of the river, on the lower land, is another battery supported by an old roof. Both the batteries were under the cover of forest guns.

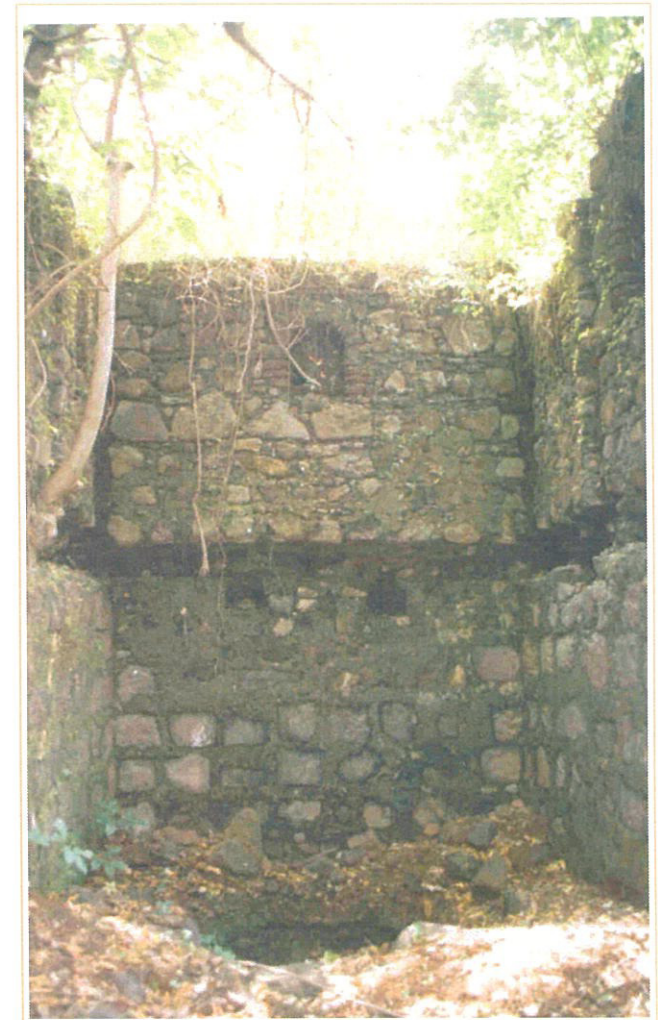
The fort is basically in ruins, and the north gateway and two round towers towards the south are the only remnants. The parapets were 2' 4" wide and not more than 8' thick and varied from 6-20 feet in height were ruinous. Violent rains destroyed the facing or revetment of part of the works in 1818. A low wall running along the top of the riverbank defended the harbour about 52 feet from the fort. In the wall were two towers the better placed of which was about 70 feet high from the creek line. The battery above was excellent and roofed and a storeroom of the same size underneath was used as a prison. A gate led to the enclosure provided with a battery.

Within the fort is a temple dedicated to *Govardhani Devi* renovated in 1953 managed by a trust. The other structures inside the Fort include several wells, one of which on the inner side boasts of an inscription dated as Shake 1732.

Remains of the North gateway of the fort.



Interiors of the bastion with dressed stone arches.



4

inventory of forts - belapur

Materials

The primary bastion, the only structure that could be surveyed, is faced with random rubble masonry with arches; cornices and details of dressed stone.

Present Condition

The present condition of the fort is appalling and excepting the setting, nothing much remains of the Fort. The entire Fort is under dense overgrown vegetation making the access difficult. Although old plans indicated several smaller structures inside the entire fort enclosure, profusion of vegetation made recording of these impossible. Private housing complexes have come up within the fort boundary.

Usage

None

Ownership/Legal Protection

The fort comes under the jurisdiction of CIDCO. It is currently not included under any heritage protection and hence faces greater threat of degeneration due to neglect and ignorance. Efforts are underway at the Directorate of State Archaeology to notify this Fort under their protection.

Landuse

It falls in the Urbanisable Zone demarcated in the Regional Plan of the Mumbai Metropolitan Region, 1996 – 2011.

The bastion covered with excess of vegetation.



4 inventory of forts - kulaba

Kulaba Fort

Location : 18° 37' N and 72° 52' E

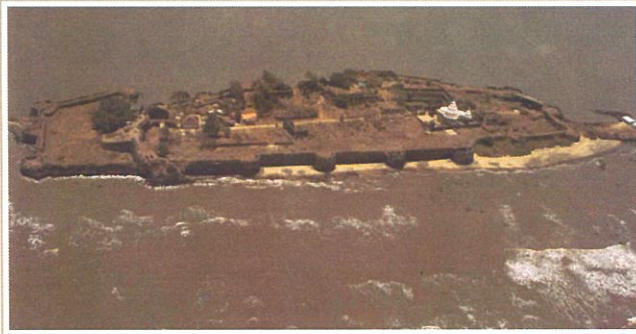
Built on an island (of length 267-297 m through the N-S direction and 109 m wide on the E-W direction) around ½ km from the seashore of Alibag 26 km from southern tip of Bombay in the Raigad district. The Fort is only accessible by foot during low tide.

Classification

Island fort – Main fort

Aerial view of Kulaba Fort

(Source: Sea And Hill Forts Of Western India – Aerial Views And Historical Perspective)



Historical Background

Kulaba means *cape*, it was of strategic importance as it had control over the coast between Bombay and Janjira. Later the fort became the main place of Maratha's Armada in North Konkan. A chronological progression of events and activities around the Fort are described below:

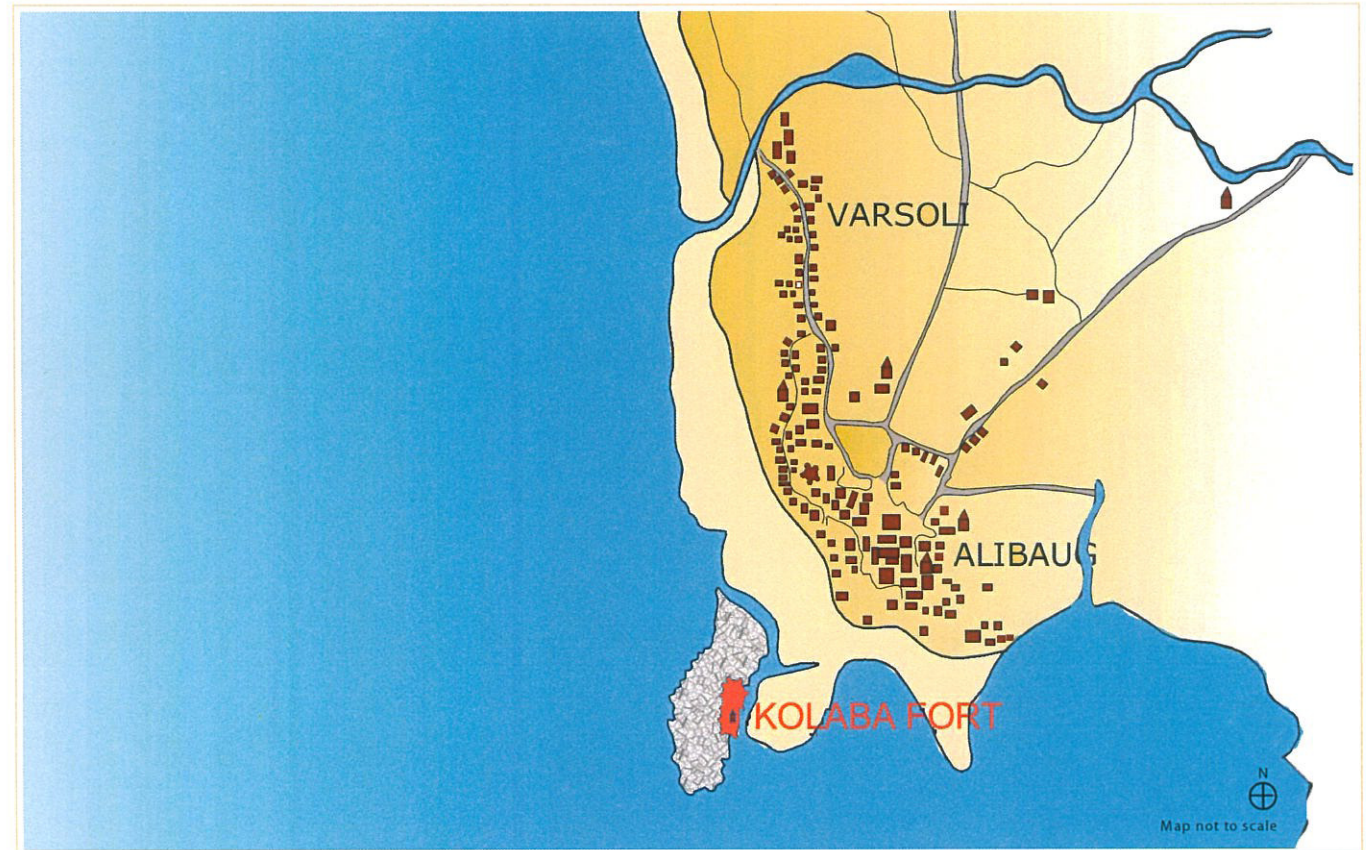
- 1662** Shivaji rebuilt and strengthened Kulaba Fort.
- 1713** Kulaba along with several other Forts handed over to Angre as per treaty with Peshwa Balaji Vishwanath.
- 1722** Was attacked by English and Portuguese, attack failed due to the cowardice on part of the Portuguese.
- 1737** Attack on the fort by Sambhaji and Portuguese was

- 1747**
- 1759**
- 1817**

repelled by Manaji with Peshwa Bajirao's help.
 Unsuccessful attempt on Fort by Siddi of Janjira.
 After Manajis death Siddi invaded Kulaba.
 Passed into the hands of the East India Company but Angres continued to serve.

- 1840** Permanent Control passed into the hands of the East India Company
 The area was earlier called Astaghar, after 8 villages- Alibag, Nagaon, Thal, Chaul, Sasavane, Sakar, Aksi and Kihim now falling under Alibag Taluka.

Location Map of Kulaba Fort



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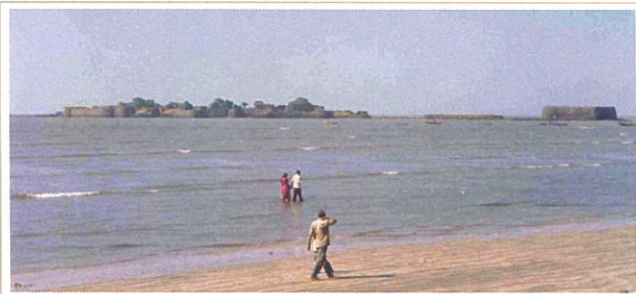
inventory of forts - kulaba

Special Features

Topographical

It was historically the Headquarters of the Angres and the entire coastline was well defended by the Kulaba Fort at the creek entrance. The setting of the fort on the island just off the palm-lined shore of Alibag is very picturesque. The peculiar characteristic of this fort is that it can be accessed on foot during low tide.

View of Kulaba fort



Architectural

The Fort is built close to Alibag town on a rock 275 X100 m protected by strong ramparts 6-7 m high, 17 bastions, 4 in each corner, 5 towards the Arabian Sea, 4 towards the seashore, 3 towards the North and 1 towards the South. Each of the bastions had names like *Pinjala*, *Nagarkhani*, *Tofkhani*, *Dharukhani*, *Ganesh*, *Surya*, *Hanumant*, *Fatte* and *Darya*. A small fort like structure called Sagarkot lies close to the Fort towards shore, called 18th bastion of main fort. This is believed to be the main watch-out point for any attack on landside as well as to protect inner fort from artillery or Hirakot. The construction system for the fortifications was unique. Apparently, no lime mortar used and the construction of the ramparts was by means of interlocking dressed stone masonry.

The main entrance is at the N-E towards the seashore and inside it is another small gateway, near which is the dungeon. It is believed that in front of the dungeon there were huge granaries. The gateway is arched, at the top of which is embellished with carvings of symbols like lotus, peacock, elephant, deer and also with floral. Both sides of

the arch have a way going up to the bastion.

Close to the inner door of the fort towards right is the idol of Padmavati Devi, by the side of which is the temple of *Gulabai* or *Mahishasuri Devi*.

The main N-E entrance to the fort.



Near the temple towards North is the old mansion of Nanisaheb or *Lakshmbai* (wife of *Khanoji Angre*), which is believed to have bit the dust in the fire on 8.12.1787. The main mansion called Satarkar mansion or the *Thorla Wada* (Big palace) was built by Ragoji Angre in 1816, rose to five floors and was destroyed in the same fire, of which now only one dilapidated storey is what remains. The wood form this mansion was burnt by the British in 1842 and in 1875 the stone was used for building the Alibag Water Works.

East of this mansion were the granaries and some more ruins. In front of the mansion was the godown for ammunition, which is hidden, in dense overgrowth. Near this mansion is a sweet water well, accessed by a flight of steps going down. Further down is a fresh

Ruins of the Nanisaheb Mansion



water tank lined about 115' by 105'. Entered by a brick gateway, apparently one pot of water from the reservoir per person was allowed in Angre's time. Over looking the reservoir, are said to have been a small dwelling and 5 houses belonging to Angre's officer or daftdar, the secretary or Chitnis, the registrar or Phadnis and the treasurer or Potnis.

View of the Fresh water tank within the fort

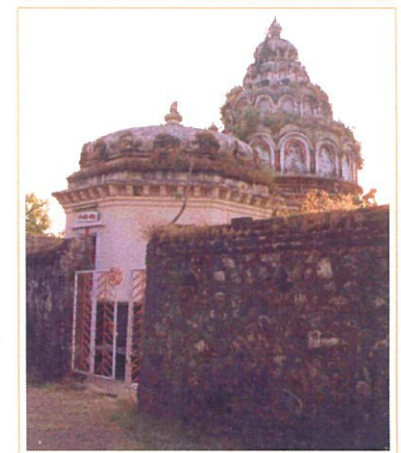


In front is the temple of Ganesha called *Siddhivinayak temple* which is 20 m long and 6m wide and 15 m high, built by Ragoji Angre in 1759. It is also known as *Ganpati Panchayatan*, because it contains five images of

Ganpati, *Samb* or *Mahadev*, *Vishnu*, *Surya* and *Devi* South of the Ganpati temple is *Kanhoba's temple* (the island deity). Near by are the temples of Mahadev and Hanuman as also the temple of *Bhawani* and an idol of *Mahisasur*.

Near the Bhawani temple, there are remains of a few houses, it is believed that here exotic varieties of birds and animals were kept. To the right of Khanoba's temple is the prison, near which is in a dilapidated state called the Yashwant darwaja, sometimes also called *Darya darwaza* which is towards the south. This door has symbols of Eagle- the Garud, Ganpati, Hanuman Crocodile, lotus with intricately carved patterns on it. Near this a stone known as *Dwarrakshak* or *Yasavandhan* or gate guardian smeared with vermilion.

The Ganpati temple within the fort.



4 inventory of forts - kulaba

Special Features

On either side of the *Yashwant Darwaja* were ruins of guardrooms. Alongside was an esplanade about 150' X 75' where the navy of Khanhoji Angre camped. At the northwest were the ruins of a raised platform, said to have been 11' high, used to stabling horses and storing grass. Also observed at the south are ruins of a raised platform believed to be ship dock. Within the fort enclosure are also believed to be ruins of a court or *sadarkacheri* where the chief had his office, and another building known as the karkoon mandali for the use of court officers and clerks. These are believed to have been built by Yahsoji Angre.

Also within the fort enclosure is a Dargah of a Pir, freshly painted in distinctive green, touching the rampart on the inner side. A small room next to the main entrance is used, as a ticketing office alongside which, within the fort wall thickness is a squinched room with a curious cube of stone masonry in the centre. Legend has it that there was a secret underground tunnel from Kulaba to Hirakot. Within the fort walls are two British cannons one 1849 and 1851, placed on the tank.

The vaulting system of the room within ramparts



The intricately carved details on the Darya Darwaza



Materials

Rough-cut interlocking stones for the fortification as well as use of brick masonry for a few structures.

Present Condition

The Fort is protected by the Archaeological Survey of India and is a tourist destination.

Usage

Settlement within the Fort housing a few families.

Ownership / Legal Protection

Archaeological Survey of India

Landuse

Residential and Religious. The area is notified under the Recreation and Tourism Zone as per the Regional Plan of the MMR, 1996 - 2011. The Area around the island is demarcated as coastal wetland.

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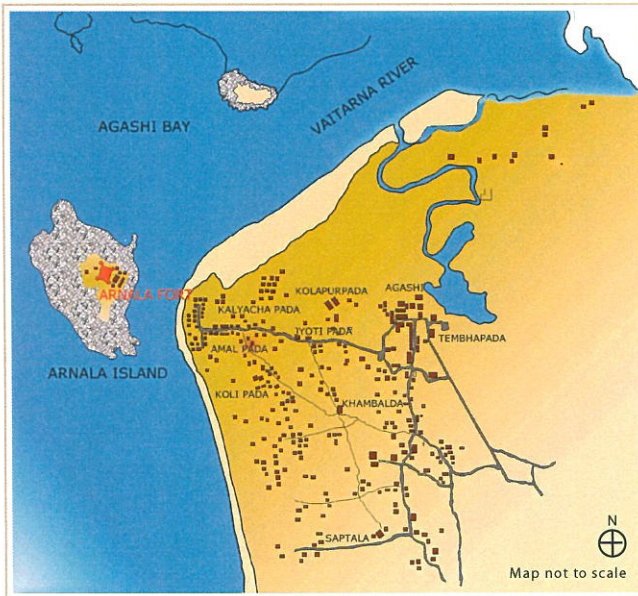
inventory of forts - arnala

Arnala Fort

Location : 19 ° 28' N and 72 ° 44' E

Arnala is an island fort off the coast ¼ km from Agashi, also called Janjira (the island) in the Thane district, around 40 km from Thane city. It is approximately 14.49 km north of Vasai in the same taluka. Access to the fort is by means of a boat ride to Arnala Island.

Location Map of Arnala Fort



Aerial view of Arnala fort



4 inventory of forts - arnala

Arnala Fort

Classification

Island fort – Secondary fort

Historical Background

Amongst the North Konkan island forts Arnala is ranked in size and strength next to Bassein and superior to Bassein in uniform breadth of its rampart top or terrepleine and its uniform line of defence. A chronological progression of events and activities around the Fort are described below:

1516 – Fort Constructed by Gujarat *Sultan Mahmud Begada*

1530 – The Portuguese took Arnala from the Gujarat Sidds (Admiral Appointees of the Mughal Empire). They destroyed the original domes and Saracenic arches. Arnala was used by the Portuguese as a major naval depot.

1737 – The Marathas took over Arnala and according to an inscription over the North Gateway, was rebuilt in the reign of Bajirao I by an architect named *Baji Tulaji*. Some historical records maintain complete reconstruction of the Fort but some other texts state that it was only repaired.

1781 – Preparations of bombardment by British from Agashi Fort.

1817 – The British took it over from the Marathas and was guarded by a small contingent.

1930 – The first salt Satyagraha in Thane district took place in Arnala village

North entrance gateway to the fort (Source: Bill Lopes 2000, www.geocities.com)



Special Features

Topographical

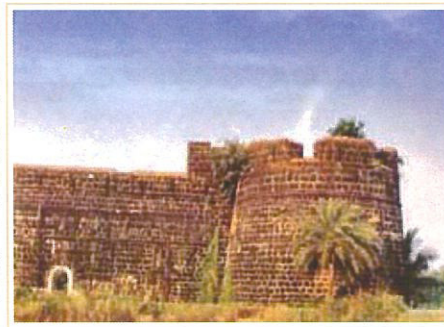
Built at the northwest corner of the island close to the water's edge commands the southern and main entrance to the Vaitarna River, which is the most extensive inlet in the North Konkan. The special feature about this fort is the fortification, which at an average is 10 m high; so high that there was no need for a moat.

Architectural

Arnala was referred by the Portuguese as 'a cow's island' or Ilha de Vaccas. In 1818, the fort was described as an oblong square of 700 feet defended by round towers. The ramparts were more or less intact, but some amount of repair was required at the parapet level. The main entrance is through the North gateway. At the centre of the arch, is an inscription that states that, it was constructed by Peshwa Bajirao I, helped by Baji Tulaji. The gateway has intricate carvings on the interior as well as exterior faces, these included motifs of tigers, elephants, and lotus on the stone frame.

On entering the fort through the North gateway, the entire precinct is in view. To the right, within the fort is the Tribakeshwar temple with a sloping tiled roof. The fort also has temples dedicated to Bhawani towards the west and Ganesh, apart from a tomb of Shahali and Hajiali, whose architecture displays similarities to that of the Shiva temple. It also included a stone lined octagonal lake and many wells.

The circular bastion with the ramparts of the fort.
(Source: Bill Lopes 2000, www.geocities.com)



Apart from the fort, there is a bastion at the other end, which is independent and circular in shape, accessed through a small window like entrance.

There are rooms within the fort; which were probably rest rooms for the guards.

Materials

Faced with rough-cut basalt, the levels of the fort are demarcated by means of regular dressed stringer courses.

Present Condition

The fortifications are fairly intact and except portions of the wall overgrown with vegetation, in good condition. As per the "Revised List of Antiquarian remains in the Bombay Presidency" drawn up by J. Burgess in Jan 1884, Arnala is classified in the Grade III category which states, "*Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve.*" It was originally in Thana district, Bassein Taluka. It is currently under the protection of the Archaeological Survey of India.

Usage

Currently the inside of the Fort is used for cultivation. At the shore, beyond the fortification is a settlement of Koli fishermen, within which is a temple of their local deity.

Ownership / Legal Protection

Currently protected by Archaeological Survey of India.

Landuse

Agricultural. It is notified as a Green Zone (G1) as per the Regional Plan MMR, 1996 - 2011

4 inventory of forts - khanderi

Khanderi Fort

Location : 18° 52' N and 72° 42' E'

It is an island fort built on the Khanderi island (1.5 mile long X 0.5 mile wide) 17.6 km from south of Mumbai, 3km from the west of Thal and 5 km from Alibag in the Raigad district. Also called *Qandil*, which means light in Arabic. Believed to be named Khanderi after the local deity Khandoba.

Location Map of Khanderi Fort



Aerial view of Khanderi fort



4 inventory of forts - khanderi

Khanderi Fort

Classification

Island fort – Fortified Outpost

Historical Background

A chronological progression of events and activities around the Fort are described below:

- 1538** Described as a large island 2 leagues north of Chaul, known as 'Island of Ceul' by Portuguese Viceroy, Dom Jao da Castano.
- 1672** Attempt to fortify Khanderi by Shivaji unsuccessful due to joint attack by Siddi and English.
- 1674** Freyer refers to Khanderi and Underi and Hunarey and Canery
- 27.08.1679** Shivaji started the construction of Fort at Khanderi, realising the importance of sea-protection.
- 19.09.1679** English landed on Khanderi to claim it as under their domain.
- 18.01.1680** Treaty made between John Child, Governor of Bombay and Annaji Pandit from the Marathas.
- 1713** Kanhoji Angre took possession of Khanderi fort.
- 1718** English attack on Fort but unsuccessful.
- 1787** Raghoji Angre took possession
- 1814** Manaji Angre handed over Khanderi to Peshwa
- 1818** British government took possession of Khanderi, with Thana district as part of Peshwa territory.

Special Features

Topographical

The fort, under the Bombay Port Trust, is 2-½ km long and 800 m wide; the surrounding area is rocky and has hills on the island. The hillock on the south side is almost 30 m high, on which stands the lighthouse whereas the one on the North is about 20 m high.

A view of Khanderi fort with the lighthouse.



Architectural

On the island near the landing pier is a temple dedicated to *Vetal, swayambhu*, worshipped by fishermen, as well as a Muslim Tomb of *Daud Pir*. Within the fort are temples dedicated to Ganpati, Hanuman, Buddha, besides the ancient temple of Mahadev.

The ramparts, built of massive stones, are almost 5' wide and the walkway is laid out with smooth paving stone of irregular size. The bastions consisting of stone parapet with merlons and embrasures are also provided with a small masonry pit with niches at the base and sometimes with a chamber underneath, access

The semi-circular bastion with canons on the top.



through which was through a series of steps from the bastion. Most of the semi-circular bastions are still intact and on one bastion are placed two cannons.

There is sweet water well in the fort and another larger tank at the base of the lighthouse. The main entrance gateway is believed to have been on the eastside, but there is no remnant to support this claim.

Sweet water well within the fort



Built in 1867, the octagonal lighthouse stands on the highest point on the island. The centre of the lantern is 154' from an octagonal tower above a flat roofed house 78' on the summit of the island, is catadioptric of order one. The lighthouse named "*Kanhoji Angre*" flashes every 10 seconds and is visible up to ranges of 25 and 22 miles respectively. It is also fitted with Radar Responder Beacon. The entire machinery device was imported from the manufacturers "*Phanres and Fanaux – Barbier, Benard and Turenne, Constructeurs*" – 82, Rue Curial, 82, Paris. The Harbour and Pilotage Board built the lighthouse with the advice Elder Bedren of Trinity House, London on 1st June 1867 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 itself on sea.

The other popular tourist attraction is a small clearing at a point on way 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

4

inventory of forts - khanderi

emanates. Several travellers also refer to this rock and in 1538 visit of the *Portuguese Viceroy Dom Lao Da Castro*, is believed to have greatly affected his hand compass, but was not found to be magnetic, as it did not attract iron.

Materials

Fitted with rough-cut, almost square shaped, bluish-grey basalt, for facing all the ramparts and bastions. Entire length of stone is used for spanning the embrasures and openings.

Present Condition

As per the *"Revised List of Antiquarian remains in the Bombay Presidency"* drawn up by J. Burgess in Jan 1884, Khanderi is classified in the Grade III category which states, *"Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve."* It was originally in Kulaba district, Alibag Taluka. The lighthouse and fort are under the purview of the Mumbai Port Trust, responsible for their upkeep and maintenance. The rampart and bastions are fairly intact except portions, which have collapsed on account of misalignment. Relative isolation of this fort has retained much of its original fabric, except few additions such as the staff mess and additions to the lighthouse. However, it should be ensured that any further construction activity inside the fort is in keeping with the architectural composition of the fort, to a certain extent.

Usage

Lighthouse

Ownership / Legal Protection

Under the jurisdiction of the Mumbai Port Trust.

Landuse

Naval lighthouse

Collapsed portion of steps leading to the bastion



4 inventory of forts - underi

Underi Fort

Location : 18° 53' N and 72° 54' E.

Built on an island close to Khanderi by the Siddis 5 km from Alibag, 3 km from Thal and ½ km from Khanderi in the Raigad district. Underi Island is much smaller, deeper and circular than Khanderi.

Classification

Island fort - Fortified Outpost

Historical Background

A chronological progression of events and activities around the Fort are described below:

- 03.01.1680** Siddi Kasim of Janjira built the Fort.
- 26.01.1680** Unsuccessful attack on the Fort by Shivaji's admiral Daulat Khan.
- 1732** Sekhaji Angre attacked fort.
- 1735** Underi's Subedar Siddi dies in the battle between Siddi and Chimaji Appa Manaji Angre
- Oct 1758** Tukaji Angre encircled Underi with the help of Ramaji Mahadev and Mahadji Raghunath. The attempt to capture the fort was however unsuccessful.
- 20.10.1760** Naro Trimbak, the subedar of Peshwa armada won the fort. Underi used as a state prison by the Angres.
- 1761** Raghunath Rao Peshwa granted Underi to the English but transfer never took place.
- 1791** Underi described as surrounded by a bad wall, very irregularly divided, without embrasures or well-mounted guns and the island was covered with of palm-thatched houses.
- 1838** Underi lapsed to the British Government.
- 1858** Underi continued to be head of sub division of 130 villages till survey settlement was introduced.

Location Map of Underi Fort



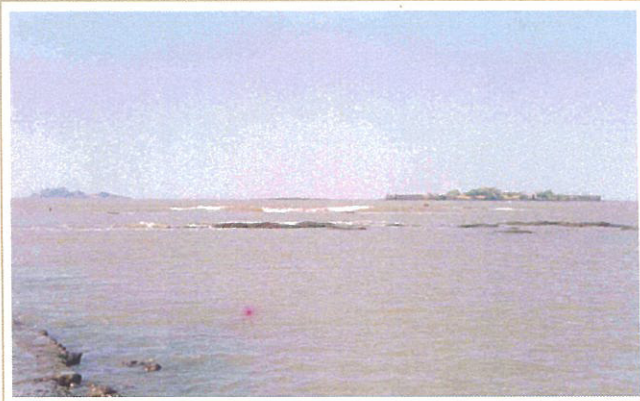
4 inventory of forts - underi

Special Features

Topographical

Underi Island 3 km off the shore from Thal is accessed by means of a boat ride from the seashore. Strategically located near the Khanderi island fort, it was fortified historically to keep a watch on the activities at Khanderi – a Maratha fort. This proximity to Khanderi as well as Kulaba Fort creates an interesting tourist circuit.

View of Underi Island with Khanderi fort in its proximity.



Architectural

The fortification walls and bastions are more or less intact except for a few places where the sea has made inroads into the built fabric. The main entrance gateway is at the North East toward the mainland. The entrance gate, still intact, is a flat arch made up of dressed stone, although there are no embellishments, there is the presence of a cornice band. There was a dungeon where prisoners were kept. A hidden flight of steps led underground to a strong door, which opened out into a room 7' high and 12' wide. The ramparts made of massive stones about 5' thick have broken down at places.

Flat arch detail at the entrance gateway



Column cornice detail at the entrance gateway



Materials

Fitted with rough-cut bluish-grey basalt for facing all the ramparts and bastions. Dressed stone used for facing entrance doorways.

Present Condition

The fort could not be surveyed during the months of Oct, Nov 2003 as post-monsoon, profusion of vegetation

made access to analyse the structures within the fort difficult. A detailed account would be provided at a later date of the study.

Ruinous state of the ramparts and the bastions.



As per the "Revised List of Antiquarian remains in the Bombay Presidency" drawn up by J. Burgess in Jan 1884, Underi is classified in the Grade III category which states, "Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve." It was originally in Kulaba district, Alibag Taluka. There is no accurate record of when the Fort was removed from this list or why it was not included in subsequent listing. It is recommended that the Directorate of State Archaeology should notify this Fort under their protection.

Usage

None

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

None

4

inventory of forts - kaman durg

Kaman Durg

Location : 19° 22'N and 72° 59' E

Built near Kaman Village, ten miles east of Manikpur on a conical hill 2160 feet high (654m), 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.

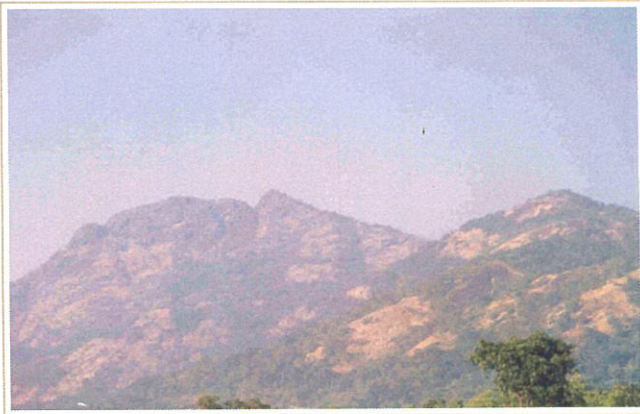
Classification

Hill fort - Fortified Outpost

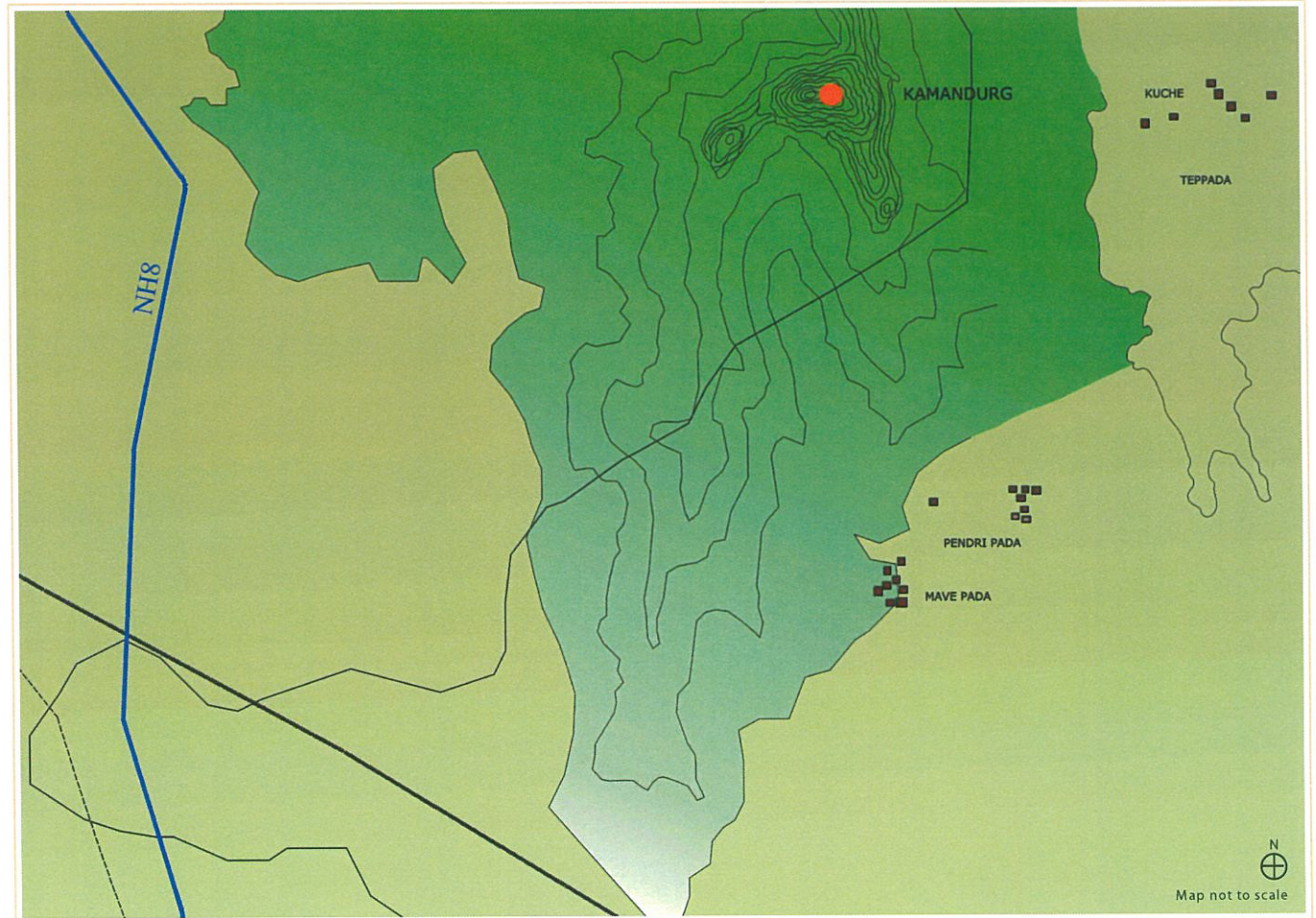
Historical Background

It was apparently fortified by the Portuguese. In the West Coast Pilot of 1926, it is described as a conical mountain easily recognized from seaward, 10 miles eastward from Bassein Creek entrance. It was also called Bassein peak.

View of the Kamandurg peak.



Location Map of Kaman Durg





4

inventory of forts - kaman durg

Special Features

Topographical

The fort is built on top of a hill at the height of 654 m. It is described in several travelogues as one of the most picturesque hills, beautifully contoured with distinctive profile easily noticeable from the national highway.

Architectural Description

There is believed to be a perennial water source within the fort in the form of a rock-cut reservoir. Very little remains of the fortifications.

Present Condition

The fort could not be surveyed during the months of Oct, Nov 2003 as post- monsoon, profusion of vegetation made access to the hill fort difficult. A detailed account would be provided at a later date of the study.

As per the *"Revised List of Antiquarian remains in the Bombay Presidency"* drawn up by J. Burgess in Jan 1884, Kamandurg is classified in the Grade III category which states, *"Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve."* It was originally in Thane district, Bassein Taluka. There is no accurate record of when the Fort was removed from this list or why it was not included in subsequent listing.

Usage

None

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

Falls in the Forest Zone (Eco-sensitive zone), demarcated in the Regional Plan of the Mumbai Metropolitan Region, 1996 – 2011.

4

inventory of forts - chendani

Chendani Fort

Location : 19°03' N and 73°14' E

Chendani is a hill fort built near the village Tamsi, around 9 km from Malang Gad in the Raigad district. On the Bombay-Pune railway between Badlapur and Vangani there is a small station called Goregaon, from here there is a foot trail which leads up to the village of Chincholi. From this village, a 2 ½ - 3 hrs climb lead to a cave, from where the remains of the fortifications can be viewed.

Classification

Hill fort - Fortified Outpost

Historical Background

It is not exactly known when the Marathas fortified this hill.

Special Features

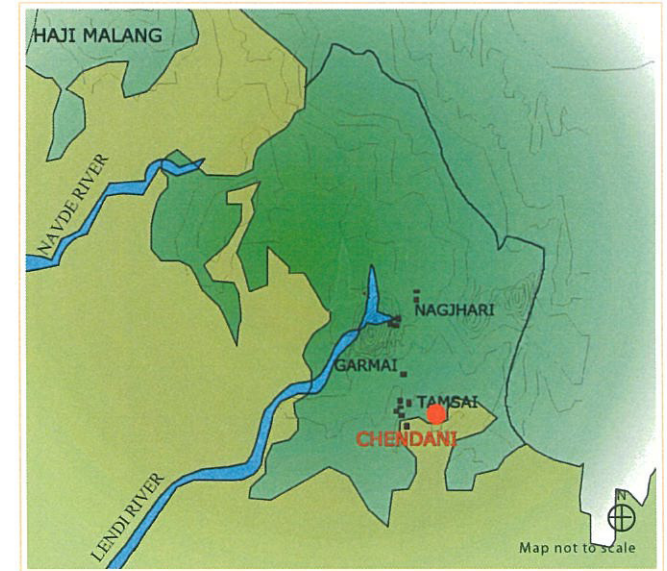
Topographical

This fort along with prabal, peb and malang gad form a wall of defence along the western ghats.

Architectural

No fortifications remain, but there were two cisterns and the ruins of a few houses, according to records in the bombay gazetteer of 1882.

Location Map of Chendani Fort



Present Condition

the fort could not be surveyed during the months of oct, nov 2003 as post- monsoon, profusion of vegetation made access to the hill fort difficult. A detailed account would be provided at a later date of the study.

Usage

None

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

Falls in the forest zone (eco-sensitive zone), demarcated in the regional plan of the mumbai metropolitan region, 1996 - 2011.

4

inventory of forts - malang gad

Malang Gad

Location : 19 ° 06' N and 73 ° 11' E

Malang Gad or Bawa Malang is a hill fort around 14.5 km from Kalyan Railway Station in the Raigad district connected by a regular bus service up to its base.

Classification

Hill fort - Fortified Outpost

Historical Background

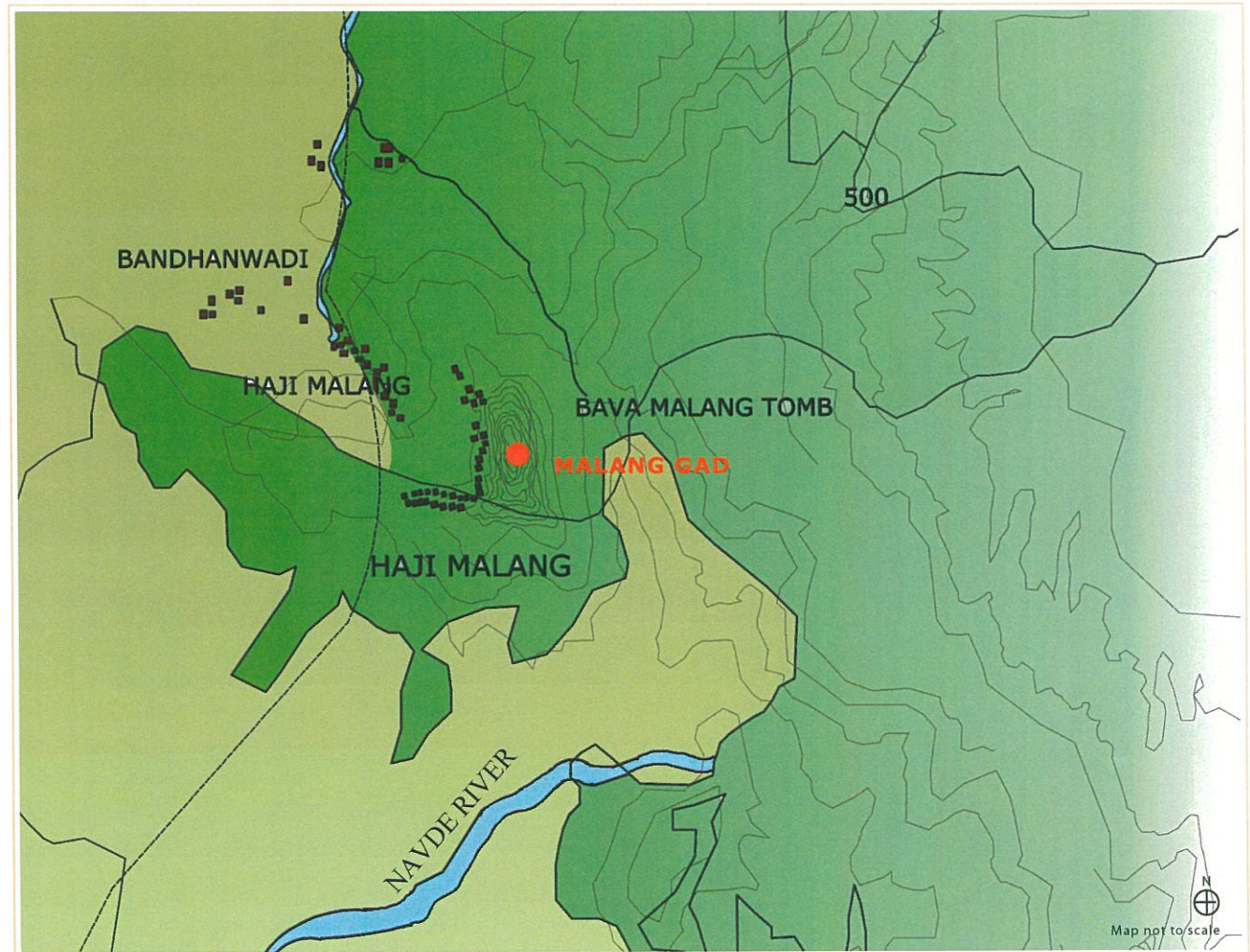
A chronological progression of events and activities around the Fort are described below:

8th Cent. A.D Nal Raja and Arab missionary Haji Abdul-ul- Rehman recorded as having occupied the fort

1780-1782 Occupation by the British for only two years.

It was also called "*Cathedral Rock*". Malang Gad was once a strongly fortified hill fort. It also finds mention in the West Coast Pilot of 1926, where it is described as, "*a high peak, 2588' high 25 miles northeastward of Bombay Harbour entrance; on the summit is an enormous mass of perpendicular cliff crowned by a ruined fort.*"

Location Map of Malang Gad



4

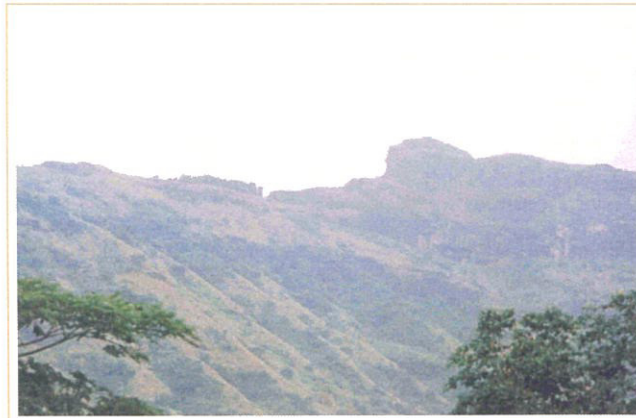
inventory of forts - malang gad

Special Features

Topographical

The fort is built on top of a hill at the height of 654 m. It is described in several travelogues as one of the most picturesque hills, beautifully contoured with distinctive profile easily noticeable from the national highway.

View of the Malang Gad peak



Architectural Description

A description of Malang Gad in the Thana District Gazetteer, 1882, mentions presence of an upper and lower fort. From the tableland at 1800 feet, the ascent to the lower fort was very steep and upward of 300 ft high. The latter part of the ascent was by an almost perpendicular rock-hewn staircase width of which was 20', at the top of which was a strong gateway covered by two outstanding towers. The Lower fort beyond the gateway was an exceedingly narrow strip not more than 300 yards long; it contained two scarcely habitable buildings and a small reservoir, giving sufficient supply of water during the greater part of the year. The upper fort was a space of 200 X 70 yards, it had no fortifications but there were traces of an enclosure and of the walls of an old building. The water supply was from a range of five cisterns, and a copper pipe was used to carry water to the lower fort.

Present Condition

The fort could not be surveyed during the months of Oct, Nov 2003 as post- monsoon, profusion of vegetation made access to the hill fort difficult. A detailed account would be provided at a later date of the study.

As per the "Revised List of Antiquarian remains in the Bombay Presidency" drawn up by J. Burgess in Jan 1884, Malang Gad is classified in the Grade III category which states, "Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve". In Thana district, Kalyan Taluka, it is described as "old fort and two plain cells, Hill fort, Muhammadan shrine, and another called palki. Information scanty." There is no accurate record of when the Fort was removed from this list or why it was not included in subsequent listing.

Usage

Religious

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

Falls in the Forest Zone (Eco-sensitive zone), demarcated in the Regional Plan of the Mumbai Metropolitan Region, 1996 – 2011.

4

inventory of forts - peb / vikat gad

Peb / Vikat Gad

Location : 18 ° 50 N and 73 ° 21' E

Built on a hill at a height of 524 m, 8 km from Neral Railway Station on the Central Railway in the Raigad district.

Classification

Hill fort - Fortified Outpost

Historical Background

It is not exactly known when the Marathas fortified this hill.

Location Map of Peb/Vikatgad



Special Features

Topographical

This fort along with Prabal, Chendani and Malang Gad form a wall of defence along the Western Ghats. It is also known as the Vikatgad.

View of the Peb peak



Architectural Description

A description in the Thana District Gazetteer in 1818 by Captain Thomas Dickinson states that, the Fort had two pathways leading from the gateway, which was nearly 20' (6m) below the top of the hill. The gateway was built across and nearly at the top of an exceedingly steep canyon, the water turned from its natural course by a channel on each side of a retaining wall of solid masonry 30 feet (9 m) high and as many feet wide at the top. The perpendicular height of the threshold of the gateway was about 18 feet (3.54 m).

Beyond the gateway the ascent continued exceedingly steep to a platform on a projecting part of the hill at the head of the gorge, about 80 feet (24 m) above the gateway. From this platform was a very steep climb of 100 feet (30 m) to the top of the hill, where there had formerly been a fort. The cliff surrounded the fort and the main buildings were mainly at the north and south extremities, commanding those parts of the hill, which were deemed accessible. The ground on top of the hill was very irregular, and no vestige of the former fort remained except a wretched wall of loose stones. Besides two buildings and a

few huts, there was an excellent reservoir and a temple dedicated to Ganpati outside the gateway. It is believed that under the cliff, about 100 yards from the temple was a large room enclosed with solid masonry and a strong door was a store for ammunition.

An account in 1862, states the fort to be in ruins, the water not potable and the food supplies not procurable. The fort gets its name from the goddess Pebi, at the foot of the hill. Half way up the hill was a temple to Mhasoba and 1 km away were two caves and a rock cut cistern. There were foundations of large buildings and a cistern, containing water all year long. There also existed remains of forty to fifty small houses.

Present Condition

The fort could not be surveyed during the months of Oct, Nov 2003 as post- monsoon, profusion of vegetation made access to the hill fort difficult. A detailed account would be provided at a later date of the study.

Usage

None

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

Falls in the Forest Zone (Eco-sensitive zone), demarcated in the Regional Plan of the Mumbai Metropolitan Region, 1996 – 2011.

4

inventory of forts - prabal - moranjan

Prabal Moranjan

Location : 18 ° 55' N and 73 ° 10' E

Built on a hill at a height of 730 m, 12 km from Panvel in the Raigad district.

Classification

Hill fort - Fortified Outpost

Historical Background

It is believed that Shivaji found substantial treasure on the fort when he captured it from the Mughals.

1827 Umaji Naik took possession.

Special Features

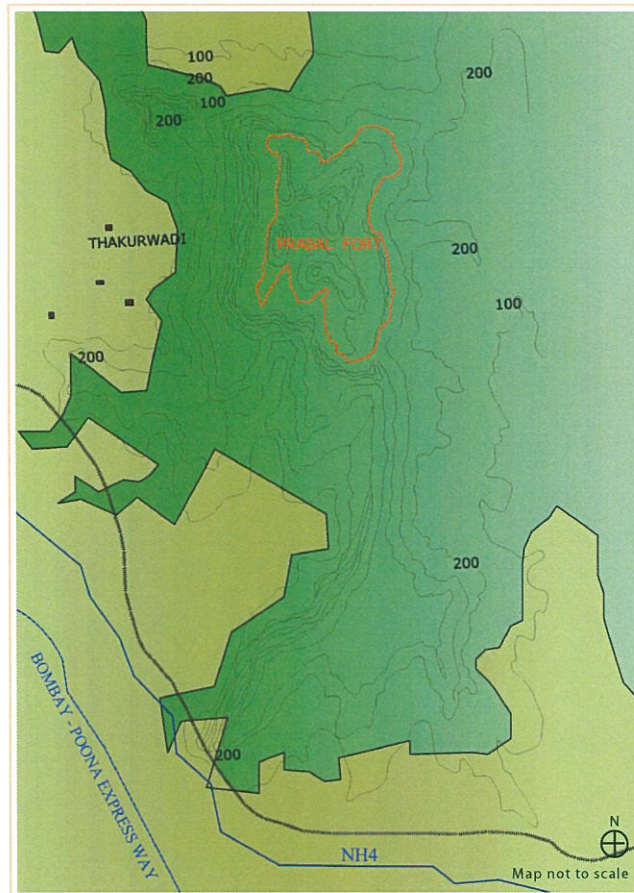
Topographical

This fort along with Chendani, Peb and Malang Gad form a wall of defence along the Western Ghats.

View of the Prabal peak



Location Map of Kaman Durg



Architectural Description

The ruined fortifications once included eleven towers and two gateways. They probably cultivated crops like nachani etc within the fort. There was a small lake where the cattle drank water. By 1818, the gates had already been destroyed, post occupation by the British and the fortifications collapsed. The hilltop, which was surrounded by ruined walls, had three 10 feet square cisterns, two on the east and one on the west. Of the fortifications six stone and mortar towers remained with room for five men in each. By 1862, the fort was described to be well designed but ruinous. The pond on the hilltop had good water supply but was in complete disrepair and hence useless.

Present Condition

The fort could not be surveyed during the months of Oct, Nov 2003 as post- monsoon, profusion of vegetation made access to the hill fort difficult. A detailed account would be provided at a later date of the study.

As per the "Revised List of Antiquarian remains in the Bombay Presidency" drawn up by J. Burgess in Jan 1884, Prabal is classified in the Grade III category which states, "Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve." It was originally in Kolaba district, Karjat Taluka. There is no accurate record of why the fort was removed from this list or why it was not included in subsequent listing.

Usage

None

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

Falls in the Forest Zone (Eco-sensitive zone), demarcated in the Regional Plan of the Mumbai Metropolitan Region, 1996 – 2011.

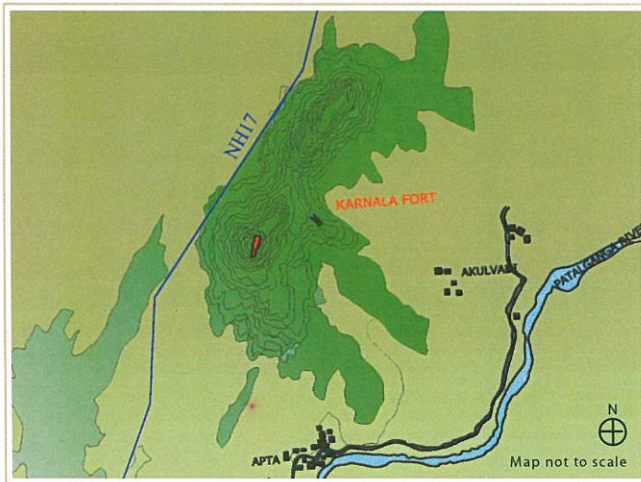
4 inventory of forts - karnala

Karnala Fort

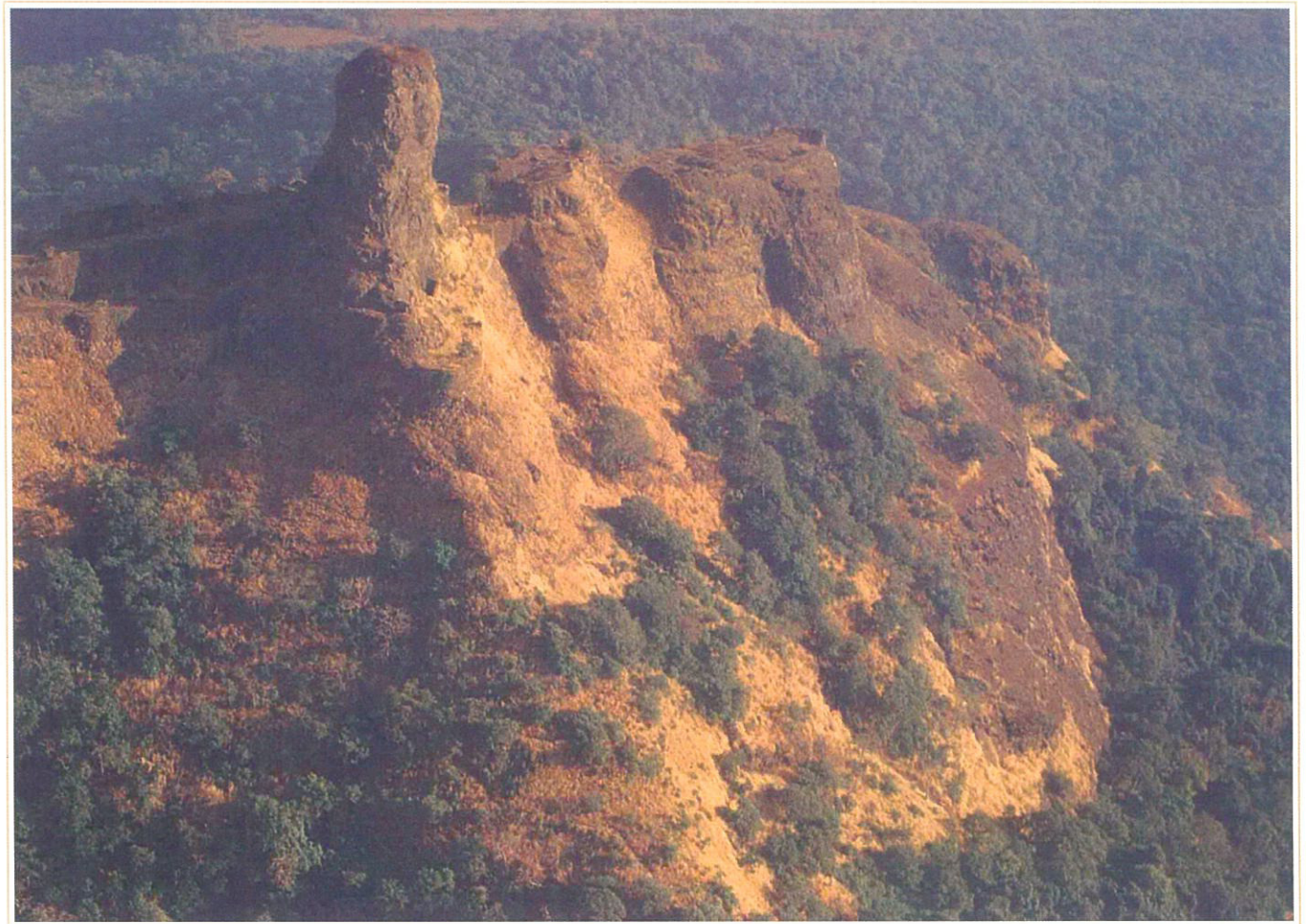
Location : 19° 50' N and 73° 05' E

Built at an altitude of 1560 feet (439 m), a few miles Northwest of the Vegavati (*Patalganga*) river and 11-km from Panvel.

Location Map of Karnala Fort



Aerial view of Karnala fort



4 inventory of forts - karnala

Arnala Fort

Classification

Hill fort – Fortified Outpost

Historical Background

A chronological progression of events and activities around the Fort are described below:

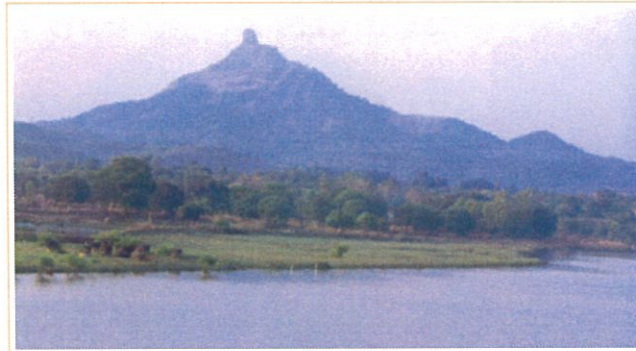
- 1246 – 1318** Under the Devgiri Yadavs
- 1318 – 1347** Under the Muslim rulers of Daulatabad, Karnala being the head quarters one of the districts of North Konkan.
- 1540** Attacked by Ahmadnagar troops taken away from Gujarat Garrison Gujarat Commanders took help of Portuguese rulers of Bassein to get it back. After returning it to the Gujarat Sultanate, again Ahmadnagar troops attacked and the Sultanate convinced Portuguese to help them. To win their friendship, the Portuguese again returned it to the Sultanate for a yearly sum.
- 1670** Shivaji captures Karnala from Mughals.
- 1735** Aurangzeb captures it back after Shivaji's death
- 1740** Peshwas establish their power and Karnala comes into their dominion.
- 1818** Colonel Prother regains Karnala from the Marathas
- 1862** The Fort was in a state of disrepair as many walls and pillars had collapsed. The water cisterns were in good condition supplying good drinking water all year round.

Special Features

Topographical

It occupied a strategic location due to command of the high road between Bor pass and the Panvel and Apta rivers.

View of Karnala 'thumbs-up' pinnacle
(Source: Destinations outside Mumbai, Outlook Express)



Architectural

A description of Karnala Fort in the Maharashtra State Gazette, Kulaba District, mentions presence of an upper and lower fort. In the centre of the upper fort was the funnel, an almost inaccessible Basalt pillar 100 to 150 feet high. It further states that the scarp that forms the outer fort was crested by a masonry wall entered through a gate in the Northwest corner. Through the gate, a path led, across the plateau of the lower fort, to the scarp that formed the inner or upper fort, which, like the under scarp, was crested by a wall.

Two gateways one at the foot and other at the top of a flight of rock-cut steps led to a double gateway with a chamber between. Between these gates and the funnel rock were some ruined buildings and at the north base of the funnel were a series of excavations, some for the storehouses, and some for water. The funnel, easily the most noticeable feature along the Sahyadri Range due to the distinct 'thumbs up' pinnacle, is also locally known as *Pandu's Tower*, of which there is no archaeological evidence of the Mahabharata period. It also mentions two inscriptions in the fort, one in Marathi and the other in Persian.

The Marathi inscription is on the inner side of the lower gate, the Persian outside the upper gate runs '*Syed Nuruddin Muhammad Khan Hijri 1146*' (A.D. 1735)

A flight of steps leading to the fort entrance
(Source: Destinations outside Mumbai, Outlook Express)



Present Condition

The fort could not be surveyed during the months of oct, nov 2003 as post- monsoon, profusion of vegetation made access to the hill fort difficult. A detailed account would be provided at a later date of the study.

Usage

None

Ownership / Legal Protection

Currently does not fall under any heritage protection.

Landuse

Falls in the national park zone within the Karnala bird sanctuary, demarcated in the regional plan of the Mumbai Metropolitan Region, 1996 – 2011.



5

detailed fort study

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detailed fort study - ghodbunder

Introduction to Ghodbunder

The name 'Ghodbunder' ('Ghod' which stands for horse and 'bunder' - landing place) is derived from the presence of a port along the Ulhas river estuary, where a flourishing trade of horses from Arabia existed during the reign of the *Vijayanagara Empire* in South India. Ghodbunder was significant before Goa, a Portuguese stronghold, came into prominence as a trading post. Stables for housing the horses were located within the premises of the present-day Modern Company, situated at the foot of the Ghodbunder hill abutting the creek.

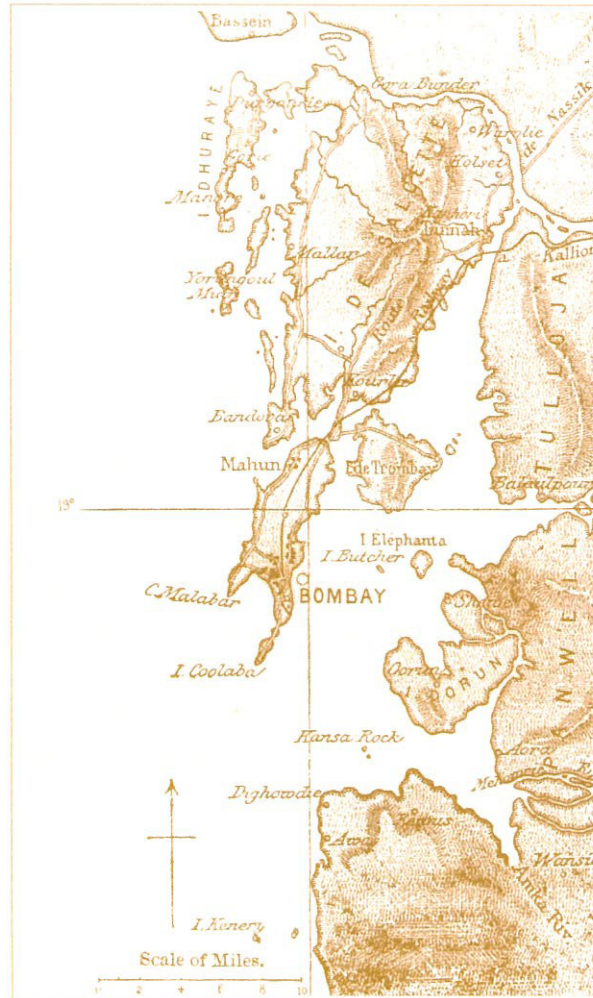
The geographical location of the Fort and landing place were very significant, as there existed unobstructed river passage for small boats from Bassein to Kalyan – a prominent shipbuilding port in the 17th century. Hence, although a minor outpost in terms of its size, Ghodbunder finds mention in several old maps and texts drawn up by the Marathas as well as in Arab Navigation records. This key location and picturesque setting is enjoyed by the Fort to this day, which further adds to its historical importance and makes a strong case for a holistic heritage management plan.

Improved linkage with the western rail corridor after the introduction of the BEST ring-route service and proximity to the National Highway propelled large-scale unplanned growth of the Ghodbunder village from primarily a fishing and agriculture village of 3000 population in 1818 to 15,000 in 1998 (as per the records of the Raje Shivaji High School, Ghodbunder). Unprecedented sand-dredging activity at the creek, also called *Retibundar*, led to an influx of migrants, resulting in haphazard development along the picturesque bay.

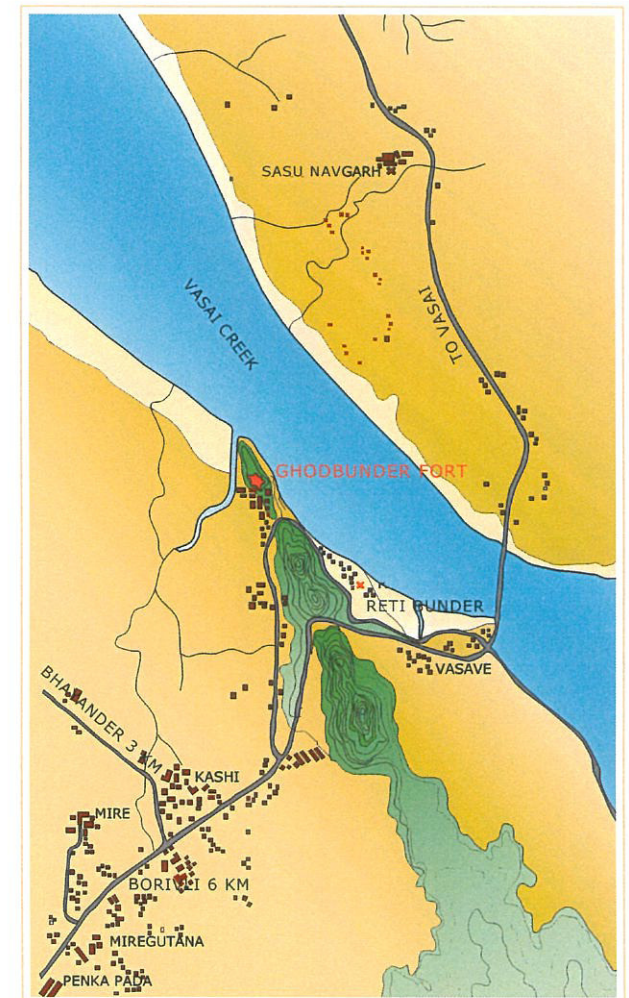
The primary issues of concern for preservation of the Ghodbunder Fort and its architectural remains are:

- Lack of awareness
- Absence of heritage controls
- Degeneration of built fabric due to pilferage and disrepair.

Archival Image of Bombay in 1882 showing Ghod Bunder



Location map of Ghodbunder



5

detailed fort study - ghodbunder

Urban Context

The Urban Setting

Overlooking the mouth of the Bassein creek, on the southern bank of the Ulhas River, in the small village and port of Ghodbunder, around 10 km from Vasai in the Thane district, lay ruins of a small Portuguese outpost and church at the topmost portion of the hill. The nearest railway station along the Western railway is Bhayandar, from which BEST public transport buses ply regularly between Ghodbunder village and the railway station. A motorable road leads to the base of the Fort, passing through Ghodbunder village from the Western Express Highway (NH 8).

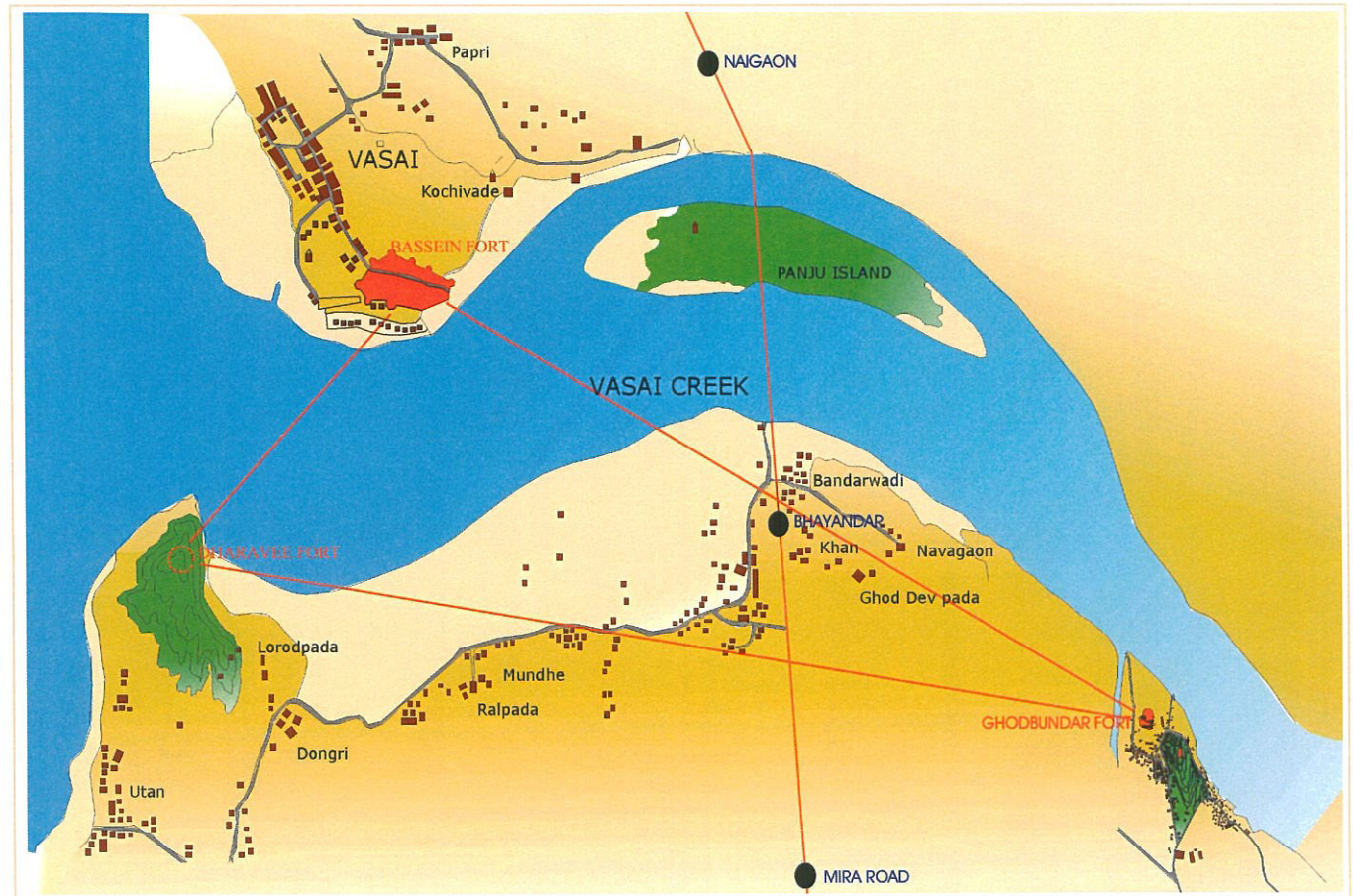
Ghodbunder lies at a strategic location along the Ulhas estuary, and forms a trio of forts along with Dharavi (a fort now extinct) on the Southern bank and Bassein on the Northern bank. The extensive fortifications at every promontory along Ulhas river was because this creek led up to Thana and was practically the back door entrance to the Bombay Harbour.

Heritage Regulations & Jurisdictional Status

The Ghodbunder village and Fort fall in the Urbanisable Zone under the jurisdiction of the Mira-Bhayandar Municipal Authority. It is currently not included under any heritage protection and hence faces greater threat of degeneration due to neglect and ignorance.

As per the *"Revised List of Antiquarian remains in the Bombay Presidency"* drawn up by J. Burgess in Jan 1884, Ghodbunder is classified in the Grade III category which states, *"Grade III are those monuments which from their advanced stage of decay or comparative unimportance it is impossible or unnecessary to preserve."* In Thana district, Salsette Taluka, it is said to comprise of "old church dedicated to St. John, monasteries and fort. The church is now a bungalow." There is no accurate record of when the Fort was removed from this list or why it was not included in subsequent listing. Efforts are on at the Directorate of State Archaeology to include this fort under their protection.

Map showing the proximity of Ghodbunder and Vasai forts.



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detailed fort study - ghodbunder

Historical Background

Described as a small village and port in Salsette in the Bombay District gazetteer in 1882, it was supposed to be Ptolemy's Hippokura. However, Ghodegaon in Kolaba, which stands on the Deccan trade route and like Ptolemy's Hippokura lies to the south of Simulla or Chaul is perhaps an accurate historical conjecture.

Archival image of Ghodbunder village.
(Source: Raje Shivaji School, Ghodbunder)



The Ghodbunder Fort, although believed to be a Portuguese Fort does not display the common Portuguese elements used in their Forts such as angular bastions, Portuguese inscriptions etc. On the other hand, it draws a few similarities with the forts built by the Shilahara dynasty. Perhaps the present day MTDC guesthouse originally a Portuguese Church, built on the highest point was the only Portuguese construction with the Ghodbunder Fort of a more ancient lineage.

The *Shilahara dynasty*, with their twenty kings ruled North Konkan from about 810 to 1260 AD. The Shilaharas are believed to be of Dravidian origin and were subordinate to the Rashtrakutas until Aparajita, one of their kings declared himself independent in 997 AD. They

constructed a Rajpath or Kings high road, which followed a more or less similar route as the present Bombay-Thana road via Ghodbunder. Of the many temples they built, there are the ruins of one at Walkeshwar in Bombay. Puri was their capital and *Sanjan, Thana, Sopara, Chaul, Lonad* and *Uran* were places of note. Thana was a mart in the ninth and tenth centuries, a bustling town in the twelfth century and the headquarters of a chief and a place of much traffic and many ships at the close of the thirteenth century. The *Shilaharas* were also very active fort builders; amongst the many forts built by them are *Budhagarh, Panhalagarh, Pavangarh*, and *Samangarh* near Kolhapur. The Ghodbunder Port dates back to the Shilahara dynasty between the 8th and 12th Century.

The fortifications were strengthened by Sambhaji when the Fort was taken over by the Marathas in 1737. A chronological progression of events and activities around the Fort are described below:

- **1672** - Portuguese resisted attack by Shivaji
- **1675** - It was called Grebondel and described, as a large neat built town of Martin Alfonso's (the richest son north of Goa) and the top of all his house, fort and church by Fryer.
- **1695** - It is described as a hill whose slopes were covered with houses and on whose top was the palace of the lord of the village.
- **1737** - The Marathas, under Chimaji Appa, captured Ghodbunder. This was followed by a strong and sustained attack on the Portuguese stronghold at Bassein. The proximity of Bassein to Ghodbunder permitted a siege of Bassein Fort using the well-known guerrilla tactics of the Marathas. It is often said that the capture of a minor outpost such as Ghodbunder led to the defeat of the Portuguese in the north, capturing of several Portuguese strongholds, ultimately culminating in the capture of Bassein, the northern capital.
- **1787** - It has also been described as a strong fort at the river entrance, which had been neglected by the Marathas during their possession of the island and suffered to decay by the Bombay government as it did not bring any immediate income, by Hove' a Polish traveller.

The most noticeable feature from the highway is the Maharashtra Tourism Development Corporation (MTDC) guest house, originally the Collector's residence on a wooded knoll about a quarter of a mile Southwest of the former landing place. It is reached by a broad flight

of stone steps and commands a fantastic view. The building believed to be a Portuguese Church dedicated to St. John, is large, with the nave leading to a circular chancel, covered with a high cupola or dome and surrounded by a veranda with stone arches. It is locally believed that the dome and some Saracenic features are due to the presence of a Muslim saint who lies buried below. It is also believed that owing to the presence of the Pir, all efforts of the builders to construct a tower or spire are said to have failed resulting in the Saracenic Dome. The church later became the bungalow of the *Nawab of Ghodbunder* and is now used as the M.T.D.C guesthouse.

Below the Fort, within the property of the Jhaverbhai Patel Trust II are believed to consist of the ruins of the cloister of a large monastery. The largely overgrown area also consists of two English tombs without inscriptions (which could not be located due to dense vegetation) and one, which bears the inscription:

*"Sacred to the memory of
Catherine 'Eliza,
infant daughter of Capt. P. Saunderson 15th Regiment,
Bombay Native Infantry,
who departed this life 13th October 1834,
aged three months and ten days."*

The property also consists of an RCC rest house which was the location of an original rest house on the shore near the landing place built by *Mr. Navroji Jamsetji Vadia*; the Parsi head boat builder of Bombay in 1828. Archival material also exists on the presence of another rest house, perhaps at the entrance to Ghodbunder village (next to the Portuguese cantonment site) built by *Karamsi Ranmal*, who is believed to have funded construction of stone steps leading from the landing pier to the well-known 8th century rock-cut caves at Elephanta.

English tomb dated 1834 bearing an inscription within the Jhaverbhai Patel Trust compound.



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detailed fort study - ghodbunder

Architectural Expression

The principal architectural remains and archaeological sites in Ghodbunder village consist of the Portuguese Fort, Maharashtra Tourism Development Corporation (MTDC) guest house, a large privately owned property originally believed to be the site of a Portuguese monastery, site of Portuguese base camp and cantonment and site of a small light-house (also known locally as a *Deep-stambh*). Unfortunately no remains are found of the Portuguese cantonment, save a few leveled platforms, and of the lighthouse. Of architectural interest and historical importance is the Portuguese Fort and MTDC guesthouse, of which the Fort is studied in detail for heritage protection.

The remnants of the Fort consist of an enclosure made of rough-cut stones piled to a height of 4', running continuously around most of the site, save a few places where settlements have encroached. Portions of the wall have also collapsed on account of neglect as well as pilferage by residents, who used the stone for constructing foundations for their houses nearby. Old maps also indicate the profile of the ramparts following the line of the contour on which the fort is located.

The remnants of the fort with the MTDC guest house in the backdrop



Within the enclosure are a strong circular bastion at the highest point and lower down are remnants of single-storeyed stone masonry

structures and a water tank. Coastal forts such as Ghodbunder were used for various purposes like storehouses, or sentinels to guard the sea against the activities of the enemy and it could be that the bastion was a look out and the surrounding structures were granaries.

Faced with dressed stone, the bastion is easily the best preserved structure in the entire complex. Flat-topped for easy surveillance of the surrounding area, access to the top is through an arched entrance. A continuous niche runs all along the jamb of the arch, used to seal the entrance to the bastion by means of sliding a thick stone slab from the top.

The niche along the jamb of the bastion entrance.



The mid-landing leads to a small rectangular chamber with an opening in the ground now sealed. Apparently the opening lead to a tunnel, which ran the entire length of the Bassein Creek and opened out into the Bassein Fort. This chamber was used as a room for protection against the inclement weather conditions. The bastion overlooks the entire expanse of the creek and an old bridge built across a narrow tributary and is the first noticeable feature from the creek.

The surrounding structures, in all of which the roof has caved in, open out into a courtyard. There are some remnants of a flat-topped vault in one room, whereas in another a niche along the roofline to house the roofing joists is observed. On the outer side of the walls at the point where the roof must have begun, a continuous cornice bands

View of Ghodbunder Bastion



runs along the entire length. The walls, although completely covered with vegetation and disintegrating, display evidence of arched niches

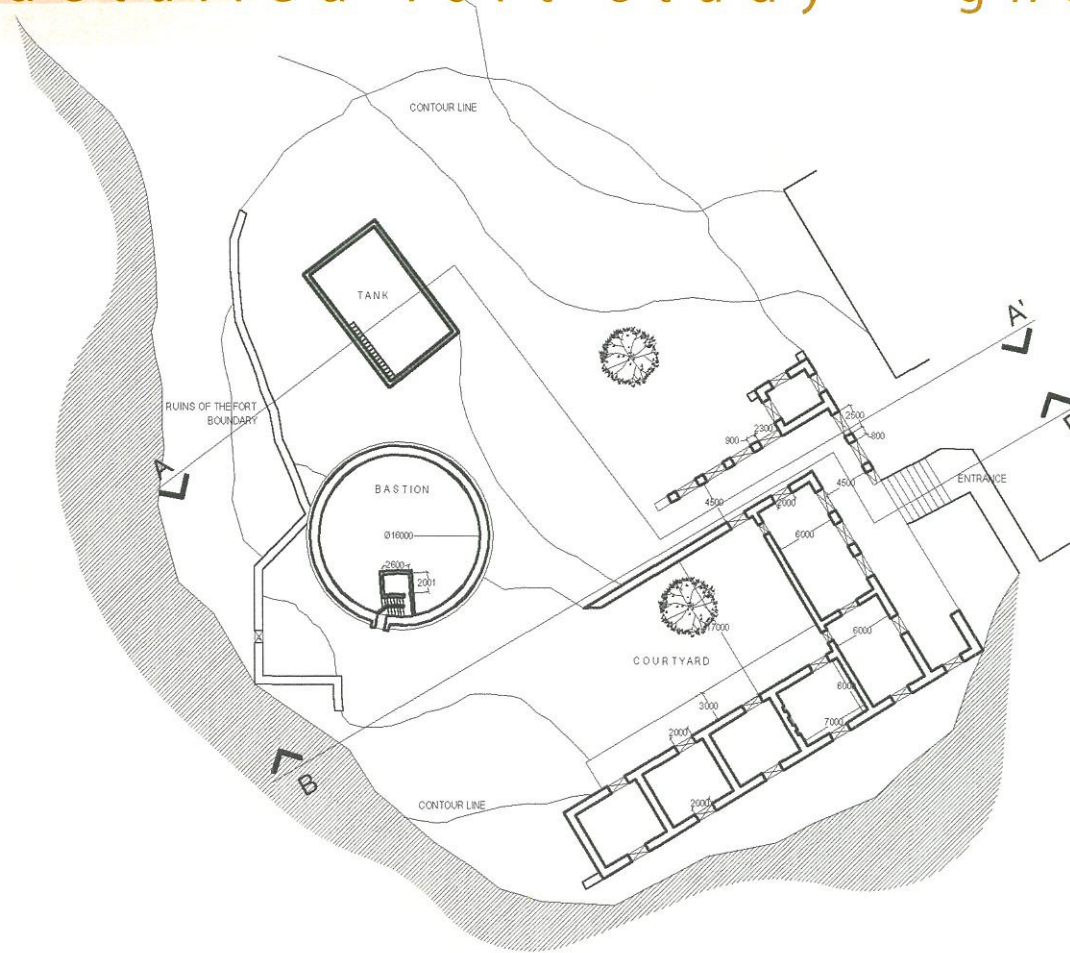
the semi-circular arch observed in surrounding arcade.



and circular windows. Two types of arches are observed: a semi-circular arch with a keystone and mouldings at the springing point, and flat arches fitted with wedge-shaped stones. The other primary difference in addition to their form is the use of stone, which in the case of the semi-circular is dressed, while in the flat arch, is rough-cut.

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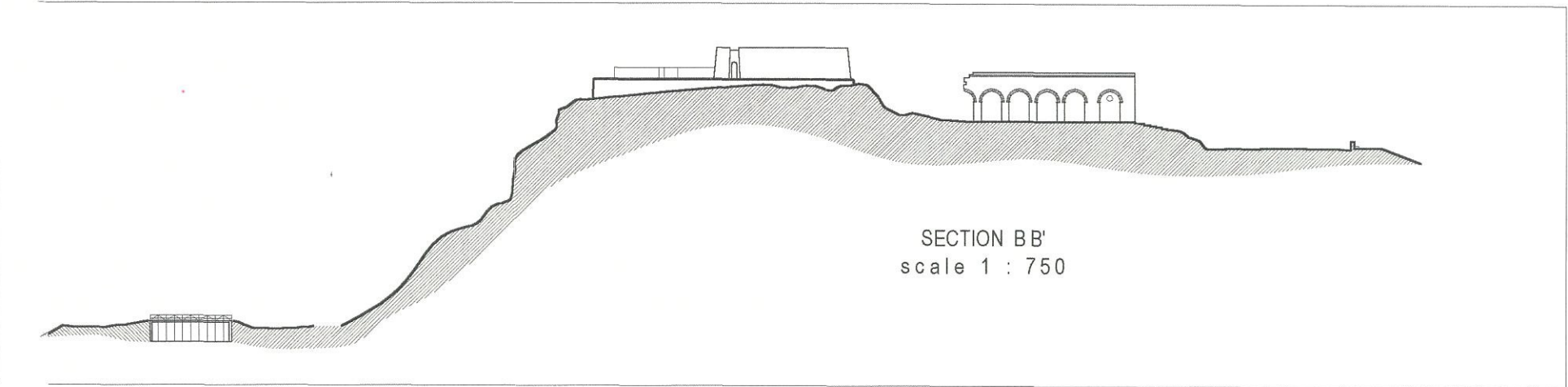
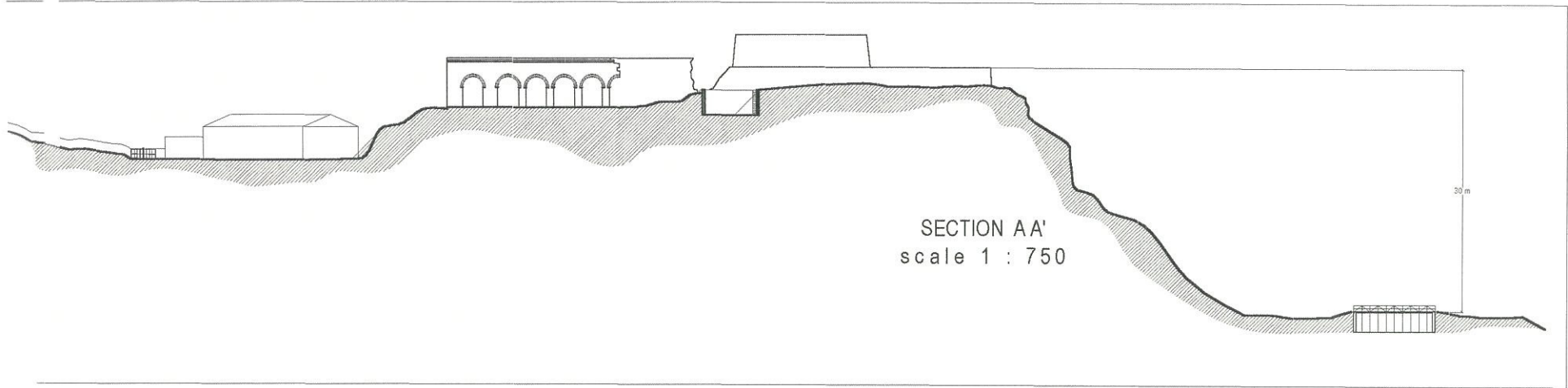
detailed fort study - ghodbunder



PLAN OF GHODBUNDER FORT
scale 1 : 750

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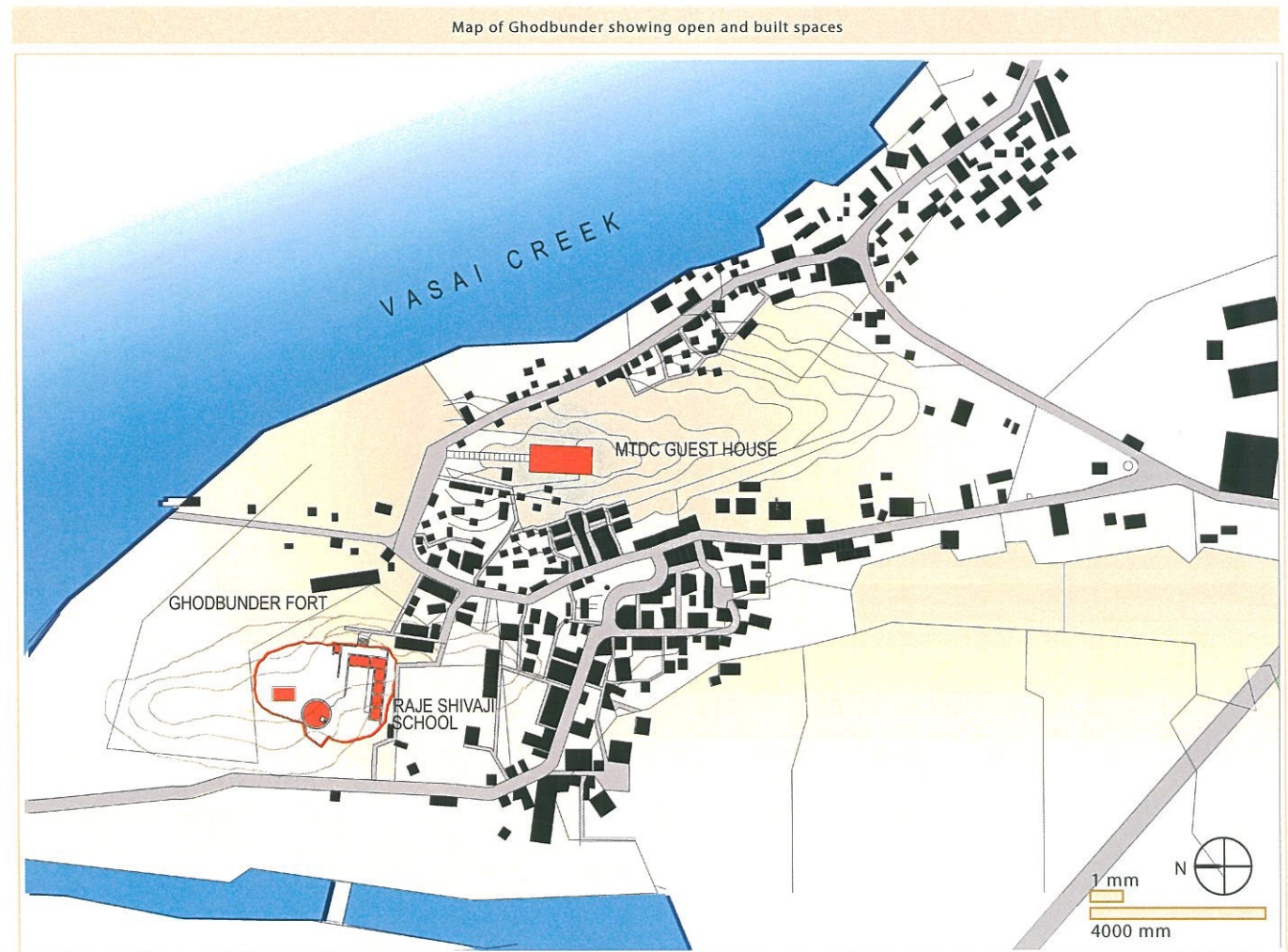
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Site Surveys

Figure Ground

The built fabric at Ghodbunder is largely organic, as most of the settlements came up sporadically. There are no consciously planned open spaces and even the play ground for the Raje Shivaji School has been carved out of the hill on top of which is Ghodbunder fort. Street intersections widen to form squares, abutting two-storey dwellings.

The organic built-forms.



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detailed fort study - ghodbunder

Site Surveys

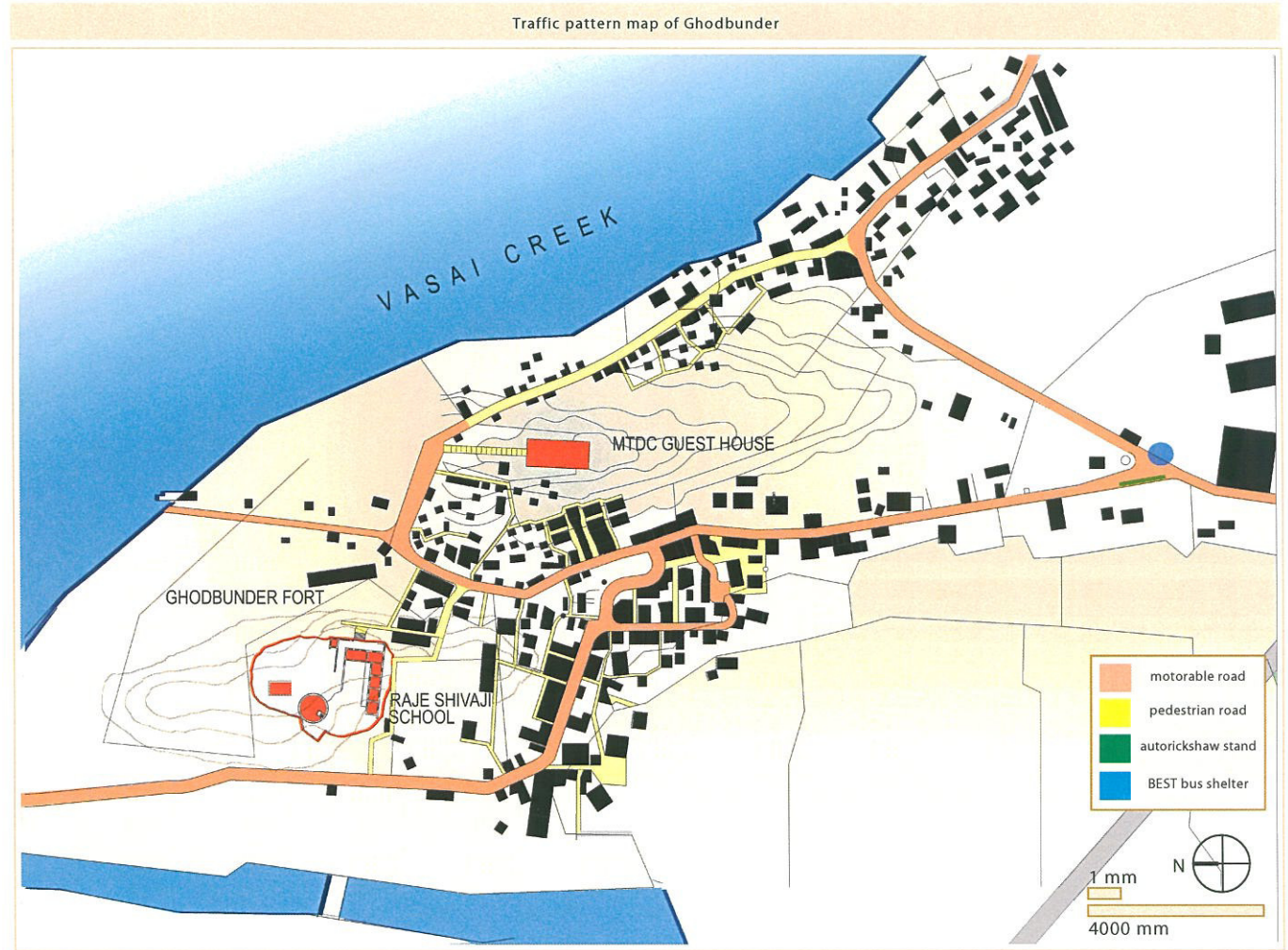
Traffic Patterns

Ghodbunder village is linked to the Western rail corridor by means of BEST buses that ply regularly and stop at the base of the hill. The village also falls en route to Thana from Borivali, along the old Ghodbunder Road and is also linked to the National Highway No. 8. The street leading up to the Ghodbunder fort and the MTDC guesthouse is the main thoroughfare along which most of the amenities such as shops are located.

The main street upto the fort and the MTDC guest house.



This two-way road branches out into secondary streets, most of which are pedestrian and some motorable. The primary street leads up to Ghodbunder Fort, which is accessed through a narrow alley lined with hutments. This alley leads to steps going up to the main fort enclosure. The road leading to Reti Bunder from the MTDC guesthouse is an irregular pedestrian road, lined on both sides with informal settlements.



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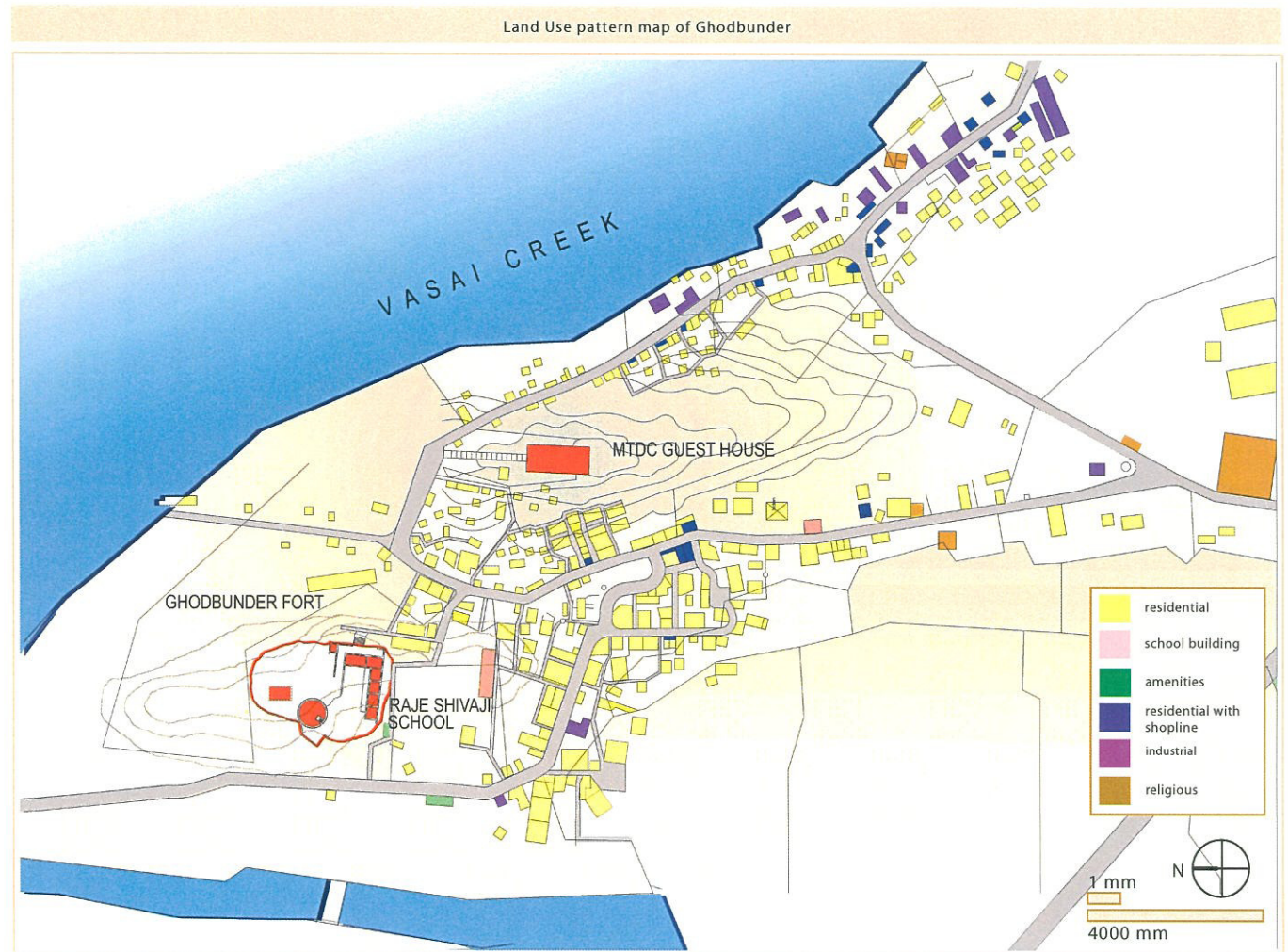
detailed fort study - ghodbunder

Site Surveys

Land Use

The land use of Ghodbunder village is primarily residential. Along the main street a few houses with shops on the ground level are observed. A few industrial units are located at the base of the hillock, at the beginning of the village.

An entire street leading from the MTDC guesthouse to Reti Bunder is lined with slum settlements. Encroachments are also observed at the entrance to the Ghodbunder Fort and even along its surrounding structures.



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Site Surveys

Building Heights

The residential areas of Ghodbunder village are more or less two storied with a few exceptions, where a seven storied apartment building is seen within the organic matrix. This sporadic multi-storey development has to be curbed if the locational value and topographical importance of the Fort is to be preserved.

Map showing low-lying roofscape of Ghodbunder



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Site Surveys

Landmarks & Nodes

Ghodbunder village is linked to the Western rail corridor by means of BEST buses that ply regularly and stop at the base of the hill. The village also falls en route to Thana from Borivali, along the old Ghodbunder Road and is also linked to the National Highway No. 8. The street leading up to the Ghodbunder fort and the MTDC guesthouse is the main thoroughfare along which most of the amenities such as shops are located.

MTDC guest house a prime landmark.



The other landmarks are of cursory importance in terms of regional significance and could be at best categorised as local landmarks as they are of the micro scale of for instance a well which doubles up as a meeting place and even road-side shrines.

Near the original location of the horse stables, alongside the creek is an old temple of Shankar Mahadev, called the Amruteshwar Mandir, whose foundation stone was laid by Nana Shanker Shet. This is a primary landmark and enjoys the distinction of being the other most identifiable structure next to the MTDC guesthouse.

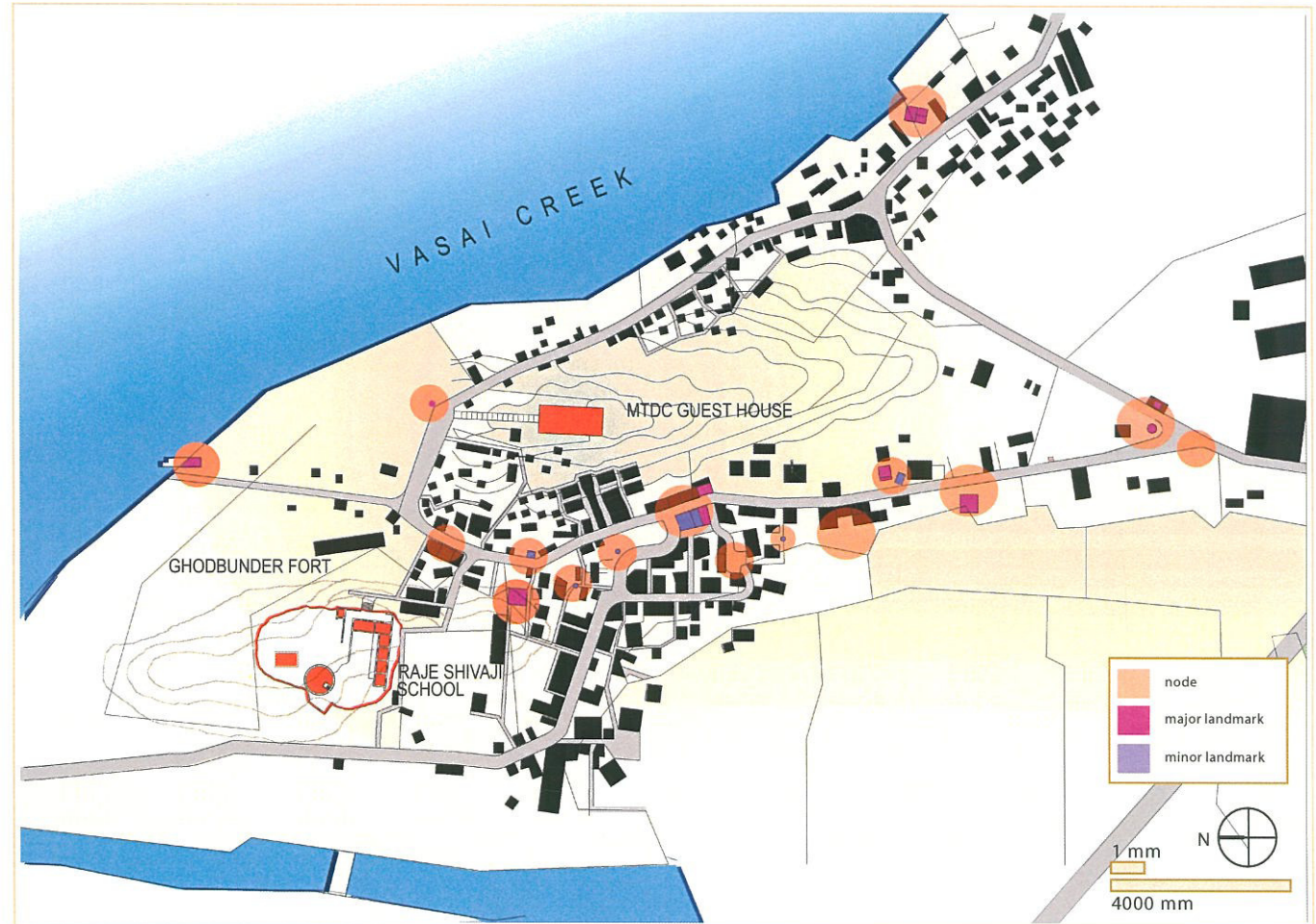
Banyan Tree at the junction, a major node leading to Ghodbunder fort



The temple of Shankar Mahadeo, a major landmark



Map showing the regional landmarks and nodes of Ghodbunder



6

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