

MATHERAN:
A COMPREHENSIVE HERITAGE LISTING
PROPOSAL

FINAL REPORT
VOLUME I

AN INTACH PROPOSAL

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FOR
**M.M.R. HERITAGE CONSERVATION
SOCIETY**

MATHERAN HILL STATION

A COMPREHENSIVE HERITAGE LISTING PROPOSAL

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PREFACE

Matheran sits on a plateau, in an area of only 8 square miles and at an elevation of 2600 feet, surrounded by the Sahyadri Mountains, an extraordinary legacy that has endured despite the ravages of time and neglect. While most other hill stations in India have succumbed to waves of tourists and unplanned development, Matheran has survived because it has resisted the automobile. However its survival is being seriously threatened by reckless demolition and building and by plans to introduce the automobile.

Matheran is not only a cultural legacy which needs to be protected and developed thoughtfully but it is also a great natural resource with immense intrinsic value that can contribute significantly to the ecological survival of the larger Matheran - Malang Gad region. It is therefore vital to look at not just its fascinating history but also to apprehend its immense potential as a muse for future generations.

The INTACH Greater Mumbai chapter, responding to a call for help from the Matheran Bachao Samiti, an Organisation of local people who are trying valiantly to stop reckless development at the hill station, decided to take up this project as the first step towards ensuring thoughtful development for Matheran. This study 'The Comprehensive Heritage Listing for Matheran Hill Station.' identifies the value of the built environment, as well as the natural and ecological character of the entire hill resource. It is intended to inform planning decisions and help the authorities, landowners and developers to devise schemes, which will respect the hill's unique environment.

The selection criteria adopted for the identification of cultural significance of the built and natural heritage has a comprehensive methodology, borrowing from both national and international experiences of such processes. It has special reference to 'Guidelines for Completing the INTACH Inventory of Historic Buildings' published by the INTACH Cultural Heritage Series. A special format for the 'List Cards' based on the above has been devised.

The study approaches Conservation as a powerful mechanism for sustainable development. It establishes values for each of the hill resources significant characteristics based on objective criteria, and uses these as a guide to formulate decisions regarding conservation and planning. However, it is important to recognise that these values are not static and are a constantly evolving process and the recommendations pay attention to new needs and present imperatives.

Matheran is worthy of the best that design and planning policy can provide and it is hoped that the recommendations made will be adopted so as to ensure that Matheran becomes the showcase it deserves to be. This is a seminal study that will hopefully lead the way for meaningful development planning and conservation for not just other hill stations but other environmentally sensitive places as well.

Tasneem Mehta

Convenor INTACH Greater Mumbai Chapter

8th September 2000

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VOLUME I

PART I, II, III DIAGNOSIS AND ANALYSIS

PART I – INTRODUCTION

1.0 Project Introduction

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PART I

INTRODUCTION

1.0 Project introduction

The project "Matheran: A comprehensive heritage listing proposal" is commissioned by the Mumbai Metropolitan (MMR) Heritage Conservation Society. The study was undertaken by the Indian National Trust for Art and Cultural Heritage (INTACH), Greater Mumbai Chapter (GMC), as project proponent, under the able guidance of Ms. Tasneem Mehta, Convenor, Mumbai Chapter. The study was done in association with Architect Kirtida Unwalla (Conservation) and Architect Suneeta Samant (Planner), appointed by INTACH as project consultants.

The motivation for the project was initiated by the Matheran Bachao Samiti (a local amenity group), who had felt the need for such a study since some time. The study has been compiled with an active participation of the President, Ms. Piloo Richardson and other members of the Samiti.

The project was initiated in May 1998 beginning with a series of physical field surveys on site. The three phases of the project consisting of Survey & Analysis, Detail analysis & Initial listing and Completion of listing and final Report have been undertaken with term wise progress reports and advice from the MMR Conservation Society.

2.0 Background

i) The MMR Final Regional Plan 1996 - 2011 (13.10.3, page 482) gives advice on the need to prepare or revise of Development Plans of Cities and Heritage Sites within the Region and assigning priority to Matheran Hill Station along with a few other places in the Region.

ii) The 'Draft Regulations (dated 15.6.1995) for conservation of heritage precincts and natural features within Municipal areas / other legally designated urban areas" (Government of India, Ministry of Environment & Forests) suggests the adoption of heritage regulations from an environmental angle by the respective municipal authority, providing subjective support for each specified area.

iii) The "Draft Notification for declaring Pachmarhi Region as 'Eco-Sensitive Zone' under the

environment protection Act, Government of India, Ministry of Environment & Forests", is a landmark Notification in the country for the protection of sensitive environments and natural resources of heritage value.

iv) While recognizing the minimal achievements in the adoption of Conservation Policy and Practice in the country, the Government of India and people at large should consider the historic environment as one of the most precious assets for economic regeneration. The natural environment of the country continues to be under threat from inappropriate development in the absence of sufficient legal base for control over drastic change. The vision for appropriate development should aim at a strong economy, a good quality of life, a sustainable future and opportunities for all.

v) Conservation of the historic environments is considered to be the most important tenet for sustainable development strategy for places such as the Matheran Hill Station.

3.0 Aims and Objectives

The **aim** of this study and Report is to define strategic policy options for the Matheran Hill Station, seeking to integrate Conservation, Enhancement and positive use of Matheran's historic environment with evolving patterns of regeneration.

The **objectives** are:

- 1) To identify the scope for Conservation and Sustainable Development of Matheran using a correct methodology.
- 2) To define the extent of the historic environment (and represent graphically on maps) of Matheran and provide initiatives for the management of change.
- 3) To define the extent of the wider region of the Matheran Hill plateau that has direct effects on the aspect of sustainability.
- 4) Identify the main land-use and other trends, which have led to change in Matheran's historic environment (either deterioration or enhancement). This will be done by assessing the existing Development Plan - 1987 and the proposed Draft Modifications to D.P. - 1998. To plot the trend graphically on the maps, sheets, charts and tables.

5) To assess the environmental, social and economic values of Matheran and use such values as the key to identification of cultural significance of Matheran.

6) To identify main issues and propose recommendations for policy initiatives.

7) To propose policy guidance for control over drastic change to components of the historic environment.

4.0 Main tasks

This Report is made up of four parts.

4.1 Situation analysis of the physical and non-physical aspects of Matheran's historic environment.

The description of Matheran's historic environment consists of two aspects - the physical and non-physical. The analysis of the aspects is done with an attempt to provide a comprehensive base for the identification of cultural heritage of Matheran. The historic development of the Matheran being closely related to the physical structure and the use of the place as a tourist resort, the situation analysis of these aspects is justified.

The physical aspects deal with the geographical, topographical and geological composition, the climatic and the rich resource base. The discussion emphasizes on the assets of the Hill Station, its potentials and the constraints.

The non-physical aspects portray the demographic structure of the town, its socio-cultural background, its level of infrastructure, the economic base and the development potential.

4.2 Identification of cultural heritage

This part attempts to identify the values associated with the urban structure of Matheran. Comprising of a set of three sections, which deal with the historic growth, and development of Matheran, architecture & urban design and planning, townscape and landscape, this part deals with the description of the urban environment, together with the cultural practice of its use.

The section on historic growth and development examines the chronological phases of development of Matheran. The identification of such historic phases provides a justified background for the evaluation of cultural

significance of a component of the historic environment.

The section on Architecture & Urban Design discusses the expertise involved in the historic culture of Matheran to fashion its built environment as per the demands of the natural elements of the hill. It discusses the architecture of the bungalows and other features with concepts of urban design. Such identification creates a database to understand the state of the elements of the urban structure, as they exist, their potential for continuity and change. The various stages of time frame in which typical built forms evolved also indicates the processes of transformations, not only in material and technical aspects, but also in the cultural settings of Matheran Hill Station.

The philosophy of the evolution of the town structure with reference to the contribution of the inherent nature (physiography) of the hill, the land-use allocations and above all the natural environment and ecology of the hill, etc. are discussed in the section on Planning, Townscape and Landscape. This section also discusses the administration/governance aspects of the land in Matheran. Policy guidance for Conservation and Sustainable development of Matheran has inferences from the discussions in this section.

This part on identification of cultural heritage of Matheran paves the way for the specific evaluation of the cultural significance of components of the historic environment of Matheran.

4.3 Evaluation of cultural significance of Matheran

This part evaluates the cultural significance of components of the historical environment of Matheran with a specific methodology. The methodology is processed in four sections.

'An approach to identification of cultural significance identifies four hierarchical levels (area extents) to provide a sound base for adopting policy guidance for the conservation and sustainable development of Matheran. The identification of 'Matheran - Malang Gad eco-sensitive zone at level one justifies the need for a radical change in the prevailing policies for controlling adverse change in the environment of Matheran. The other three levels identified have justifications for adopting the methodology of the approach.

To proceed from the above, a specific methodology has been adopted to assess the

'values' of components that constitute the urban structure of Matheran. The 'selection criteria for cultural significance' of Matheran underlines three (inter-related) key concepts to determine whether a component is worthy of heritage listing designation. The key concepts emphasize the inclusion of cultural or social values as well as the natural environment of Matheran. Such value-based designations provide the right context for the sustainable planning and management of the urban structure of Matheran in a holistic manner.

Character appraisals and assessments is provides in sufficient details at all four levels within this section.

The 'Grading (built and Natural heritage) and design control' forms the summation of this part of the Report. Designation allocation (grades of control I, II-A, II-B and III) to components of the historic environment (built and natural) is discussed in this section. A succinct statement for the scope of extent and design control (each grade) is also contained in this section.

The components of historic components are clearly outlined under the headings: built environment, built and natural (cohesive) environment and natural environment. Although this structure had been identified in the initial phase of the study, it is presented here, since it appropriately is a link between the identification & evaluation of cultural heritage of Matheran and the policy guidance proposal for the conservation and sustainable development of Matheran.

4.4 Policy guidance

This part provides the conclusions of the study and presents the aspects of continuity and change with an emphasis on emerging issues and broad based recommendations. The recommendations formulate the initiatives for policy guidance.

Policy guidance is proposed in this section in the context of the decision-making process concerning the planning and management of the built and natural environment. The policy guidance is offered for each component of the historic environment Matheran.

'List cards' for the components (built and natural) and 'Zone-wise (zones proposed for locational identification of the components) list of graded properties' are to be read in association with Maps (DRG 3, Heritage Listing Proposal) and referred along with the policy guidance.

5.0 The scope of urban conservation planning

Note: The philosophy for conservation of Matheran, adopted in this study has relied chiefly on the paper - "Value and Urban Conservation Planning: Some Reflections on Principles and Definitions" (a draft paper, 1996) by Silvio Mendes Zancheti and Jukka Jokilehto. While many other national and international approaches have been considered, this philosophy on account of its clarity and convincing logical discussions was mainly adopted.

A very conscious effort has been maintained in the process of this study to have a defined and settled scope of work in identifying the scope of conservation for a special place like the Matheran Hill Station. The traditional link of urban conservation with architectural restoration is recognised and an effort is made to continue the link while seeking to co-ordinate and regulate the process of continuity and change of an urban structure and its values.

At least two logical phases have been adopted in the study in relation to the process of urban conservation: the first phase is the identification of values (as social attributes of people at large) and the second is the decision to maintain such values. To complete the process, a third phase of action taken as a result of the first two is dealt with in part - by providing recommendations for policy initiatives and policy guidance (as design control). The policy guidance also provides recommendation for the management process.

The study thus formulates the decisions keeping 'Values' as central issue of conservation planning.

'Sustainable development is seen today as a powerful motivation for urban conservation planning. Basically it would consist of a process of urban development based on the constant reuse of existing built and natural resources, associated with a low input of energy for adaptation to new requirements conceived in the society. It is also viewed as a process founded in the local culture, in an equitable distribution of urban services, the use of democratic principles of management, and the maintenance and regeneration of traditional values and practices'

The above statement for sustainable development as defined in the above paper is also relevant to the eco-sensitive aspect of Matheran. The aspect of inter-dependency identified in the study, thus justifies conservation as a process that involves

the entire Matheran - Malang Gad eco-sensitive Zone. From the perspective of sustainability, the Eco-Zone and Matheran Hill contain several non-renewable resources (natural), which carry some of the most important cultural values of the society (identity, memory, self-consciousness and artistry) and resources capable of attributing values to new things through the creation of new processes based on established values.

As a product of humanity, Matheran and the Eco-Zone are composed of several historically recognisable parts or strata. Both the areas do not generally have a historic center as such, except the archaeologically significant hill forts of the Marathas (along the Matheran-Malang Gad hill chain), but possess a historic urban structure that regenerates itself through the use of characteristic elements and processes. The processes have been clearly identified for Matheran while the structure of the Zone is manifest in the integrity of its natural attributes, against all odds from the threat of being engulfed by the sprawl of Mumbai city.

It is important to understand that conservation should not aim to halt the process of change, or prohibit the introduction of novelties in an environment. On the contrary, it can well be a way to perpetuate a process of generation of novelty that can be appreciated on a more collective basis. This can be well achieved in the eco-zone and Matheran by managing the socio-economic structure vested in the potential of sustainable eco-tourism.

6.0 Limitations

The entire process of the study has been limited to field survey and identification of cultural heritage on the basis of available historic maps. The reference of the existing Development Plan (map) has had a serious shortcoming of insufficient legibility (for accuracy) to derive locational aspects of the features. Much time was thus spent on the identifying the authenticity of maps, records etc.

The policy guidance thus offered will be justified to titles of individual properties and feature identified for heritage conservation (allocated listing grades) in Matheran.

The aspect of finance mechanisms for the protection and enhancement of the heritage of Matheran and the eco-sensitive zone remain unidentified.

7.0 Scope for further study

This study proposes a set of recommendations and policy guidance at a holistic level. The action taken as a result will lead to conservation of the identified components. A supplementary set of guidance will have to be initiated, at specificity level, for each component of historic environment identified for policy guidance in this study. The requirement of such guidance has been recommended within each level of discussions in the Report (policy guidance and other sections).

The aspect of heritage economics should be undertaken within the context of eco-tourism and regeneration of the cultural heritage of Matheran. No attempt has been made in the past by the concerned authorities (Municipal Council and Maharashtra Tourism Development Department) to assess the effects of tourism on the fragile ecology of Matheran. There is an urgent need to undertake an Environment Impact Assessment (EIS) with regard to managing a sound eco-tourism plan.

More area/site specific assessments also need to be undertaken for the forestlands to ascertain the status of the resource. This will identify the need for interventions required on parcels of the forestlands and form a base for preparing protection and enhancement schemes for the same. Such study can begin with the natural viewpoints (headlands of the hill) visited regularly by tourists and has a larger threat of degradation. Enhancement schemes should have the focus of intent on protection and all conservation processes while avoiding mere beautification ideas should aim at visitor management aspects only.

8.0 Matheran - A Hill Station of British India

Note: This part has a main reference to "Resorts of the Raj, Hill Stations of India" by Vikram Bhatt besides other books on Matheran.

"HEALTH OF A BRITISH SOLDIER" remained an important concern for the colonial rulers throughout their stay in India. Optimising a healthy tenure of a British soldier in whom the Company invested large sums of money resulted in the establishment of hill stations in the country.

Extensive Medical reports prepared during the time for the well being of the British Troops linked good health to pure air and homelike environment, away from the scorching heat of the plains. The FIRST GENERATION OF MOUNTAIN TOP SANATORIA

GEOGRAPHICAL GROUPS OF INDIAN HILL RESORTS

- 1) KASHMIR GROUP
- 2) DALHOUSIE GROUP
- 3) SIMLA GROUP
- 4) MUSOORIE GROUP
- 5) NAINI TAL GROUP
- 6) DARJEELING GROUP
- 7) ASSAM GROUP
- 8) NORTHEAST DECCAN GROUP
- 9) CENTRAL AND NORTHWEST GROUP
- 10) BOMBAY GROUP**
- 11) SOUTHERN GROUP

TOTAL NUMBER OF RESORTS IS 80 - ESTABLISHED IN 30 YEARS BETWEEN 1820 AND 1850'S

BOMBAY GROUP

POONA -1800'
KHANDALA – 2000'
LONAVALA – 2800'
MATHERAN - 2460'
PURUNDHAR - 4470'
MAHABALESHWAR - 4500'
PANCHGANI - 4360'

were thus located on the most obvious choice – in the lower ranges of the Himalayas and the lesser mountain chains of south and central India.

In British India the place of residence of the British administrative or officers of a given district was called a “station” and a British soldier was “stationed” – the resorts thus are popularly known even today as “hill stations”. Beginning modestly in the early 19th century, the hill stations became major administrative seats for the British Colonial rulers. The healthy home away from home environment of the hills lured the English away from the oppressive climate of the plains and from 1864 onwards against all logic they decided to rule the country from Calcutta and Simla on a time-share basis. The two winter and summer capitals respectively are almost 1700 kms apart. Hill stations became the most extensive network of British settlements besides the Military Cantonments.

Beginning with Simla and Mussoorie, in 1819 and 1826 respectively, approximately eighty hill stations were built in just thirty years, all of them situated at elevations between 1,200 to 8,000 feet. In the Bombay group Mahabaleshwar was founded in 1825 and was a major administrative seat while Matheran and Panchgani were both founded in 1850.

Identified in the 1830's as a potential “military sanatorium” by the Governor of Bombay presidency Sir John Malcolm, Matheran along with the nearby hill of Prabal was initially ignored. Mr. Hugh Pointz Malet, the Collector of Thana, eventually founded Matheran only twenty years later in 1850. Having camped at the village of Chowk located in the south west of the hill spur, Malet's inborn love for adventure took him up the hill. Matheran along with Panchgani are amongst the last list of hill stations founded in British India. Malet made sure that Matheran, with no room to grow, developed as an exclusive hill resort.

The choosing of hill stations was simplified by the military department by developing a standard evaluation report describing these points: the general features of the plateau, approaches, supposed cost of the road, healthiness of the road, the climate, especially during the hot months and in the monsoon, history of diseases such as cholera, availability of water, the soil conditions, sites for barracks, materials for building and the flora and fauna. As part of the same culture the superintendents of the stations, as in the case of Matheran were medical officers who maintained records of the health of the station.

Matheran just 64 kms southeast of Bombay sits on a small plateau with its municipal limits admeasuring 7.2 square kms. The general height of the plateau is 756 M (2480') above MSL while the highest plateau at the Rugby Hotel is 803.45 M (2612') above MSL.

Although little information is available on how the stations were planned the regulations for different hill stations did not vary much. This explains why in a given region the general make up of the hill stations, remained similar mostly reflecting the concern for picturesque beauty and variety.

In the northern hill stations such as Simla and Mussoorie, the high central ridge most conspicuously developed into the most important institution of the hill – the Mall as a central element, the heart of the station. In the southern and central stations, the ridge had to be traded for the high elevations plateaus, as in the case of Matheran and Pachmarhi. The high-elevated plateau as well as the central ridge in each case was chosen for their relatively even grade, allowing residents to move around easily, without having to negotiate great climbs or descents.

The “bazaar” in Matheran replaces the function of the Mall to form the physiological heart of the station. The southern and central stations are spread out like the English countryside landscape as in Matheran. In contrast, the Himalayan stations, especially the central portions of the high elevation ones, are like English villages as in Simla.

The planning history of Matheran started with Malet identifying sites for the first five houses on the hill in 1850 and building houses on them for himself and a few friends. The formal survey of the hill, which was begun in 1851, was completed in the survey of India maps of 1866 and 1867. The Matheran municipality was formulated in 1905 with a president as the head.

The official surveying of the hill was started by Lord Elphinstone in 1855, the then Governor of Bombay. Being a great patronage of the hill he foresaw the expansion of the hill. Under his patronage the hill started it's career of a fashionable civilian resort, with the military only a part of the whole. Lord Elphinstone further foresaw the necessity for an adequate water supply and a system of sanitation. He established the dispensary and put the hill under a superintendent.

The initial popularity and patronage for the hill was mostly by Europeans and the leading Parsee and

Bohra citizens of Bombay. Amongst the rich and the famous were the names of persons like Jamshedji Tata, Sir Ratan Tata, Sir Pherozshah Mehta, Sir Cowasjee Jehangir, and Sir Dinshaw Petit etc.

Sir Adamjee Peerbhoy, a rich businessman and philanthropist of Bombay along with his son established the Neral - Matheran toy train service in 1907. This service presently owned by the Central Railway is still a favorite mode of travel by the tourists who are keen on the splendid views the hill landscape. Today the total number of plots on the hill is 510, ranging from 100 SM to 20,000 SM.

The typical Indian bungalow, which the British had already adopted widely for use in the plains and also exported to other colonies around the world, is also adopted for Matheran. It allows for the use of local building materials and a partly vernacular construction, an asset, while building in remote mountain areas.

The exodus of the British from Matheran had begun almost since the 1920's. Due to the political air during the freedom struggle, British resorts were treated with certain indifference and neglect. The rich native class could afford to just lock up and hold on to their Matheran properties after the British left.

Matheran is the only hill station in India, which has resisted the assault of the automobile. Change of land use building violations, demolitions, illegal quarrying and felling of trees have become a regular occurrence. The present Draft Development Plan (1987) and the proposed Draft Modifications (1998) are ill conceived and devoid of sensitivity towards the fragile ecology of the hill. Besides other destructive proposals it advocates the introduction of a vehicular road into the hill – which spells the doom of the very culture of Matheran.

Ignorant and overzealous beautifying ventures also pose a threat. All this is likely to cause an irreversible damage to the fragile HEALTH of the hill. The future of this rich cultural, natural and architectural heritage demands the highest degree of sensitive approach to development planning.



One-tree-hill, Matheran, ca. 1870. Hugh Pointz Malet first reached the top of Matheran plateau via this location. The first British Library.



A view of the Matheran hill, ca. 1870. After *Letters from India and Kashmir*.

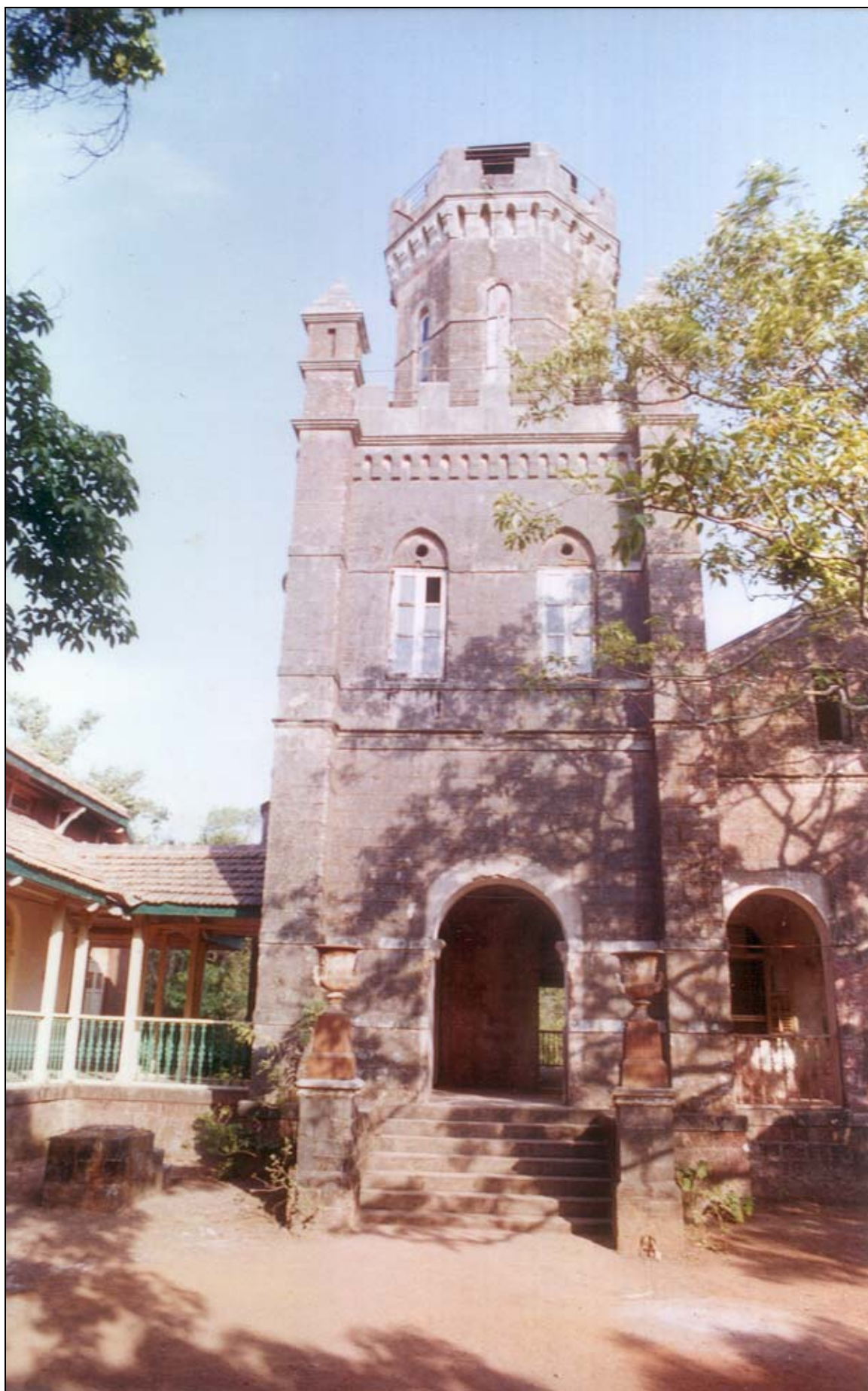
Reference from "Resorts of the Raj"



Maldunga House



Lord's Hotel



Tour Petit Bungalow

PART II

SITUATION ANALYSIS

1.1 Introduction

1.2 Physical aspect

1.3 Non-physical aspects

PART II SITUATION ANALYSIS

1.1 INTRODUCTION

The chapter 'Situation Analysis' discusses various **Physical and Non- physical aspects** associated to the hill station of Matheran. Since the historic development of the town and the cultural significance of its components are closely linked with these aspects, the discussion forms a valid basis for the process of identification and evaluation of cultural heritage.

1.2 PHYSICAL ASPECTS

1.2.1 Location

The hill station of Matheran is located on a small isolated plateau southeast of Mumbai city. It is a component of Karjat Taluka of Raigad district situated in the northern part of Konkan Division in Maharashtra State. Geographically it is situated between latitudes 18 deg.57' north and 19 deg. 1' north and between longitudes 73 deg. 17' east and 73 deg.19' east, at about 48 kilometers from the shore of Arabian Sea.

1.2.2 Area / Administrative Status / Designation

Identified as U1 (Urbanizable zone -1) as per the Mumbai Metropolitan Regional Plan of 1996-2011, the urban area of 7.26 sq. kilometers is administered by Matheran Hill Station Municipality ('C' class Municipal Council).

Though 'urban' by administrative status Matheran in fact is a unique settlement set amidst dense forest.

1.2.3 Accessibility

Matheran is 64 Kms from Mumbai City by rail and linked to Neral railway station on Mumbai-Pune central line by a 21 Kms. mountain railway. A 12.6 Kms. motorable road from Neral serving Matheran terminates at Dasturi naka located at 2.7 kms. downhill from Matheran bazaar. Being a pedestrian Hill station, entry of automobiles on the plateau is banned by law.

1.2.4 Physiography

i) Generally running in north south alignment, Matheran hill is adjoined by two parallel spurs to the east and west, thus forming an interconnected system of numerous small plateaux occurring along well-defined ridges. The general height of the hill is 756 Mts. (2480') above MSL while the highest plateau at the Rugby Hotel is 803.45 (2612') above MSL.

ii) The undulating and irregular plateau of Matheran is surrounded by deep ravines, in some cases with a sheer drop of 600 meters. All along the edge, exist projecting rocky headlands or promontories overlooking the valleys each forming a natural viewpoint.



Natural view-point

iii) The central body of the plateau has its main ridgeline from the Rugby plateau running southward upto Chowk Point, the southern tip of Matheran. The northward extension of the central ridge is slightly curved and tilted eastwards which connects with the eastern spur near Simpson's Tank area. The Eastern spur with north south alignment has a well defined ridgeline terminating at Panorama Point in the north and Garbut Point in the south. The western spur with Porcupine Point and Louisa Point as its northern and southern tips respectively is connected to the central ridge at the Rugby plateau by an east west ridge. The big and small plateaux formed along the ridgelines are fairly flat, rocky and scantily wooded. Rugby Plateau, Olympia Plateau and Mount Barry are among notable plateaux.

1.2.5 Profile of the Hill

i) The profile of Matheran Hill resembles the western edge of Sahyadri, which ends abruptly with an escarpment resembling a sheer wall at places.



Profile of Matheran Hill

ii) The escarpment of Matheran hill has a stepped profile as the trap constituting the body of the hill lies in several layers and each layer is separated from the other by a narrow terrace.

iii) Deep ravines or 'Daras' are formed at the junctions of the spurs with the main body of the hill and near the projected headlands. Ghogal Dara, Galt Dara, Ghabad Dara, Gijnai Dara and Takya Dara are among major ravines associated with the edge of the plateau.

1.2.6 Natural Drainage

i) Besides numerous rills and channels draining into adjoining valleys, two natural catchment areas - Pisarnath ravine and Dhodamba Nalla form major drainage alignments discharging the surface runoff in westward valleys. Both the locations are bunded to form reservoirs namely the Charlotte Lake and Simpson's Tank respectively.



Catchment of Charlotte Lake

ii) The profile of the plateau has natural slope ranging between 5 deg. to 45 degrees. Fairly gradual slopes occur near the plateaux and in the charlotte lake catchment areas. Natural slopes occurring near the Panorama spur and Simpson's Tank area are more pronounced hence unsuitable for development.



Olympia Plateau

iii) Matheran hill forms catchment of three rivers- Gadhe, Dhavari and Ulhas. The discharge from north-western areas of Matheran hill leads to Gadhe river that further meets the Panvel creek. The eastern slopes of the main body and western slopes of Garbut spur, drain into the narrow valley of Katwan. The Varosha river flowing through the gorge formed between Matheran and Prabal hills carries the discharge from western slopes. Varosha river and Katvan stream flowing southwards join the Dhavari river near Chowk village, where the course is bunded by an earthen embankment of Morbe Dam forming a large reservoir. The eastern slopes of the Panorama-Garbut spur drain into the Ulhas river that flows northwards.

1.2.7 Geology

i) Matheran hill is mainly composed of Trap (Basalt) with the entire plateau capped with red laterite rock in average thickness of 12 to 15 Meters. The formation of laterite or the 'laterisation' is attributed to the chemical weathering of the basalt occurring over the years due to heavy rainfall which actually leads to leaching of all bases leaving behind the concentration of iron and aluminium.

ii) The laterite is a soft rock, purplish red in colour variegated with yellow, green, white and amber tints. When freshly quarried, it can be easily cut into blocks while on exposure to atmosphere it becomes extremely hard. It is an ideal medium for masonry as well as mortars.

The trap constituting the body of the hill lies in several layers of enormous thickness, which are well seen from some of the points. These layers normally having plain surface are columnar in certain locations.

iii) The trap varying in chemical composition disintegrates and forms soil on the sloping hillside. In this soil, bushes and large trees have sprung up and the consecutive layers are thus separated by belts of forest growing on the slopes that have been formed by the detritus.

iv) The depth of laterite crest varies from place to place on the plateau. Along the edge of the plateaux one can observe masses of laterite rocks of great size, weathered and rounded, in all stages of decomposition. The layer of laterite is porous and highly absorbent behaving like a huge sponge holding the rainwater initially and then releasing it gradually.

1.2.8 Soil

Matheran is known for its red soil or the lateritic soil. The laterite cap produces a poorer soil but when completely decomposed and well mixed

with vegetable mould, can support large trees, especially at higher elevations like Matheran. The lateritic soil found in Matheran having low pH value of 4.5 and high percentage of Silica and Alumina is ideal to support semi evergreen type of forest. The depth of topsoil rich in essential organic matter varies from 15 Cms. to 35 Cms. on the plateau.

1.2.9 Hydrology

The Deccan Trap forming the body of the hill is a bad aquifer so the hill has very less potential of groundwater. Matheran receives average 37200 million Liters of rainfall per season out of which 930 million liters forms the annual recharge. Most of it washes down the great slopes as measures of water harvesting are negligible on the hill. Some amount of water that is temporarily absorbed by the laterite cap is released gradually in form of springs.

1.2.10 Natural Springs

The underlying trap drains the water absorbed by the laterite to the edges of the plateau where the springs issue out from the junction of the laterite crest and the trap. Around the edge of the plateau there are numerous natural springs, few of which are perennial and others seasonal. Over the years many springs have dried or reduced to meager flow- either due to overgrowth of forest or the increasing temperature of the hill.

1.2.11 Regional Context

Matheran Hill forms the major component of the chain of hills (The identified Matheran-Malang Gad hill chain) comprising a North Konkan Coastal range - an outlier of Sahyadri range. The hill chain falls in the Konkan Coastal Lowlands of the Maharashtra State. The chain oriented in general north south alignment includes Malang Gad, Chanderi, Peb, Matheran and Prabal hills in their sequential order from north to south. The lower hill slopes of the chain are interconnected and continuous while their crests of varying heights are well separated. The entire chain being densely vegetated is classified as Forest zone as per MMR. Numerous big and small foothills exist along the range either detached and forming outliers or close to the base forming an assemblage. The western slopes of the hill range together with the low-lying plains on the west (classified as Green zone) comprise the catchment of numerous rivers, which finally discharge into Panvel creek. The eastern slopes of the range are steeper and more abrupt and are adjoined by a narrow belt of low-lying plains. These form the catchment of river Ulhas that has been distributed among Forest zone, Green zone

and Urbanizable zones (U1 & U2) in parts as per M.M.R. Plan.

1.2.12 Immediate Surroundings

Matheran Hill is surrounded by smaller hills and ranges forming ravines and valleys around it. A few notable historic forts exist in the neighboring areas notable as landmarks. To the north of the hill along an extended spur beyond Panorama Point lies the Peb Fort. The spur of Nakind further connects to the Chanderi Fort, which is identified from its flattened apex. A formation comprising of pyramid shaped twin hills lying on the west of Peb Fort is known as Cathedral Rocks or Baba Malang. The foothill areas lead to flatter plains where village Dodhani and Gaghashwar dam can be spotted.



North Eastern view from Matheran Hill

The eastern spur of Matheran extends beyond Garbut Point initially in form of a long and flat terrace followed by an irregular profile. A high peak in this formation is known as Sonderi Peak. The eastern spur is adjoined by a vast landscape with the Neral village at the base surrounded by numerous hillocks, hamlets and water-bodies. To the southwest lies the sister hill of Matheran - the Prabal Hill - known for the historic fort of Shivaji. Narrow and deep valleys of Varosha and Katwan are formed along the western and eastern escarpments respectively. These thickly wooded and rugged valleys are extremely picturesque.



Southwards view from Matheran Hill (Chowk)

To the south of Matheran hill lies flatter landscape dotted with numerous small hamlets, village Chowk being one of the largest among them. The vast expanse of the Morbe reservoir can be seen in the close vicinity.

1.2.13 Climate

i) Throughout the year the climate in Matheran is cool, pleasant and salubrious. However it is observed that over a period of 80 years, the average temperature of the hill has increased by 2 degrees while the annual rainfall has decreased by 780 Millimeters.

ii) Summer, monsoon and winter are the main seasons in Matheran. The average annual temperature ranges from 17 deg. Celsius to 30 deg. Celsius with the lowest temperature upto 7 deg. Celsius in winter. Winter months from October to February are cool and dry while the months of April and May are the hottest. The monsoons in Matheran that spread over four months from June to September are particularly heavy and continuous. The annual rainfall on the hill amounts to 5167.5 mm. with the maximum occurring in the month of July.

iii) In March and April, hot winds from Deccan plateau blow over Matheran. By the month of May south westerlies start blowing heralding the approaching the monsoons. Towards the end of the month mist gathered in the western valleys starts rising up and prevails over the hill. There are occasional showers and thunderstorms in the evening.

1.2.14 Resources

i) The dense forest cover that is rich in bio diversity, the land that holds immense potential to support holistic biotic life, abundant annual rainfall, clean and pure air, pleasant and healthy climate and the overwhelming scenic beauty of the landscape are the valuable natural resources, Matheran is known for.

ii) There is no local agricultural or horticultural production. All essential commodities from foodgrains to building materials are to be supplied from outside. The economy of Matheran is solely based upon tourism, which capitalizes on the healthy natural environment. Its dependence on outside sources and the pedestrian status also contribute to a share of local occupations.

iii) No attempts are made so far to exploit the natural energy sources such as solar and wind energy. The immense energy potential that lies in recycling of the solid wastes produced on the hill also remains untapped.

iv) The local human resources hold a notable significance in the well being of the place. The hard labour contributed by the local population substitutes for the goods vehicles and automobiles thus helping to prevent pollution and maintaining the sustainability of environment.

1.2.15 Forest

i) The word 'Matheran' itself is suggestive of the dense forest cover that exists on the crest of the hill. Before its development as a British hill station the plateau was fairly degraded due to overgrazing and the practice of shifting cultivation adopted by the hill tribes settled in downhill areas. Over the years, due to strict measures of forest protection, the forest cover in Matheran has been regenerated.



Dense forest cover

ii) The forest type in Matheran is classified as semi evergreen to evergreen with both evergreen and deciduous species. The heavy rainfall gives these forests an evergreen aspect while the lateritic soils with steep slopes account for their stunted growth. Ideally with the same amount of rainfall a luxuriant evergreen forest can grow.

iii) The forest consists of a three tier system which includes the upper storey comprising tall trees, the middle storey formed of medium height trees and bushes and the lower storey of cryptogamic flora mainly including the ferns and flowering plants. The lower storey, which helps maintaining the forest ecosystem, is most sensitive and vulnerable in case of Matheran.

iv) The average height of trees found on the plateau is 15 to 20 Meters. The forest densities in Matheran differ from place to place owing to the variation in altitudes, exposure to southwest monsoons, sheltered conditions, soil depth and soil type. The level of interference and the biotic pressure exerted by increasing tourist influx are also major factors affecting the quality of forest. As a result, richer and denser forests exist in the northern parts of the hill near Monkey Point and

Simpson's Tank areas, along the Garbut spur and near Louisa Point. The plateau areas are scantily forested while the forest in bazaar area and along M.G. Road is greatly degraded.

v) Principle forest species of Matheran - Among the larger and more important trees are Jambul (*Syzygium jambolanum*), Par-Jambul or wild Jambul (*Olea dioica*), Umbar (*Covellia glomerata*), Ashta (*Urostigma religiosum*), Ain (*Terminalia glabra*), Hirdi (*Terminelia chebula*), Asauna (*bridelia Montana*) and Nania (*Lagerstromaemia parviflora*). Small and medium size trees include Anjani (*Memocyclon edule*), Ursool (*canthium umbellatum*), Pesha (*Actinodaphne lanceolata*), Ghela (*Randia dumitorum*), Bhomia (*Glochidion lanceolantum*), Dindee (*Leea Staphylea*) etc. Medicinal plants like Hirda, shikekai, Pangli, Agaswel and Ragatrod etc. are found abundantly in Matheran.



Karvi – Commonly seen in forest areas

Karvi used for thatching of huts is also found in plenty in form of undergrowth in the forest areas. Numerous types of ferns, creepers, climbers, flowering plants, orchids and grasses also adorned the forests in Matheran in the past while the ecologists claim that some of the rare and important species are gradually disappearing from the forest.

1.2.16 Wildlife

i) The forest ecosystem supports a wide range of wildlife in Matheran. Among the birds, cuckoo and bulbul are most common while sun bird, Robin, Thrush, Oriole, Barbet, spotted dove, purple honey sucker and shriek are seen in dense forests.

ii) Wild beasts such as panthers and tigers are a rare acquaintance on the hill while the foothill areas especially in the north and west are inhabited by these and many other animals like hyena, wild cats, antelopes and giant lizards. On the hill are found squirrels of many kinds, rodents, hares and bats. The most conspicuous

are the monkeys that are present in sizable population and found mingling with people almost anywhere. The Bonnet Macaque, the Rhesus Macaque and the Hanuman monkey or Common Langoor are the commonly seen species wandering in large troops on the hill.



The Most original inhabitants of Matheran

iii) Besides birds and beasts thousands of insects, moths and butterflies dwell in the natural wilderness. Matheran forests support some of the rarest species of plants and creatures that posses great scientific and ecological value.

(Detailed inventory of Forest wealth and wild life needs to be taken while the observations in the text are borrowed from scientific studies on Matheran published earlier.)

1.3 NON PHYSICAL ASPECTS

1.3.1 Population

i) The population of Matheran comprises larger percentage of floating population as compared to the permanent resident population. According to 1991 census permanent population on the hill was 4708. The records indicate that the permanent population was more or less stagnant upto 1961 displaying natural growth of 0.12% to 0.17% per annum while after 1971 the growth-rate has increased upto 2.01% per annum. The change is attributed to increasing tourist influx that has boosted the job opportunities on the hill and checked the trends of out-migration for employment. On the contrary the tourism industry is now promoting in-migration trends.

ii) The floating population that exceeds the resident population is on an increasing scale since past three decades. As per the municipal records the influx of tourists visiting on weekends has increased from 4000 tourists in 1977 to 7500 tourists in 1994 and approx. 10000 tourists in 1996.



Local Village settlement

1.3.2 Social Composition

i) The permanent population mainly resides in the local settlements in the east of bazaar area and in Indira Gandhi Nagar near Galti Dara. These are traditional residents settled in Matheran when the hill was developing. No local settlement existed on Matheran plateau before the British discovered it and transformed it into a fashionable hill resort. The existence of

Occupation based social structure on the hill, is closely associated to the historic evolution of the place. When initially developed, the local village settlement was composed of caste and occupation based clusters of houses. Over the years it has gradually filled in with more houses and grown into a mixed society. The village in occupied by the shop owners and the service population engaged mostly in hard labor.



Caretaker's residence in a bungalow plot

ii) The families of caretakers or malis residing in the outhouses of bungalows also comprise a sizable local population. The owners of early hotels are among the most traditional residents of the hill. Even today the old hotels are being managed by their descendents who form an influential population group.

iii) Most bungalow owners though not categorised as the permanent residents, have great affinity for the place and love to visit Matheran at least once or twice a year.

1.3.3 Local Amenity Groups

Local population belonging to all sections of society has immense concern for their unique town, its environment and the built heritage. A local amenity group- 'Matheran Bachao Samiti' comprising representatives of local population groups and the bungalow owners, is an influential organisation aiming at environmental protection and heritage conservation. The Hotel Owners' Association of Matheran deals with the issues related to hotel industry. Besides these there are local unions formed to protect the interests of various occupation groups such as ghodawallas, hamals and the headloaders etc.



Beasts of burden

1.3.4 Economy

i) The economy of Matheran is mainly based on tourism and other dependent occupations.

The pedestrian status of Matheran, the lack of goods transport facilities and dependence on outer region for essential supplies are the associated factors that have greatly contributed in shaping the local economy.



Ghodawallas - Tourism based occupation

ii) Working population comprises about 44.50% of the total population. The workers engaged in primary sector are negligible (less than 1%) as the agricultural activities are totally absent on the hill and a very few are engaged in live-stock and forestry. 9.71% of total working population are involved in secondary sector which includes construction and industry. No industrial activity except manufacturing of handmade presentation articles and leather-ware is present on the hill. Some people are employed in nearby industrial areas outside Matheran such as Badlapur, Ambarnath, and Ulhasnagar etc. Population engaged in tertiary sector is sizable- that upto 89.67%. Tertiary sector mainly includes trade and commerce, transport and communication, headloaders, hamals, rikshawwalas, ghodawallas and guides etc. The flourishing hotel industry is hotel industry is supporting a large percentage of immigrated employees besides the local folks.



Hotel Industries supporting local Population

1.3.5 Tourism

i) Once a fashionable holiday resort for the rulers and the elite, this little hill station has now

become a favorite nature retreat for ALL. Proximity to the major urban centers like Mumbai and Pune has added to its popularity and prosperity.

ii) Matheran's rugged terrain, luxuriant forests, pollution free environment and pleasant climate are a treat for the city dwellers. Most tourists visit Matheran to be with the nature and enjoy her splendors. Matheran is also an enormous storehouse of biotic wonders that lure the ecologists and naturalists. It is an exciting destination for monsoon trekkers and adventure lovers and a delight for photographers. Matheran is in fact an ideal ground for ECO-TOURISM.



Matheran – An ideal ground for Eco- Tourism

iii) However, over the years the concept of tourism is certainly changing and the amount of 'fun' loving tourists is dangerously increasing. The popularity of hotels equipped with luxurious facilities for recreation and amusement such as swimming pools, health clubs and discotheques is indicative of the changing attitude of tourists.

1.3.5a Peak Seasons and Tourists

Weekends throughout the year and annual school vacations for summer (April, May), Diwali (October, November) and Christmas (December) are the peak seasons in Matheran. Tourists visiting Matheran in monsoons are on increasing scale over past few years. The visitors mainly include couples, families, and groups of children and youngsters. Lack of convenient transport facilities and the rugged topography dissuades the old and the handicapped tourists to some extent.



Changing taste of tourists

1.3.5b Tourist Infrastructure

i) Hotel facilities in Matheran are fairly adequate to satisfy the number of tourists and their range of affordability. Presently there are about 60 hotels, four of which belong to three star category. Besides these, informal and cheaper lodging and boarding facilities (unregistered) are provided by many households in the village settlement (bazaar area). These are mainly occupied by the low affordability groups of tourists visiting Matheran.

ii) The rates of hotels differ from place to place according to the facilities offered. Booking of hotels is done locally or directly from Mumbai and Pune in most cases. Majority of hotels in Matheran are vegetarian. Some offer only lodging facility where the rates are reasonable ranging between Rs.80 to Rs. 150 per person per day while most of the hotels offer package rates inclusive of boarding that range from Rs. 400 to Rs. 1250 per person per day. Off-season rates are comparatively lower. Larger hotels provide various categories of rooms like double or four bedded rooms, deluxe rooms, luxury suites, cottages etc. with or without air conditioning facility. Holiday camp of Maharashtra Tourism department (M.T.D.C.) is located at Dasturi, 2.7 Kms. from bazaar area. Other hotel facilities are mainly concentrated within a walkable distance (about 1 Km. radius) from bazaar area. Besides hotels sanatoria, holiday camps and corporate guesthouses also provide accommodation facilities to restricted groups. A few bungalows are also let out to tourists on prior bookings. On the whole, hotel facilities are satisfactory. Decent facilities at reasonable rates for large groups are however insufficient. There is no facility of centralised information network for the tourists to offer guidance regarding the available hotel stock and it is observed that the new tourists are often misguided by the agents and middlemen.



Leisure walk along a quiet path

iii) The hill station offers immense opportunity to the tourists to experience the nature in its pristine

state of wilderness as they walk along the numerous forest paths or enjoy the thrill of horse-riding. Matheran is full of picturesque locations, adventure trails and picnic spots most ideal to create a wholesome and refreshing vacation.

iv) The bazaar of Matheran offers variety of attractive gift articles, art pieces and curios for the 'shopping ' crazy. Though not produced locally, Matheran is famous for its leather goods and foot-ware. Eatables like chikki and honey are also largely sold. Restaurants and fast food joints, ice-cream and cold-drink parlors with outdoor sit-outs add the essential charm to bazaar spine.



Maldunga House – Bungalow turned into Corporate Guest House

1.3.5c Contribution of Built Heritage

The British lent a unique townscape character to Matheran while they developed it as a full-fledged hill resort. The historic pattern of the town and its built heritage have continued to survive till date while maintaining their historic integrity.



Ranchhoddas Hindu Sanatorium

Besides contributing to the unique character of the landscape and the townscape, the structures and their settings have actively participated in the development of tourism on this hill station and responded positively to its continuity and change. Most of the hotels, sanatoria and guesthouses existing today are examples of meaningful

adaptive reuse of old structures while many buildings hold potential for continued use.

1.3.6 Transport and Communication

i) Being a pedestrian hill station, the entry of automobiles on the hill is limited only to emergency vehicles. A large parking space for private and goods vehicles is developed at Dasturi Naka, 2.7 Kms. downhill from bazaar. Besides walking, hand rickshaws and horses serve as the means of transport between Dasturi and Matheran bazaar.

The goods unloaded at Dasturi are transported uphill on horsebacks or handcarts which in fact, is a cumbersome and inhuman mode of transport but it supports the livelihood of hundreds of locals.



Pay & Park – Dasturi Naka

ii) Private share taxis ply between Neral and Dasturi throughout the year for the convenience of the tourists. Pay and Park facility for private vehicles is available at Dasturi as well as in Neral town. The travel by private taxis is more expensive compared to the toy train, yet it is getting more popular due to shortcomings of the train travel.

iii) The toy train is an added attraction for the tourists visiting Matheran. The railway is a unique mountain rail of two feet gauge laid between Neral and Matheran in 1907 by Sir. Aadamji Peerbhoy.



Aman Lodge station

The single line track of 21 Kms. is zigzag with numerous bends exposing the travelers to magnificent views on its entire stretch. After halting at three intermediate stations the train reaches Matheran bazaar after about two hours. The time taken for the downhill journey is comparatively lesser. Daily, six train trips are scheduled for the up and down journey. The trips are uncertain and reduced to two per day in monsoon months. The capacity of a single train with three bogies is 90, which is much insufficient to cater to the large number of the tourists in peak seasons. The tracks have been repaired lately and new carriages and diesel locomotives have been added to the old stock. The facility of goods transport is not available on the railway.

1.3.7 Trade and Commerce

i) Besides the shopping facilities for the tourists, other shops catering to the daily consumer needs are also located in the bazaar area. Kapadia Market is an organised market place that was designed and laid out when the system of weekly bazaar was prevailing. The market now owned by the municipal council mainly comprises vegetable vendors, mutton market and a few shops selling miscellaneous commodities. The excellent complex of Kapadia Market spread over large area is ideal to develop into a vibrant shopping plaza if appropriately managed.



Shopping street (New Market)

ii) With the growth of tourism, the bazaar is sprawling in extent. Traditional open spaces between old structures along bazaar spine have been filled up with new shops. Informal stalls and kiosks have cropped up all along M.G. road and important branching streets off M.G. road. Stalls of substandard design and construction flashing with colorful hoarding and advertisements have changed the streetscape of bazaar spine.

iii) Besides shops and stalls informal vendors and petty sellers are commonly seen in the bazaar thoroughfare and near the spots frequented by the tourists. These are also spotted along the major forest paths and the

railway tracks being the common pedestrian routes.



Bazaar Spine

1.3.8 Social Infrastructure

i) There are two primary and two high schools in Matheran. Balwadi facility is also available. As the college facility does not exist on the hill the students have to depend on the nearby urban areas - Karjat, Khopoli and Kalyan- for college education. The 14 bedded municipal hospital with maternity and outdoor patients dispensary caters to the basic medical needs of the town while for emergency purposes the patients have to be taken to nearby towns. Emergency ambulance service is available on the hill. Other notable community facilities include assembly hall, gymnasium, social welfare center and a public library.

ii) Olympia Race course and Matheran Club are the recreation facilities developed by the British which are in active public use even today. Other parks and playgrounds include Paymaster Park, N. Lord Park and Panday playground, which were developed later by renowned personalities of Matheran. Religious structures catering to all beliefs exist in Matheran most of which are built in 19th century.

1.3.9 Public Utilities

The hill station is provided with all basic public utilities such as postal facility, telephone facility, piped water supply and electric supply. The electric supply for the domestic, commercial and community purposes is under the control of Maharashtra State Electricity Board (M.S.E.B.). Security services are undertaken by the Matheran Police Department. Facility for fire fighting is lacking on the hill.

1.3.9a Water Supply

i) The Charlotte lake reservoir built in 19th century caters partly to the demand of domestic and commercial water supply (capacity 12.6 crore

Liters). An additional supply is provided by a pipeline from Ulhas river. The service reservoir and filtration facility is located on Rugby plateau, the highest point in Matheran, from where the water is supplied to all properties by gravity. With the growing number of hotels, the demand for water supply is increasing and the town suffers acute shortage of water in summer, the peak tourist season.

ii) The Simpson's tank reservoir does not contribute to the town water supply while it holds great potential for conserving larger quantity that is apparent from its topographic configuration. Presently the tank with the capacity of 135 lac litres supplies water to Jumma Patti and Water Pipe railway stations. Other water bodies on the hill such as Walker's tank and various natural springs also do not contribute to the water supply.



Walker's Tank

1.3.9b Sanitation and Garbage Disposal

i) As the town is not served underground sewerage system, the septic tanks and soakpits located in individual properties cater to sewage disposal. In village areas, community toilets attached with septic tanks are provided per housing cluster. Over the years, informal hutments are gradually occupying all vacant areas within the village and the small housing plots are being put to hotel use. Consequently, the tendency of disposing raw sewage down the valley is increasing. It is observed that the new hotel complexes developing near the bazaar spine are commonly discharging their untreated sewage in the eastern valley.

ii) There is no town level management for the disposal of garbage that is produced in voluminous quantities especially by the hotels and let out untreated either in the valleys or in forest areas. Plastic wastes produced in dangerous quantities are blocking natural drainage channels and contaminating the soil.

iii) The growth of tourism is causing glaring environmental problems on the hill and the

surrounding valley areas are being seriously degraded. Immediate and strict action needs to be taken in this regard to save the hill from disaster.

1.3.9c Cemeteries and Crematoriums

Cemeteries and crematoriums for all religious groups and castes were laid out on independent plots and appropriate locations as important components of the historic town structure. Most of them are in neglected state today.

1.3.10 Administrative Set-up

i) Administration of Matheran is handled by Municipal Council with the President as its administrative head. The municipality was initially formed in 1905 up to which the administration was in the hands of Hill Station Committee that was founded in 1870. The Hill Committee functioned under the supervision of the Superintendent who was the sole administrator of the hill.

ii) Between 1861 to 1891 a yearly grant (station fund) was released by the government towards the maintenance of the hill. Since the withdrawal of Station Fund, Matheran supported itself on local assets like ground rents, various taxes and duties, and income acquired from auction of plots. By 1925, Matheran municipality was entirely self sufficient and the richest and municipality in the southern division.

iii) For the purpose of administration the municipal area is divided into 10 electoral wards. The Municipal Council headed by the President consists of 15 board members out of which 10 are councilors elected from each ward and 5 are nominated members. The council is divided into five committees including the standing committee. The working committees look after various civic functions such as 1) Water works and drainage 2) Sanitation, Medical and Public Health 3) Public works 4) Development and Education.

iv) Administration wing is a separate department headed by Chief Officer appointed by State Government. The responsibilities of this wing include 1) General Administration 2) public Works 3) Octroi 4) Sanitation 5) Shop and Establishment. The department also looks after execution and implementation of council's decision.

v) Much after the establishment of Municipality the post of Superintendent was abolished (1933). However it was revised on public demand after a few years. Presently, the Superintendent is the

in-charge of the Revenue Department, under the Collector of Raigad District.

1.3.11 Planning Authority

Till 1970s, Collector of Colaba District, the head of Revenue Department was the final authority in the matters of land involving lease status, taxation, sale, purchase, transfer, change of use, development, new construction and additions / Extensions etc. as the ownership of entire land in Matheran lay with the Revenue Department. Matheran Municipal Council was subsequently entrusted the power of a Planning Authority as per the Maharashtra Regional and Town planning Act of 1966. Presently the Council, (under the authority of Deputy Directorate of Town Planning, Alibaug, Dist. Raigad) deals with the Physical planning, development and construction on the hill while the Revenue Department is in-charge of other matters related to land ownership.

Mumbai Metropolitan Regional Development Authority (M.M.R.D.A.) is the concerned Regional Planning Authority for Matheran.

PART III A IDENTIFICATION OF CULTURAL HERITAGE

1.0 HISTORIC GROWTH AND DEVELOPMENT

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- 1.4 Phase - 2 (1854 – 1900)
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2.0 ARCHITECTURE AND URBAN DESIGN

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3.0 PLANNING, TOWNSCAPE AND LANDSCAPE

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- 3.2 Historic Town Structure
- 3.3 Present Situation
- 3.4 Inference

PART IIIA IDENTIFICATION OF CULTURAL HERITAGE

1.0 HISTORIC GROWTH AND DEVELOPMENT

1.1 INTRODUCTION

The chapter 'Historic Growth and Development' takes an overview of chronological developments in Matheran over a span of about 150 years, beginning with its discovery by Hugh Malet in 1853.

The detailed account of history focuses on the conscious, sensitive and planned development of the plateau by the Europeans into a fashionable resort followed by its subsequent growth and transformation with changing times and events. The present day transformations seen in the context of historic developments emphasize the need for heritage conservation.

1.2 PHASES OF DEVELOPMENT HISTORY

The development history of Matheran is divided into five chronological phases on the basis of significant and distinct developments associated to each phase.

Phase I (1850 - 1853)

The first phase focuses mainly on the discovery of Matheran, when the hill was dragged from its obscurity by Mr. Hugh Pointz Malet and introduced to the world as a potential hill resort of India. The preliminary groundwork done in this phase laid the foundation for its development as a prosperous hill resort in the future.

Phase II (1854 - 1900)

The second phase is devoted to the initial planned growth of the hill into a fashionable hill resort of the British. The physical structure of the settlement with its paths, plots and civic infrastructure crystallized in this period. This phase thus, provided a vital reference and a basis on which the town would become a popular hill resort.

Phase III (1901 - 1945)

The third phase centers around the advent of mountain railway and the association of Sir. Adamjee Peerbhoy with the hill station. The period was marked by rapid growth of small plots, and large investments in properties on the hill made by many well-placed families of Bombay.

Phase IV (1946 - 1975)

The fourth phase associates with the freedom struggle of 1940's and the transformation that followed the country's Independence. After the retreat of the British, Matheran gradually popularized as a hill station among middle class tourists of Mumbai and Pune.

Phase V (1976 onwards)

The fifth phase refers to the preparation of the first Development plan by Matheran Hill Council under the M.R. & T.P. Act of 1966, which acted as a catalyst for rapid development 1980 onwards. The period marks the commercial growth of Matheran at an alarming rate and the transformations occurred thereafter. The developments following Draft Modifications to the Development Plan of Matheran(1996) also form an important part of this phase.

1.3 PHASE – I (1850 TO 1853)

1.3.1 Discovery of Matheran by Hon. Hugh Malet

Till the first half of the 19th century, Matheran was an isolated, virgin hill untouched by habitation or development. It was merely a humble grazing hill that also supplied hay, wood, milk and honey to natives who inhabited the surrounding foothills. As seen from the plains it used to be recognized as a noble mountain but for many years it had remained merely a name on the survey map.

In 1830, Sir John Malcolm, the then governor of Bombay had appointed a commission of officers to survey the neighboring hills of Matheran and Prabal, with a view to establish a military sanatorium for the British Army. However, the report being unfavorable, the proposal was dropped and forgotten. Eventually, twenty years later in May 1850, Mr. Hugh Pointz Malet the then collector of Thana explored the hill.

Malet was aware of Sir John Malcolm's proposition and was once incidentally camped at the village Chowk located in the southwest of the hill spur. With his inborn love for adventure and urge for exploring the unknown, Malet ventured to go uphill and investigated the hill himself. Overwhelmed with the untouched beauty of the place and satisfied with his initial observation Malet immediately reported his findings to the Government that Matheran was an excellent place, most suitable for a sanatorium with its pure air, excellent water and other charms. After this, Malet's request for a grant of Rs. 500/-, to construct a passable road from Chowk to the hilltop was immediately approved.



Hon. Hugh Pointz Malet

1.3.2 First Houses on Matheran Plateau

After the monsoons of 1850, Malet undertook the construction of the road from Chowk up the hill through the Rambaug forest. The work was later supervised and completed by Capt. Given in the beginning of 1851. Meanwhile, Malet also identified a site for his own house and got it built under the supervision of Madhav Rao, son of the 'Patil' of Chowk village. The timber required for construction was obtained from the broken mast of a ship which Malet bought in an auction, got it cut to size and dispatched it to Matheran from Bombay.

Within the next six months, four other bungalows were constructed on selected sites on the hill. By the summer of 1851 Matheran had 5 houses belonging to Malet and his close relatives and friends.

1. Mr. Hugh Pointz Malet's - The Byke
2. Captain Barr's - Barr cottage
3. Captain Walker's - Walker's cottage
4. Mr. Fawcett's - The Hermitage
5. Hon. Arthur Malet's - Stonehenge.

The little colony of friends enjoyed the wilderness for about two years. During this initial stay, fresh explorations were made, few paths were cleared, and several viewpoints were discovered and named.



Hon. Malet's 'The Byke' now part of Byke Hotel



Capt. Barr's 'Barr House'



Capt. Walker's 'Walker's Cottage'



Mr. Fawcett's 'The Hermitage'



Hon. Arthur Malet's 'Stonehenge'

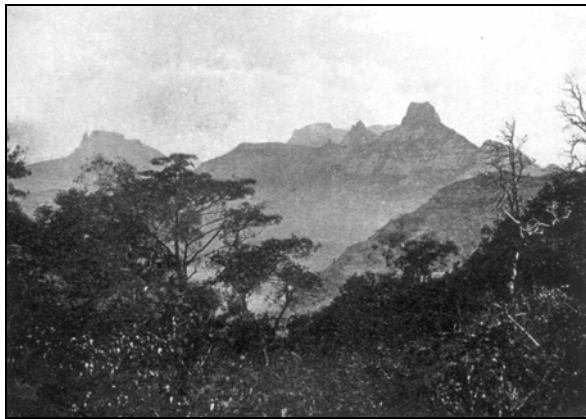
1.3.3 Initial Surveys and Planning

During this period, in the year 1851 itself, Capt. Day was commissioned by the Government to survey the hill, with a view to establish it as a military sanatorium. In this regard a survey for the road from Neral in anticipation of the approaching railway was undertaken and the alignment of the proposed road was marked out. Initial planning and estimation for the Bund (at

Charlotte Lake) to create catchments near the Pisarnath ravine was also made under the same survey. In addition to this, many existing paths were also widened.

Although the idea of developing the hill, as a military sanatorium was soon abandoned, Captain Ponsonby took up the survey in 1852. At this time sites for a church, a hospital, a jail and government servant's barracks were identified.

In 1853, Major Peacock continued the survey of the hill, which was subsequently published, through survey of India maps of 1867. Besides cleaning away the jungle in many parts several views were opened up and many fresh paths were laid out.



View from Artist Point

1.3.4 Allotment of first batch of Plots to Public

Sites for private houses were traced, enclosing each plot with low stone boundary walls. After receiving official powers from the government, Malet, the then collector of Thana, issued a public notice inviting applications for allotments of plots. The plots were to be leased out at the rate of five rupees an acre per year and the form of lease was comparable with that, which was already adopted for Mahabaleshwar. The notice also mentioned that the allotments were not to exceed five acres, and no building or fence was allowed to obstruct any surface spring or the access to the same. Before the monsoon of 1853, about seventy sites were applied for and the next two years saw great building activity in Matheran.

1.4 PHASE II – (1854 TO 1900)

1.4.1 Matheran Emerging as a Popular Hill Resort

By 1854 almost all roads that are existing today were laid out on the plateau, plots were leased out and construction was undertaken in full swing.

Lord Elphinstone, after his visit to Matheran in 1854, took keen interest in the development of the hill. He chose a fine site of about 37 acres of well-wooded land for himself and built a house. His major contribution to the development of the hill infrastructure was the improvement of water storage on the hill and the completion of the Neral - Matheran Ghaut road. 1854 onwards, the Ghaut road became the principal approach route as by this time the Bombay - Neral railway line was also completed.

After Lord Elphinstone's association with Matheran, the prior charm of Mahabaleshwar as a hill station faded and the society flocked to her more fashionable rival. Lord Elphinstone is said to be the founder of prosperity and fame of Matheran.

Within a few years, the popularity of the little hill station grew apace. Houses sprang up in most favored sites, especially on high mounds and along ridges with excellent views. Demand for accommodation grew. The house owners and visitors mainly comprised of Europeans (with a few exceptions) most of them being either government officials or the leading citizens of Bombay.

1.4.2 Administration of the Hill Station

To cope up with the rapid progress and development of Matheran, it was decided to bring the station under the authority of a superintendent. In 1856, Major Parkinson was appointed the first superintendent of Matheran. The superintendent was the sole administrator of the hill, a civil surgeon-in-charge, a first class Magistrate, an ex-officio forest officer and an ex-officio assistant to the collector of Colaba.

1.4.3 Development of Infrastructure

The following decade saw the development of essential infrastructure on the hill. The Charlotte lake bund was constructed in three stages from 1856 to 1858 under the supervision of General Fuller.



Charlotte Lake

Later, in 1866, the height of the bund was raised by three feet.

Around the same time the construction of the St. Paul's church (Church of England) and Roman Catholic Chapel of the Holy Cross were also undertaken.



St. Paul's Church (Church of England)

John Manuel D'souza started the first hotel in Matheran in 1856 along with a bakery. The hotel could lodge only two persons at a time and was the smallest hotel on the record.

As the hill developed as a resort, it attracted people from surrounding village areas in search of service occupations as coolies, bearers, mochis etc. and the village settlement gradually took root near the eastern fringe of the hill. After the acquaintance of natives with the hill, two temples - Pisarnath and Shiv Mandir and later the Ram Mandir were built on the hill.



Pisarnath Temple

1.4.4 Period of Setback

The development of the hill received a set back in 1865, when the general depression of trade and commercial failures connected with the share mania put almost a stop to the building activity. After that for nearly twenty years, no house was added to the list. Following this commercial crisis, from 1865 to 1876 a large number of sites, mostly owned by Europeans at

the time, changed hands or relinquished and the demand for fresh plots declined. This period also witnessed the beginning of unorganized development along and close to roads but the trend was immediately discouraged by strict regulation and vigilance. The landowners were compelled to demarcate their premises by boundary pillars, which the lovers of Matheran accepted not without great resentment, being incongruous features, disfiguring the picturesque beauty of their hill.

1.4.5 Early Hotels

In spite of the recession, the hill station in no way lost its popularity as a hill resort. The first notable hotels such as the Prince of Wales by Pinto's, Rugby, Clarendon, Chowk hotel and Hope Hall hotel were opened between 1875 and 1885. Granville (Cecil) and Gymkhana (Khoja sanatorium) followed soon after. Earlier, Rugby, Clarendon and Prince of Wales were reserved only for Europeans. This custom of exclusive hotels of reserved for certain races and religions like for Parsees and Hindus continued even later.



Olympia Racecourse

As Matheran developed into a favorite haunt of fashionable society, the need for formal recreation was very keenly felt. The European Gymkhana, well equipped with tennis courts and racquet courts was started in 1862 and was later fairly enlarged in 1880's. The racecourse at Olympia Plateau was also developed in 1891. However, the proposal of golf links at Olympia did not succeed.

1.4.6 Development of Public Amenities

To take up the administration of local affairs, a hill station committee was founded in 1870. Since 1861, a yearly grant of 5000/- was released by the government as a specially established station fund - towards the maintenance of the station. The grant was subsequently withdrawn in 1891. Since then the hill was self-supporting and maintained itself on the local resources such as ground rents, various

fees, sale of contracts and plots, etc. The station committee under the supervision of the superintendent carried out notable improvements in public and administrative infrastructure. The Post & Telegraph office built in 1868, Forest range office (1879), and the Matheran Police Headquarters were added to the administrative infrastructure. The hill station committee also constructed the Vernacular school and the pony stables later. The library built by Damodhar Gordhandas in the memory of Karsandas Moolji was an important public amenity developed in this period.

1.4.7 Boom Period of Development

Around 1893, once again Matheran began bustling with development and sale of plots. New plots were laid out; a number of large and handsome houses rose up and showed their roofs above treetops, many of them palatial in appearance with elaborate facades.

Most of these bungalows were the vacation houses of the wealthy families of Bombay especially the Parsees. The plague scare of 1899 also drew Bombaites to Matheran in search of pure mountain air and a healthier environment. As the ownerships of the bungalows changed, their names were also altered, like the Stonehenge was now called Readymoney lodge, Fountain lodge became Mangaldas lodge and Harrison's Bungalow became Redlands.

The land prices increased manifold. Transfers and resale of plots fetched the hill station countless and handsome revenue. A fresh survey of Matheran was conducted in 1900. The Survey of India maps published in the first decade of 20th century indicate most plots, roads and physical features of Matheran, which exist till date. By 1900, Matheran was established as a full-fledged 'hill resort' equipped with all necessities and luxuries required for comfortable habitation. Matheran even had its own newspaper 'Matheran Jottings' started in 1891 by a daring and enthusiastic citizen of Matheran, Framji Mehta. The biweekly successfully ran for another 24 years giving its readers every detail of local affairs and happenings.

1.4.8 Development of Bazaar

Towards the end of the second phase, the 'Bazaar' of Matheran finally settled in its position where it stands today.

From 1850 to 1865 (for about fifteen years) the bazaar was held in an open space in front of the Clarendon hotel (Girivihar hotel of today), directly above the Charlotte Lake bund, where the original post office and the superintendent's

office were also located. In 1865, a major fire broke out here and completely destroyed and razed to the ground the entire area along with valuable records and papers. As a result of this, this site of the bazaar was abandoned because it was located in the main catchment area, in close proximity of the lake, which was the chief source of water supply to the hill.

An alternative site for the bazaar, close to the eastern edge near the stables was identified but the locals did not readily accept this location. Consequently, the bazaar informally sprawled along Mary lane - one of the finest paths of the time. The picturesque and shady lane was thus filled with unorganized and uncontrolled structures, squatters, garbage and spills.

Finally in 1893-94 a 'planned' bazaar was laid along the shortest north-south link across Matheran, which strategically connected the Matheran-Neral Ghaut road in the north with the Matheran-Chowk link in the south. As the new link and the site for the bazaar were located on a naturally steeply sloping topography along the eastern edge of the hill, area was leveled and terraced to suit the needs. The ground was properly aligned and planned into blocks. Besides the advantage of accessibility, the location was also convenient from the viewpoint of sanitation. Being in close proximity to the eastern cliff, the disposal of the rubbish could be done without difficulty into the ravine away from the habitation on the hill.

A ravaging fire once again destroyed this established bazaar in 1898 but in a short time, it was re-constructed with the contribution from the hill fund. Most of the cottages then constructed in laterite with tin sheet roofing are surviving till today, only surrounded by more stalls and shops.

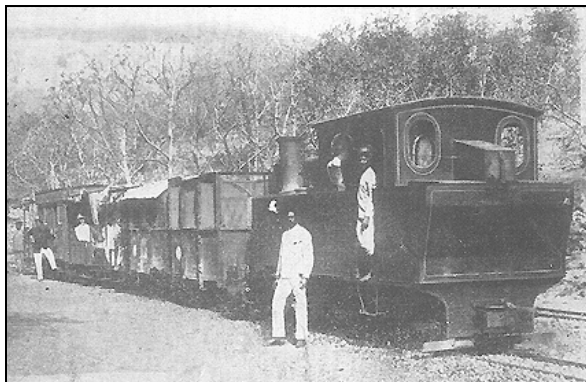
The bazaar spine deviates from the conventional 'shopping street' of the native urban settlements as the plots fronting the bazaar spine also like other plots on the hill maintain a substantial setback from the street to allow for the continuity of the forest lands in-between the front plot boundaries and the paths they adjoin.

Before the establishment of the formal market and shops in the bazaar the market was held on weekly basis, on the large open space near Madhavji point and this used to be quite an interesting feature of the hill at the time. Supplies like fruits, vegetables, groceries, cloth, toys and other articles used to be brought to the hill from Poona, Neral and other villages in the vicinity and on the foothills. The tribals living around brought up flowers, eggs, honey, seasonal fruits, grass and firewood for sale.

1.5 PHASE III – (1901 TO 1945) (Ref. Map)

1.5.1 Development of Matheran Mountain Rail

Till the end of 19th century the means of transport to Matheran from Neral were restricted to 'Munchills', Wallace chairs, 'Palkees', hand rickshaws and horses. Matheran certainly required some easier, cheaper and less cumbersome means of transport for its visitors and goods, various schemes towards achieving this goal were proposed and rejected. The first idea of a tramway on the cog - wheel system was suggested by Dr. R. Davy in 1879 but was rejected at the time. Finally, Sir Adamjee Peerbhoy the famous businessman and philanthropist of Bombay came forward with a practical scheme of laying down a mountain rail between Neral and Matheran, which was sanctioned by government in 1903. With painstaking efforts and perseverance of Hon. Abdul Hussein Peerbhoy, the son of Sir Adamjee Peerbhoy and under the able supervision of the well-known engineer Raisaheb Hirachand, who planned the railway on the same lines as the Shimla-Kalka hill railway, the railway was completed in four years. The tracks of twelve miles were laid, at an expense of sixteen lacs and the railway was thrown open to the public in 1907. The terminus of Matheran was located close to bazaar spine.



The First train to Matheran

1.5.2 Establishment of Municipality

The beginning of the 20th century also saw a major change in the administrative status of the hill. In 1905, the municipality came into existence and the hill station committee was abolished. Even after the establishment of municipality, the superintendent was appointed as the president of the municipality appointed by government. The superintendent, as before, was an official magistrate, a civil surgeon and selected from Indian Medical Service.

Matheran municipality was one of the richest municipalities in the southern division and a self-sufficient one, whose annual receipts earned out

of various ground rents, revenues, taxes and property incomes exceeded the annual expenditure on essential civic amenities.

1.5.3 Development of Small Plots (Contribution of Peerbhoy to New Developments)

The advent of the railway suddenly shot up the popularity of the hill resort and brought about rapid growth especially along the sides of the tracks. Hon. Abdul Hussein Adamjee Peerbhoy who was a member of the Matheran municipality, was granted a special lease by Lord Sydenham to develop about a 100 plots of moderate size for middle class citizens. These plots arranged in a series and comprising the bungloid development of this phase were situated mainly along the east of the railway tracks, along King's road and Mary lane. Most of these plots belonged to families of the affluent Bohra community and a few to well-placed Hindu families of Bombay.

A similar but scattered growth of smaller plots occurred in 1930, especially in other parts of the hill, when many well-to-do Bombaites turned to investing in properties in this prosperous and peaceful hill town.

The British association to the hill was gradually dwindling and a host of the old large properties were now bought over by many residents of Bombay mostly Parsees and Gujaratis.

1.5.4 Trends of Transformation

Responding to the increasing tourist influx, a few new hotels were opened and a handful of old bungalows were also converted into hotels and guesthouses. Some of the old bungalows were also converted into sanatoriums that were reserved for exclusive castes and communities. The railway station and railway hotel forming a large complex became the most attractive and fashionable highlight of bazaar.

1.5.5 Infrastructure Development Initiated by Notable Indian Personalities



Paymaster Park (Band Stand)

The municipality brought about improvement in civic infrastructure and provided other additional facilities to the town notable among them being the Kapadia Market, the Byramjee Hospital, the Paymaster Park and the Panday Playground. These amenities were developed on handsome donations and enthusiastic initiatives of wealthy residents and lovers of Matheran. The municipal office, the telephone exchange and the police lines were also established.

Increasing Parsee population on the hill station led to development of Parsee Gymkhana in 1912, as the European Gymkhana was an exclusive club for the English.



Parsee Gymkhana (Nehru Bhavan)

The municipality also initiated a cosmopolitan Gymkhana for Hindus and Muslims, but the proposal was not materialized.



Notable personalities from Matheran

1.5.6 Crowding of Bazaar Spine

The bazaar spine of Matheran developed as a shady street flanked by neat, handsome and modest sized structures having stores and shops in the front and attached residences in the rear. The spine between the railway station in the north and Kapadia Market in the south became the charming socio- cultural heart of the town, bustling with activity, a hub of the fashionable visitors of Matheran, the horses, the vendors and

attractive shops, saloons and open-air restaurants. This phase also witnessed gradual organized growth of the Matheran village where neat houses belonging to the local communities sprung up along well laid out paths on the east of the bazaar spine.

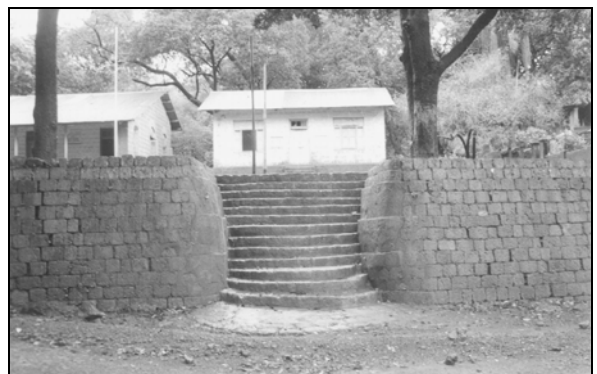
In spite of its popularity Matheran continued to be the cleanest and purest hill resorts - a quiet retreat from the turbulence of freedom struggle of 1940's.

1.6 PHASE IV – (1946 TO 1975)

1.6.1 Independence and Final Retreat of the British from Matheran

The beginning of this phase was dominated by the freedom struggle. The country was shaken up by the spirit of independence and so were Matheran and Prabal. Vithalrao Kotwal a well-educated offspring of the hill – son of a local barber, threw himself in agitation and was subsequently shot dead by the British.

The development of the hill suffered a setback for some time but the independence of the country brought in new enthusiasm. The spirit of nationality and patriotism reflected in the transformation of identity of Matheran. To make their presence felt the local enthusiasts initiated the development of the municipal gymnasium and community hall in the bazaar spine. They also rejected the names of the important roads that were associated with names of British dignitaries and replaced them with the names of the famous freedom fighters e.g. Victoria road and the Marry road became Mahatma Gandhi road and Kasturba Gandhi road respectively, King's road, Murison road and Hermitage road were named Kotwal road, Shri Shivaji road and Maulana Azad road respectively and so on.



Hutatma Kotwal Vyayam Mandir

1.6.2 Period of Inertia

As the British rulers departed from the country and so also from the hill resort they left a sort of a cultural vacuum. The snobbish Bombay

business elite continued to patronize the exclusive resort as long as they could mingle with the rulers. Once the British left they had no reason to continue the charade of going up to the hill resort. Their pledge to the place was primarily for prosperity rather than for genuine personal pleasure. Besides, most native patrons of the station could afford several homes in different locations, so they just locked up and held on to their Matheran properties after the British left. Few properties changed hands and others remained abandoned and in a sorry state of neglect. Thus, this small fashionable hill town patronized by the elite was now suddenly devoid of a whole way of life. In spite of the shift in the cultural patronage, the physical structure of the hill and its architectural heritage did not change, the new native rulers only improvised and added upon what the British had left behind.

1.6.3 Increasing Influx of Middle Class Tourists

Now the hill attracted mainly middle class residents of Bombay to a large extent, for short holidays and picnicking. A steady growth of hotels and facilities especially with moderate rates took place during this period. A few more bungalows were taken over by Indian companies such as Dena Bank, Indian Airlines, A.C.C., State Bank of India, etc for use as company guesthouses. The popularity of clubs was declining as their patronage by the British and wealthy Parsee community was fading. Many private bungalows, especially near the railway station and bazaar turned into hotels; to cater to the growing need of the tourist population and it seemed to be a more lucrative option for the owners.



State Bank of India Holiday Home

The bazaar spine was gradually filling with new shops and restaurants especially as extensions to existing buildings in the front open space and in-between the existing blocks.

1.7 PHASE V – (1976 ONWARDS)

1.7.1 Rapid Development of Tourism and Commercial Growth

This phase is associated with the rapid commercial growth of Matheran as a result of two notable developments –

1. The asphaltting of the Neral-Matheran road, which brought the automobile upto Dasturi, boosted the transportation of goods and people up the hill. Tourism increased further and with it all other entities related to tourism like, hotels, restaurants, recreation facilities, shopping, etc. multiplied manifold.
2. The launching of the first Development Plan for Matheran (1977) under the M. R. & T. P. Act of 1966, triggered off a spate of speculative and instinctive developments. The D.P., published in 1987, neither proposed the formation of any new plots nor did it suggest any major changes in its physical structure. Designation of Matheran as an urban area and incentives in the form of F.S.I. led to rapid transformations within its historic framework.



Bungalow converted into hotel

1.7.2 New Developments

A range of new structures the Kashmir Emporium, Nariman Chikki, and Bohra sanatorium buildings alien in form, scale and treatment made their appearance along the Bazaar spine in the 1980s. A large number of residential properties along Kasturba Gandhi road and Mahatma Gandhi road changed hands and were bought over by hoteliers. In spite of rapid development no remarkable addition was made to the infrastructure of the town.

1.7.3 Changing Attitudes leading to New Trends

Historic properties at prime locations like 'Red House', 'Scott's Bungalow', etc. were demolished to develop modern hotel complexes. The latest trend to set foot in Matheran was the development of large hotel complexes equipped with swimming pools and discotheques largely influenced by urban star category hotels. A new vocabulary of urban architecture emerged as a

popular and fashionable style although it was completely in contrast to and incongruous with the historic built heritage and the environment of the hill.

1.7.4 Impact of Revised Development Control Regulations

Draft modifications to the existing D.P. were proposed in the year 1997. These suggest major changes in the prevailing D.P. and introduce a fresh set of D.C. regulations mainly in favour of commercial development. It includes land-use proposals such as amusement parks and water parks and proposes the entry of vehicles and helicopters in this only pedestrian hill station of India. The aftereffects of these modifications have already started surfacing all over the hill in the form of high density developments incoherent in form, scale, treatment and use of materials.



Complex of cottages replacing heritage Structures –A new trend setting in.

The bazaar is now crowded with unorganized and uncontrolled growth of all kinds of kiosks, booths and other temporary and permanent extensions mainly in the front and some also in the side open spaces. In addition to this, the historic streetscape has been significantly marred by the highly insensitive chaos of hoardings and signages all along the street front, which has completely obscured almost all original building facades.

1.7.5 Deteriorating Health of the Hill Station

In the last two years especially, Matheran has seen more rapid growth in tourism related activities than ever before but at the same time its infrastructure has stagnated. The historic laterite pathways and important points are in a state of neglect. The increasing tourism has put tremendous pressure on the environment and the ecology of the hill. Problems of garbage disposal and erosion of soil are leading to serious environmental hazards. The village is crammed with unorganized development, large-

scale encroachments and illegal extensions and additions.

With every passing season more and more trees are being felled to accommodate more buildings. Many grand bungalows of the hill, which were once its pride and glory are now in desolation, abandoned and in a state of complete neglect. Some are facing extinction as they have been taken over by hoteliers to be demolished to give way to new sprawling resorts in their place. Although there are others that have been maintained and conserved in their original style and still retain their historic integrity and charm.

1.8 INFERENCE

The Hill station evolved, developed and matured in the first three chronological phases. No remarkable new developments or expansion have taken place in later phases except for transformations and interventions within the established historic framework.

Historic Context is one of the key concepts in evaluating the cultural significance of a component as it helps in understanding the component as the product of its time. As the chronology of the component is considered as the main criterion to evaluate its Historic Context, it is proposed to assign hierarchical rating to the components as per their chronological sequence. Thus the Evaluation rating for phases I, II and III would be A, B and C respectively with reference to the Selection Criteria, Evaluation of Cultural Significance, Part IIIB (4.2.5).

The chapter also helps in establishing the historic associations (association with events, activities and important persons) of the components that have bearing on the evaluation of their Historic Significance with reference to the Selection Criteria, Evaluation of Cultural Significance, Part IIIB (4.2.5).



The Chalet (W. Hart's Bungalow)



Hydri Cottage



Hope Hall Hotel



B.J. Hospital

PART IIIA IDENTIFICATION OF CULTURAL HERITAGE

2.0 ARCHITECTURE & URBAN DESIGN

2.1 INTRODUCTION

i) The chapter analyses the architectural character and the urban design elements of Matheran which emerged from the socio-cultural background of its founders and took a distinct shape while adapting to the local context.

ii) The chapter also discusses the trends of transformations and interventions and the extent to which these have affected the historic integrity of built heritage. The changing vocabulary of architecture seen in the context of traditional values emphasizes upon the need for appropriate design control and sensitive approach to conservation.

iii) Identification of architectural values is based upon various aspects associated with the design and character of the built form, its setting as well as its cultural contribution. The 'bungalow' being the most significant and representative built-form typology is analyzed in greater detail.

2.2 BUILT-FORM TYPOLOGIES

The categories of built-form typologies:

a) The early bungalows of the British, built in 19th century in Matheran were replicas of the typical Indian bungalow design developed and adopted widely by the Europeans during the British Raj. These bungalows, set amidst the large, undulating wooded sites, built in local materials using a partly vernacular construction, had an inborn sense of formality and detachment suited to the lifestyles of their users.

b) The bungalows of the Peerbhoy phase developed in the beginning of 20th century on smaller plots were owned mostly by the natives. These borrowed their forms and planning characteristics from the early bungalows with the difference that they were informal and smaller in scale and intimately related to the streets.

c) A simple linear format adopted by the British for **the early hotels and sanatoria** has been the only role model in fashion, throughout the development history of Matheran. There has never been any significant deviation from the scheme, except for the variation in detailing and treatment.

d) With a few exceptions, the institutional



Village houses - Bazaar

buildings in Matheran follow a format, very similar to the domestic design and therefore do not possess a distinct identity. **The mixed-use buildings** along the bazaar spine also derive from the typology of bungalows or hotels with the front verandahs replaced by the shops and the rear comprising the residence. Kapadia Market is the only example employing a 'tailor made' commercial design in Matheran.

e) Village houses in bazaar are smaller replicas of other domestic structures developed earlier. Originally arranged in well-laid out blocks, these houses have undergone remarkable transformation over the years.

2.3 EARLY BUNGALOWS OF THE BRITISH

2.3.1 Setting

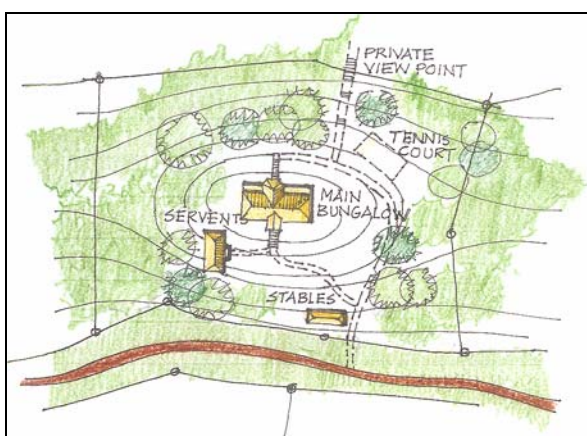
The early bungalows were situated in large, fairly wooded compounds laid out on undulating grounds. The exclusive compounds, ranging from 10000 sq. Mts. to 25000 sq. Mts. or more were often defined by low boundary walls built of random laterite blocks. The plots maintained setback from the streets to allow for the continuity of forestlands and to accommodate open drains for effective and organised surface runoff. The dense vegetation on the plot was left undisturbed but for the small clearing around the main building to lay out gardens and other recreation areas. A formal entrance gate offered the entry to the plot from where a winding cobbled path dramatically led its way to reach the main building.



Annie Villa- Excellent setting

2.3.2 Layout

The layout of the large residential plots consisted of the main bungalow; ancillary structures and outdoor landscaped spaces inter linked by cobbled pathways. Main bungalow - the residence of the owner - was aptly located on the best position with the ancillary blocks comprising the kitchen, servants' quarters and storerooms well detached from it. Occasionally the kitchen was connected to the main bungalow by a covered passage. The layout clearly defined and segregated the domains belonging to the European masters and the native servants. Stables for horses formed an essential component of the layout in many cases. Mostly, the stables and the servants' quarters were served by a secondary entrance. Except for the clearing around the structure the forest cover on the plot was maintained in natural state.



Typical setting and layout of early bungalows



The Chalet - View from verandah



Walker's Cottage



The Stonehenge (Readymoney Lodge)



Fountain Lodge

2.3.3 Orientation

Being a hill resort, 'scenic view' was the prime consideration for the orientation of the European bungalow. The façade that overlooked the best view was treated as the main façade that was often associated with a broad verandah. The formal entrance to the bungalow was also derived from the main verandah irrespective of the position of the plot entry and the direction of approach from the street.

2.3.4 The Design and Style of Built-form

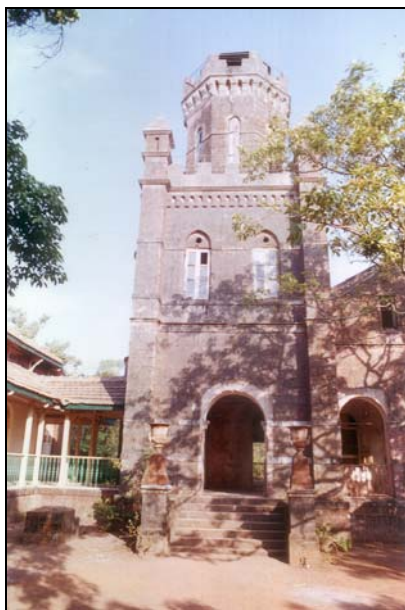
i) The definition of the 'bungalow' as a single-family dwelling unit, raised on a high plinth with a sloping roof and surrounded by deep verandahs with a projecting porch suits the Matheran bungalow perfectly well. The typical European bungalow grew out of the social, economic and physical requirements of their users and adapted itself to the local climate, topography, materials and building techniques of the region.

ii) Great concern for pure air and healthy environment influenced the design of the domestic buildings on the hill stations. To make the summers bearable was the primary concern for the Europeans and the bungalow was admirably adapted to the hostile Indian climate. The thick walls kept out most of the heat; broad verandahs shielded the main walls and ensured that only the slanting rays of the early morning sun or the evening sun could reach the inner rooms. Deep overhanging eaves protected the entire structure from exposure and beating rains.

iii) Their form and planning expressed the political and social divide between the rulers and the masses. Axial symmetry in design portrays the formality and pride while the high plinths and elaborate grand stairways leading to the plinth add to the imperial charm. Clear segregation of habitable and service areas reflects the sense of detachment that was desired by the users.

iv) The first bungalows that developed in Matheran were humble in scale and treatment. Out of the first five, four houses followed a typical bungalow format while the fifth - The Stonehenge - was influenced by the design of an English cottage crafted in Gothic style. The others were fairly enlarged and modified later, yet their original forms are distinctly identifiable.

v) Throughout the planning history there is a remarkable unity in the prototypes adopted for bungalows. Very few examples seem to have deviated from the standard formats and the reasons for such deviations are- Personal taste



Tour Petit (Walker's Cottage)



Castle Hill



Elphinstone Lodge

and preferences of the owners, Response to local siting constraints and Phased development of the built-form.

vi) The similarity in built forms is credited to the pattern books famously used by the British overseas consumers that provided detailed guidance on design, construction and decoration. A 19th century pattern book of a very particular sort inspired the early designs of the Indian hill resorts and these advocated that one did not build a palace in the hills but just a little cottage.

vii) As the station grew into a fashionable hill resort and was patronized by wealthy natives, the nature and personality of the 'bungalow' changed. With the change of its identity from a European summerhouse to the status symbol of Indian elites, its form became more magnificent, more complex and more ornate. Double height blocks with clerestorey lights and elaborate roof projections added interest to the massing. A few bungalows also raised an upper storey or added a watchtower to get a commanding view over the treetops. Lavishly decorated interiors and exterior ornamentation displayed the status and taste of their owners.

2.3.5 Scale

On the whole, the built forms were horizontally spread and had moderate heights being single mostly storeyed. The core areas within the house generally had double height with clerestorey lights. A handful of structures had upper floors. Some had watchtowers reaching to the height of three storeys which rather than appearing obtrusive, contributed positively to the skyline by their landmark value. The early bungalows were robust in scale while some were palatial and sprawling. Their interior areas were remarkably spacious and voluminous as compared to the normal residential standards and suited the imperial lifestyle of their owners. However, the clerestorey blocks though excessively high in the interior did not seem bulky on the exterior as they were topped by sloping roofs and invariably surrounded by a verandah of low height. The structures appeared lofty owing mainly to their excessive plinth heights that resulted from the sloping profile of the ground. Yet the natural texture of indigenous materials and the horizontal emphasis, related the structures satisfactorily to the natural surroundings.

2.3.6 Ground Coverage

The ground coverage of the bungalows varied in different cases, yet it was generally meager as compared to the enormous plot areas. On an



Woodlands Bungalow – Dining area



*Service access to dressing areas
Woodlands Bungalow*



Garbut Hall – Asymmetrical planform



Gulestan – Clerestorey lights

average the ground coverage varied between 2% to 5%. In exceptional cases like Gulestan, the built-up areas were comparatively higher, but the proportion never exceeded 10%.

2.3.7 Internal Layouts

i) Except for variations in plan organization, the format having the core area consisting of main rooms surrounded by a verandah was widely adopted for domestic design. The layout of bungalow was generally symmetrical with a large central room comprising the formal sitting and dining areas, usually divided into two sections either by a wide arch or a decorative wooden partition. Flanking the central room on either sides were the bedrooms, each with an attached bath and the dressing room. The number of bedrooms and their grouping varied in different cases but their distribution was generally symmetrical about the central axis. The bathrooms had a service access for the sweeper to service it without disturbing the rest of the house. The house had detached privies that were accessed by a rear verandah, used mainly for the service.

ii) The verandah overlooking the prime view was the highlight of the structure. Usually wide and long it was effective as an intermediate space between the cozier and private interiors and the glare of the sun outside. It protected the interiors from scorching exposure and the pouring rains of the hill. The verandah into which all the important rooms opened, also served as an excellent space for relaxation and exercise, even an informal sit out. It was a space for interaction with the outside staffs - chowkidars, gardeners, and cooks etc.- the natives who were never entertained in the interiors.

iii) Examples of asymmetrical planforms were comparatively fewer but the formal sitting room or hall adjoined by a spacious verandah is an invariable feature of every house.

iv) The ancillary structures located within the plot, mundane in character, had simple planforms with rooms in linear arrangement with or without a front verandah. The kitchens, which formed part of ancillary structures, were well equipped with ovens and burners, using firewood for fuel.

2.3.8 Light and Ventilation

Regularly spaced openings, located exactly opposite each other allowed excellent cross ventilation throughout the house. It worked as a simple and effective device for temperature



Gulestan



Maria Cottage



R. C. Church – Patterned masonry



Maria Cottage

control. In many cases the doors and windows were fitted with double set of shutters comprising louvered and glazed ones. The glazed shutters admitted light during the day and the louvered shutters allowed ventilation at night while providing privacy. Clerestorey openings installed at high levels helped cooling the interiors by venting out the hot air. These apertures, sheltered by deep overhanging eaves also pleasantly lit the interiors. Broad verandahs shielded the interiors from the exposure and precipitation.

2.3.9 Materials and Structural Systems

i) The structures in Matheran are a wonderful blend where **the basic envelope** was built using local materials and building techniques while the finishes and fenestration of the structure solely depended on materials transported to the hill from outside sources.

ii) **The foundations and the loadbearing superstructure** were built in red laterite blocks obtained from local quarries. The foundations followed the rocky strata, which in most cases occurred at a shallow depth. To obtain a leveled plinth, the stepped masonry of the plinth followed the undulating profile of the ground, reaching phenomenal heights at certain instances. Thus the visible plinth heights of the structure varied considerably on different facades. A projected plinth course defined the ground floor level upto which the plinths were normally left exposed.

iii) **Internal and external walls**, overall 2 feet thick were constructed in hollow core masonry bonded in lime mortar and infilled with laterite rubble. Laterite blocks with average size of 9 inches by 12 inches and 9 inches deep faced the masonry on either side. Originally most of the structures had neatly dressed, exposed and pointed laterite blocks laid to regular courses, on their external facades while the internal walls were finished with lime plaster and painted. Over the years, the exposed masonry has been plastered and painted in some cases. A few exceptional structures like Mon Repos and Raman Villa were built in gray basalt imported to the hill from outside.

iv) The long **flights of steps** reaching the high plinths were built in coursed laterite masonry and normally left exposed while the treads were occasionally finished with dressed stone slabs. Cast iron balustrades generally guided the flights having variety of stylised profiles or elaborate step-guards built in exposed laterite.

v) Leaving a few exceptions, the structures were



Prabal House



Stained glass – Garbut View



Daswood- Fenestration in Gothic style



Bhavnagar Lodge –Decorative C. I. Railings and timber posts in Gujarat style



Gold Croft- Orate façade design



Cast Iron railing – Elphinstone Lodge



Woodlands Bungalow – Stylised verandah



Gulestan – Unique fascia design



Gulestan – Cupola in verandah



Craigie Burn – Excellent structural organisation



Sunny Side (Hotel Anandritz)

directly laid on leveled and compacted laterite rubble hardcore. Patterned minton tiles, decorative encaustic tiles, terra cotta tiles or crazy china paving were commonly used as **floor finishes** that were bedded in lime mortar. The upper floors were constructed with timber joists topped with timber boarding and stone slabs for finish.

vi) The structures were covered by **timber pitched roofs**, normally having a standard gradient of 30 degrees. The commonest forms of roof were couple and purlin roof, having regularly spaced timber rafters secured to timber wall plates embedded in laterite masonry. Simple or decorative timber trusses have been used in some cases where the room sizes are considerably large. Excellent designs of decorative roof trusses have been used in a few notable bungalows like The Byke, Craigie Burn, Sunnyside, Tour Petit and Barr House. Excellent workmanship and good quality of timber used for the roof construction deserve the credit of long survival of original roofs till date, in spite of the heavy monsoons of the region.

vii) The **roofing** was primarily made of interlocking terra cotta tiles laid over timber battens, with or without timber boarding. Over the years the original roofing has been widely replaced by galvanised iron corrugated sheets to protect the roof from nuisance of Monkeys. Combination of Mangalore tiles laid over G.I. sheets is also commonly used as it serves as a well-insulated and durable roof-cover. A few houses belonging to richer class also had plain or decorative false ceilings to adorn their formal and stylised interiors.

viii) The openings- **the doors, windows and ventilators** - had semicircular or segmental arched profile being most appropriate for the load-bearing structures. Rectangular openings spanned by timber lintels were also used at times. The frames and shutters, normally simple in treatment and design, were made of good quality timber transported to the hill from outside.

2.3.10 Structural Organization

The use of sloping roofs mainly guided the structural geometry, which was generally based on modular sizes of the rooms derived from lengths of timber frames or trusses. Straightforward, pure geometrical forms such as squares and rectangles arranged in simple configurations led to clear-cut roof profiles avoiding complicated junctions and awkward

*Atkinson Villa**Gulestan – Layered roof profile**Hotel Laxmi - Undulating skyline**Robertson's Bungalow*

valleys and ridges. Layered arrangement of roofs using independent high level roofs over the main blocks and low level roofs for surrounding verandahs facilitated easier construction and also maintained identity and hierarchy of forms. For simplicity and clarity of construction, the entire plinth of the structure was always maintained leveled irrespective of the profile of the ground.

2.3.11 Skyline

i) The pitched roofs were normally laid to a uniform gradient of 30 degrees to allow effective disposal of rainwater. The layered arrangement of roofs helped reducing the bulky appearance of the structure. The verandahs being the highlight of the structure were designed with stylized projections. Hipped-ended roof projections corresponding to the profile of verandah added variety and interest to the otherwise simple and robust built form. In case of linear forms with uniform eaves level, single or multiple dormer shaped projections were often provided to break the monotony of the façade. The skyline thus formed by the layered roof structure and accentuated by numerous projections or occasional use of steeper pyramidal roof forms complemented the undulating topography of the region and blended well with the forest canopy.

ii) Viewing towers that rose above the treetops and dotted the landscape made distinct contribution to the skyline of the hill. Very few of the original towers are surviving to date.

2.3.12 Fenestration and Façade Detailing

i) The structures besides having uniform architectural features such as sloping roofs, broad verandahs and high plinths lending them a typical character, also had elaborate fenestration that added personal identity and richness to the structures. The ornamentation was mainly apparent in balustrades and railings, brackets, fascia boards, decorative bargeboards and finials in the roofs.

ii) The openings having segmental or semicircular arched profile that emerged out of the structural logic of load-bearing construction was a distinct feature of the building façades. There is no remarkable variety in the profile of openings, their sizes are uniform and their placements are fairly standardised. Though treatment of fenestration is simple on the whole, there are examples of elaborate tracery designs in Gothic style and use of stained or tinted glass panels for shutters and ventilators. Rose windows in floral pattern are also evident in some



Garbut Hall - Unique façade treatment



Dasturi Villa - Decorative fretwork



Pasta House



Craigie Burn – Exquisite interiors

cases. Dormer shaped openings highlighting the entrances or accentuating the roofline were often decorated with glazed panels in geometrical designs.

iii) The coursed laterite masonry often exposed with neat pointing contributed to the built form character and helped tying the structures to the landscape. In some cases red laterite was also used for piers of circular or octagonal sections or the masonry was patterned with projected courses to highlight the quoins and jambs or to create variety in the masonry façade.

iv) Every structure was fronted by a broad verandah and the cast iron balustrade in variety of designs edging the verandah has been the most notable feature of the façade. Delicately patterned railings standing in contrast against the rough textured laterite masonry lend ornamental quality to the otherwise robust built-forms. Decorative cast iron brackets were also used to support the timber members in the verandah.

v) Wooden fretwork panels used as bargeboards or infills between verandah posts adorned the facades. Timber fascia in range of simple and intricate designs offered delicacy to the structure creating a perfect English cottage mood. There are some examples of amazing craftsmanship in timber especially in the verandah roof structures the *** that defined the verandahs. Carved timber finials occasionally highlighted the apex of the roof and accentuated its undulating skyline.

2.3.13 Interiors - Décor, Finishes and Artefacts

i) In the attempt to create a home away from home the European patrons brought all luxuries of life from their homeland to furnish their houses on the hill. A whole lot of paraphernalia was brought about to equip the bungalows that reflected the lifestyle of their original owners. The large dining tables, formal high back chairs, chest, dressing tables, spacious beds, sofa sets as well as the crockery and cutlery of the western origin, introduced by the British were widely adopted by the native followers who took over the legacy of the domestic buildings after the Europeans left. To date, the bungalows of Matheran are proud possessors of the invaluable treasure they left behind- the unique Victorian furniture, partitions and screens made of high quality wood with intricate carving, marble table tops, glazed tile panels of rare designs, etched and hand painted glass panels, original oil paintings etc. The hill houses also display the most fashionable fixtures, sanitary ware, floorings and ceilings of the period.



Sunny Side - Interior



Byramjee House – Coat of Arms



ReadyMoney – W. I. Table



The Chalet - Interior



Baar House - Chandelier



Prabal House - Furniture



Elphinstone Lodge - Crockery



Pasta House Encaustic tiles



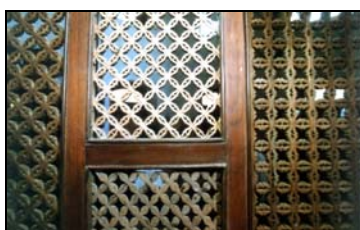
Prabal House – Furniture



Castle Hill – Crazy china paving



ReadyMoney – Encaustic tiles



Bell Vue - Screen



Tour Petit – Decorative planter



Bella Vista – Decorative planter



Bell Vue – False ceiling



Gulestan – Vaulted false ceiling



Daswood – Ornamental entrance gate

ii) A remarkable feature contributing to the exquisite interiors was the decorative flooring done in original Minton tiles and encaustic tiles of numerous patterns. The crazy china paving laid in unusual designs also adorned a fair number of houses.

iii) Decorative false ceilings made of zinc sheets finished with Plaster of Paris moldings added a touch of class to the formal interiors. A few houses belonging to the rich have amazing designs of false ceilings in variety of profiles and patterns. The interiors were complete with ornamental lighting fixtures and chandeliers lit by candles as well as electric bulbs. Some palatial houses even had concealed wiring in the false ceilings and arrangement of diesel generators to produce electricity in the era of candles and oil lamps.

2.3.14 Ornamental Landscaping

No British house was ever complete without a garden. So along with the bungalows came the well-laid out English style garden. The immediate surroundings of the bungalows, mainly fronting the viewing verandah, were molded into formal gardens often following the axial symmetry of the built form. The sloping grounds were well terraced and retained by laterite bund walls. Trimmed hedges, lawns and pathways lined by flower beds formed integral part of the garden composition. Water fountains and decorative planters added special interest. The garden linked recreational areas like the Tennis courts, riding grounds and pavilions like bandstands to the house. The trees existing on the site were generally integrated into the landscaping but the foliage obstructing the vista from the verandah was regularly trimmed to ensure unobstructed scenic view. The natural forest cover was otherwise left untouched.

2.3.15 Services

i) The bungalows were built in the era when the primitive system of privies was prevalent in the country. The houses therefore had detached privies with adjoining chambers for collection of night soil from where it was manually removed and disposed in the forest. The bedrooms had attached bath and dressing areas. Additional service access to these areas facilitated easy maintenance without disturbing the rest of the house. Much later in twentieth century, when the septic tanks were introduced, the primitive method of sanitation was abandoned and bath areas attached to the house were largely converted into toilets.



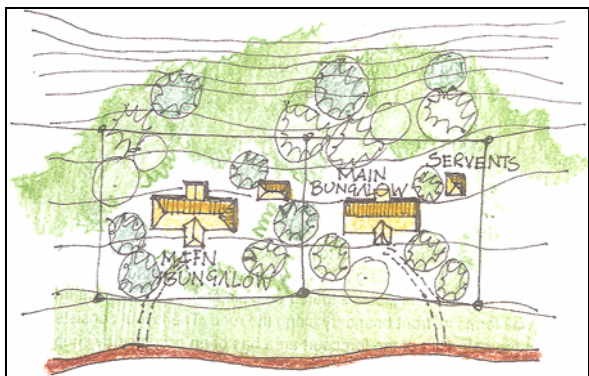
Tour Petit – Detached privies



Khatija Lodge – Typical Peerbhoy format



Noor Cottage



Typical layout of Peerbhoy Plots

ii) As the system of piped water supply did not exist, water had to be manually carried from distant water sources like Charlotte lake and Malet spring by employing Bhisties (water carriers) and stored in large vessels

2.3.16 Maintenance

The European households depended heavily on the servants for maintenance and hence were accompanied by a fleet of them comprising cooks, bearers, sepoys and helpers etc. The gardeners or 'malis' were appointed as caretakers on permanent basis. It is a fact that the survival of Matheran's built heritage of Matheran can be credited only to these 'malis' who have looked after the large properties for generations in spite of scanty earnings. The fashionable lifestyle of the patrons, their attempt to equip the hill with all the luxuries and comforts and total reliance on the native servants has shaped the local economy of the hill in its formative age. The development of occupation based communities such as mochis, dhobis, coolies, ghodawallas, mahars and bhangis is mainly attributed to this social scenario.

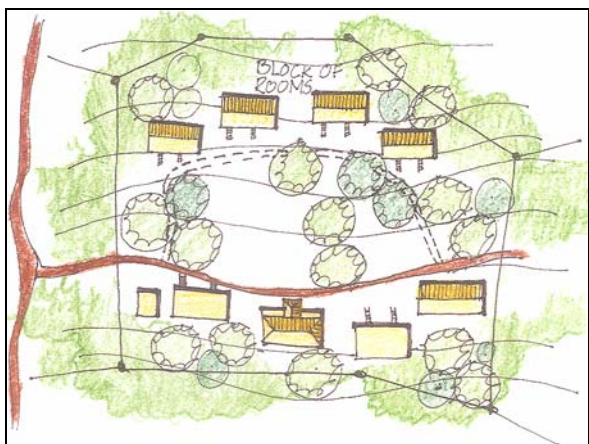
2.4 THE BUNGALOWS OF THE PEERBHOY PHASE

i) The small bungalow based on the original European format became popular once again in the Peerbhoy phase as it suited the moderate needs of its owners as well as the size of the plots. However, this bungalow was more functional and informal as it served as the holiday house for the not so rich.

ii) The bungalows of this phase were situated in much smaller compounds ranging between 1000 sq. Mts. to 4000 sq. Mts. The plots arranged as linear groups along spine roads, maintained setbacks from the streets as well as between the adjacent groups. Cobbled paths, leveled or stepped, branching off from the streets served as approach ways.

iii) These bungalows also had detached servants' quarters but the household kitchens were mostly accommodated within. The main structure located centrally within the plots maintained substantial setback from the front boundary. Its forecourt area normally had moderate landscaping suited to the humble needs of their owners. The natural vegetation on the plot was otherwise left undisturbed.

The symmetrical plan-form generally had a central hall flanked by one or two bedrooms on

*Villa Port**Gulshan Bungalow**Granville (Cecil) Hotel**Typical layout of early hotel complex*

either side; each with attached bath areas. The kitchens were accommodated within the house, adjoining the living area at the back. The detached privies were located in the rear open space.

iv) The Peerbhoy bungalows, forming the street side groupings, mostly had verandahs facing the street. A few plots that were endowed with a good view on the opposite side had their main verandas overlooking the view and smaller verandahs facing the street serving as the entrance.

v) With the ground coverage ranging between 10% to 30% of their plot areas, the bungalows were fairly compact and modest in scale, mostly single storeyed structures covered by sloping roofs and occasionally having double height core areas. The room sizes and heights were moderate, thus creating the built forms of more intimate scale. The bungalow built in red laterite, borrowed its style of treatment and fenestration from its European predecessor, but was fairly subtle and humble in ornamentation.

2.5 HOTELS AND SANATORIA

i) The early hotels were also located on large plots with detached blocks arranged with due respect to the terrain and the forest cover.

ii) The layouts of hotels were informal with loosely grouped detached structures. The guest bed rooms and ancillary units comprising the lounges, the dining blocks, kitchens and stores etc were accommodated in separate blocks. The blocks containing rooms generally oriented towards the best view or the common garden areas.

iii) The design adopted by the hotels and sanatoria was a standard and most functional prototype with rooms in linear arrangement with a front verandah. The independent blocks comprised rooms in varying numbers ranging from two to eight. Detached small cottages for family accommodations were also prevalent. Baths and dressing rooms were attached to the bedrooms in the rear that were served by a secondary access to facilitate cleaning and maintenance without hampering privacy of the bedroom. The blocks had detached or semidetached privies.

iv) The hotels, though simpler and standardised in plan organisation, were comparable to the domestic buildings in scale, treatment and construction. The sanatoria that came in fashion in the beginning of twentieth century mostly



Lords' Hotel



Byramjee Jeejeebhoy Hospital



Kapadia Market – Entrance-way



Hermitage – The Chapel

adopted their form and planning from the hotels.
v) In later phases, many bungalows were converted into hotels and sanatoria as the simple linear format of bungalows conveniently accommodated the change of use. With this trend a new typology was added to the vocabulary of the hotel design.

2.6 INSTITUTIONAL, COMMERCIAL AND MIXED USE BUILDINGS

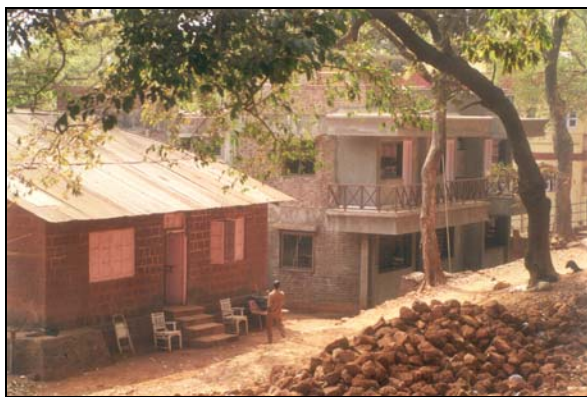
i) The institutional buildings resembled the domestic buildings in their form, scale and treatment while their internal layouts were modelled to suit the functional requirements. The only exception that differed in form was the Byramjee Hospital that was specially designed for the function it was assigned to. The religious structures while following their respective norms of internal planning possessed built-forms confirming with the general architectural character of the hill.

ii) When the bazaar developed, the main spine of Victoria Road was flanked by small, well-spaced structures located on independent plots. These were small bungalows having a single shop or a series of them replacing its front verandah with the residence of the owner in the rear. The system of weekly market with informal street vendors was popularly used in Matheran till the Kapadia Market was built in 1919. It was designed as an organised market place to provide appropriate environment for outdoor vendors as well as covered stalls. All these commercial and mixed use structures, built in laterite, maintained unity of forms and architectural features that has significantly contributed to the character of the streetscape.

2.7 VILLAGE HOUSES (BAZAAR)

i) The village settlement was laid out in the east of bazaar spine forming a part of bazaar area, along the eastern edge of the main plateau. The detached single-family houses were located on very small plots mostly ranging between 100 Sq. Mts. To 250 Sq. Mts. The rectangular plots were arranged in groups of 4 to 8 houses forming blocks generally laid out in gridiron pattern. The distribution of blocks was in accordance to the topography and care was taken to preserve the natural drainage channels as forest areas.

ii) The houses occupying 30% to 60% ground coverage, maintained narrow setbacks (1 to 2 Meters) from all plot boundaries while no boundary walls demarcated the plot. Individual houses had high plinths to suit the sloping land



New Construction in Bazaar area

profile. The single storeyed structures consisting a verandah and two to three rooms were built in load-bearing laterite masonry and covered by pyramidal or gable ended roofs. Except for occasional use of decorative railings, the structures were extremely simple and humble in treatment.

iii) The housing clusters were formed on the basis occupations or castes. Each cluster was served by public toilets and community water tap.

2.8 IDENTITY (NAMES OF STRUCTURES)

i) The architectural character of Matheran has been influenced by the socio-physical needs of its founders and the contextual needs of the place. Just as the built form character of the structures is suggestive of their historic association, their names are also indicative of their historic background and the context.

ii) Some of the structures were named after their original owners such as Barr House, Elphinstone Lodge and Robertson's Bungalow. Some are indicative of their form and architectural character like The Chalet and The Bee-hive. Some suggest association to a landmark location or the distant views obtained from the structure such as Garbut View, Prabal House, West View, Olympia House, Mount Pleasant and Melding House. Some are appropriate to the forest environment like Greenwood, Underwood and The Wilderness. Association to Peerbhoy and in particular Bohra community is identified by names like- Aman Lodge, Khatija Lodge and Adam Villa. The Stonehenge, Bella Vista, Belvedere, Regal, Rugby are some of the commonly used names introduced to the Indian soil by foreigners.



Neter Villa

2.9 TRANSFORMATIONS

i) Most of the original structures are surviving in sound structural condition till date, but over the years many have undergone transformation in the wake of better maintenance, to meet the demands of the changed use or merely for personal fancies of their new owners.

ii) Pointing and painting to the exposed laterite masonry or plastering of the exposed surfaces has been commonly carried out for prevention of dampness. Insensitive use of cement plaster and pointing being incompatible with laterite, has led to deterioration of the structures. The structural strengthening of plinths by buttresses is done in some cases where the abnormally high plinths are subjected to unequal settlement.



Bombay House – Bungalow converted into hotel



Rutlands – Bungalow converted into Corporate guest house



Olympia House



Byramjee House – Heritage structure at risk

iii) Original Mangalore tile roofing is largely replaced by corrugated G.I. sheets to protect it from the monkey menace. Wherever damaged, cast iron railings are also replaced by timber railings.

iii) When the system of septic tanks was introduced to the hill, the primitive method of manually removing the night soil was abandoned. Presently, all structures on the hill have independent septic tanks provided within the plots. With the improved facility, the attached bath areas in the house could be converted into toilets.

iv) As the domestic structures were put to other uses like hotels, shops and sanatoria internal changes as well as external interventions modified them to a great extent. Detached additions on the plot and attached extensions to the original built-form have been carried out on large scale, at times with total disregard to the original character of the form - its proportions, the value of its elements and the structural limitations. Fortunately, there are ample examples of sensitive and coherent interventions as well, attempting to maintain the ambience of the structure and its setting.

v) The most vulnerable area to have suffered the assault of transformations is the bazaar where numerous informal kiosks, stalls and infills have disrupted the historic setting and defaced the modest structures of old times.

vi) With the change of use and ownership, many structures have changed their identity. The original names of the structures that held significant historic or contextual association are being replaced by new names totally alien to their identity.

2.10 PRESENT SCENARIO OF BUILT HERITAGE IN MATHERAN

i) The bungalows in Matheran comprising more than 30% of the plots in Matheran have significantly contributed in shaping the social structure as well as the local economy. Many of the large bungalows that once were the pride of the place are surviving in desolation and a sorry state of maintenance.

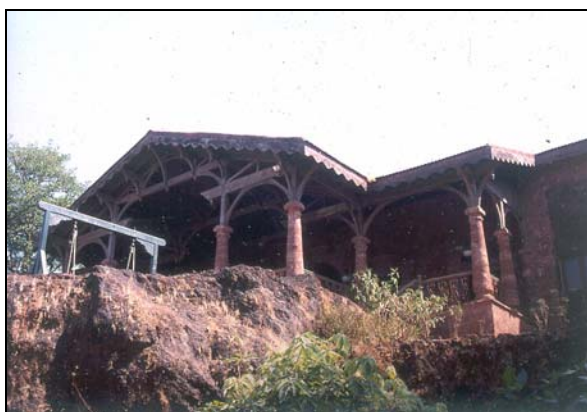
ii) The owners who visit the bungalows once or twice a year have little interest in spending money and time over these bygone glories. The meager salaries of the 'malis' are a cause of their lack of interest in maintaining the large properties. They have to support their lives on



Hotel New Rugby – Incongruous new built-forms replacing heritage structure (Scott's Bungalow)



Hotel Rangoli - New vocabulary of architecture



Cairn more – Sensitive reconstruction

additional earnings they make by running a petty stall or toiling as headloaders for the tourists.

iii) Out of 162 original bungalows in Matheran area, 6 have collapsed, 10 are on the verge of extinction, 4 have been razed to ground for new hotel complexes and about 50% or more are at risk mainly due to the neglect or being under commercial pressure. Yet, there is enough room for hope as a large number of bungalows are still in sound structural condition, maintaining their historic integrity.

2.11 MODERN TRENDS

i) Since the law has banned the extraction of laterite from the local quarries, for the essential cause of environment protection, the new structures have resorted to R.C.C. construction. The trend of framed structures with infilling brick masonry has replaced the traditional load-bearing system. The shift has greatly changed the vocabulary of architecture over the past twenty years. Double or multiple storeyed structures with flat rooftops first made their appearance in the 1980s. The trend has firmly set in the area in spite of the fact that load-bearing technology is more appropriate and economical for the low rise typology that Matheran demands. Construction costs in Matheran have been extremely high as the building materials have to be imported from outside and overhead charges are phenomenal owing to the hilly terrain and cumbersome methods of transportation of goods.

ii) The mounting commercial pressures are taxing heavily upon the existing plots and the building stock. Consequently, the original built-forms that have lent a cohesive townscape character to the hill are being replaced by buildings alien in appearance and speculative in essence. Provisions in the Development Plan of Matheran, granting of F.S.I. rights and permission to build basements and stilts, have opened new avenues of speculative exploitation for the 'developers'. In the absence of strict regulations and guidance for design control, architecture of Matheran is thriving on the styles mostly borrowed from the urban chaos like Mumbai.

iii) There have also been some conscious efforts to recreate the ambience of the past while constructing new.

2.12 INFERENCE

The architectural character of Matheran displays significant values. The socio-cultural values are



reflected in the form, design and ornamentation. The vernacular values are apparent in the use of materials and technology while the landscape-ecology values are reflected in setting and response to the climate, topography and the natural environment. The aesthetic values are judged from the scale, appearance, detailing and skyline etc. The rarity and landmark role of the structure are significant values subjective to a particular built-form while the uniformity and the unity of architectural character significantly contributes to group value and the townscape character.

The various values associated to the structure directly contribute to the evaluation of its Architectural Significance, which further helps in determining its Historic Significance. As per the Selection Criteria, Evaluation of Cultural Significance, (Part III B, 4.2.5), the Historic Significance of the component is one of the key concepts in determining the Cultural Significance of that component.

PART IIIA IDENTIFICATION OF CULTURAL HERITAGE

3.0 PLANNING / TOWNSCAPE / LANDSCAPE

3.1 INTRODUCTION

The planning history of the hill station dates back to 1850s when the initial surveys were carried out and the plotting of large residential properties as well as essential infrastructure was completed. The entire town structure with all roads and plots was crystallized by the beginning of twentieth century. Over the years the basic historic framework of the town and its setting of plots have maintained integrity while changes have taken place in the land-use and built-form character.

The chapter analyses the evolution of the historic town structure, identifies its elements and emphasizes upon values of traditional townscape and landscape character. It also discusses the present status of the town and the impact of recent developments and new trends on the traditional coherent and harmonious character of the town and its natural environment.

3.2 HISTORIC TOWN STRUCTURE

(ref. Part III, Chapter 1.0-Historic Growth and Development and Table 2 – Morphological Status of Plots)

3.2.1 Evolution of Historic Town Structure

No local settlement existed on Matheran plateau before the British stepped in. The virgin hill with its salubrious weather, characteristic topography, overwhelming surrounding landscape and the forest was chosen an ideal spot for a military sanatorium initially. As the place was further explored the hill was found more appropriate for a holiday resort where the Europeans could create a healthy residential landscape resembling the countryside in their own homelands. 'A large plot that would be ideal to build a cottage' was the common denominator of the historic layout of Matheran hill. The topography was the guiding factor. The concern for environment and the understanding of natural processes led to the refinement and detailing of the layout. The need for essential infrastructure and recreational amenities gave rise to development of other components of the town while the fashionable lifestyle of the Europeans that depended solely on the services of the native population was instrumental in shaping the village settlement on the hill.

3.2.2 Planning in response to physiography

i) The hill town spread over the main body of the hill and its adjoining spurs with its administrative boundaries more or less coinciding with the natural edge of the plateau.

ii) The residential plots were laid out considering topographic suitability and care was taken to avoid steeply sloping lands within the plots. The private properties were laid maintaining substantial from the hill edge as the entire periphery of the plateau offering excellent views of the landscape was treated as a public resource and was maintained in its natural state. The high plateau areas were considered ideal for residential plots.

3.2.3 Road Network and Hierarchy

i) The network of paths links all the areas on the central body as well as its spurs forming loops around elevated plateau areas. All major paths were laid out almost parallel to the contours in order to achieve fairly shallow gradients seldom exceeding five to ten degrees. The minor roads that served as connectors between the sets of parallel roads were often steeper being laid across the slope.

ii) The Victoria road (M.G. Road) that serves as the main access to Matheran was the most important spine in the street hierarchy. It was an extension of Ghaut Road (Neral Road) that terminated at Dasturi. The north south alignment of Victoria road also linked the historic access path to Matheran used in the past to ascend the hill from Chowk village. Following the development of bazaar and the railway station along this principle spine it has emerged as a socio-cultural and economic center of the hill station.



Road network in response to topography

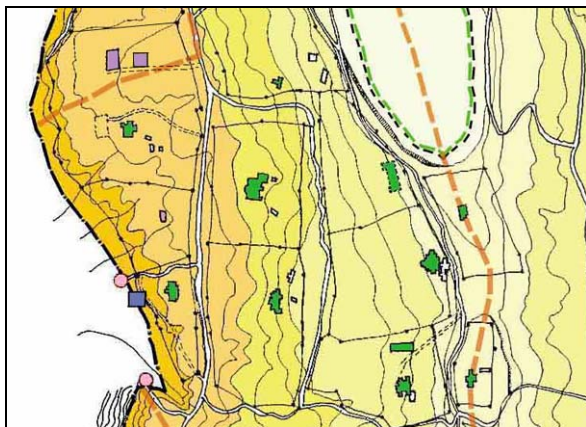
iii) The roads forming major network and linking important viewpoint and locations on the hill maintained uniform width of nine feet. The other paths mainly serving as minor linkages and

forest trails were narrower and at times steeper in gradient or stepped. Every house was linked by cobbled pathway that branched off from the main network. Public access to every viewpoint and spring was ensured and served by cobbled pathways.

3.2.4 Pattern and Sizes of Plots

i) The locations, sizes and distribution have close association to the chronological development of Matheran. (ref. Table 2)

ii) The plots developed in the initial phase had fairly uniform size with maximum plot area controlled to the limit of 5 acres (Approx. 2 Hectares). These were situated at high plateau areas and mounds along the principle ridges to obtain best view. The plateau areas were considered ideal for construction being scantily wooded, flatter and rocky with greater bearing capacity.



Morphology of large plots

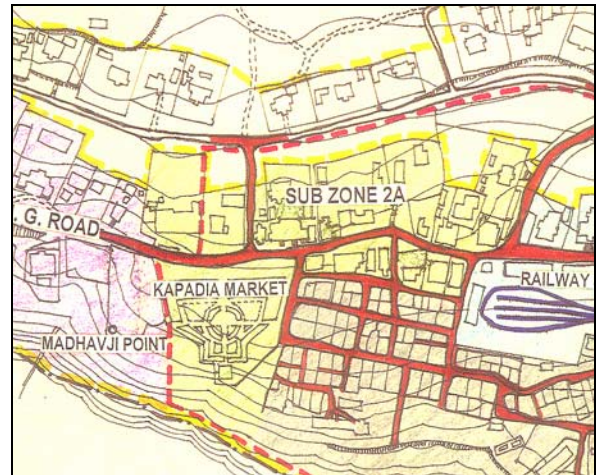
iii) Plots developed in the later half of second phase were located in areas of lesser importance, as infills between large plots developed earlier, in the Charlotte lake catchment area and in the close vicinity of the spine road. These plots, smaller in size (5000 to 10000 Sq. Mts.) were mostly owned by wealthy Indians. Plots developed in Peerbhoy phase (1000 to 5000 Sq. Mts.) were arranged in linear groupings along the most important spines and the newly laid railway tracks. The village plots (100 to 250 Sq. Mts.) were grouped into blocks laid out in gridiron pattern. The block size was restricted and undeveloped patches were left between the adjacent blocks to allow for unobstructed surface drainage.

3.2.5 Plot to street Relationship

To maintain the continuity of the forest areas and to accommodate surface drains, all plots boundaries maintained substantial setbacks from

the roads. The widths of setbacks varied and at times the plot lines were fairly irregular.

The street pattern being laid in accordance to the topography occasionally created acute junctions. The wedges formed at such junctions were maintained as forest areas instead of being included in private properties. Originally all bazaar plots were laid out forming distinct setbacks from the street. Informal additions and extensions of shops have considerably distorted the traditional pattern.



Morphology of Peerbhoy plots and bazaar plots

3.2.6 Organized Surface Drainage Alignments

of the natural drainage channels were left undisturbed while plotting and care was taken to retain them as forest areas to avoid obstruction to the channels by construction. Open drains normally lined both edges of the road and culverts laid at regular intervals across the streets helped draining off the surface water towards the valleys. Well-defined and coordinated drainage system from upper elevations to the lower ones helped effective disposal of surface runoff and avoided water logging.



Integrated drainage system presently at risk

3.2.7 Street Edges

Wherever the natural slope was cut to maintain the street levels, the plots boundaries adjoining the street were stabilized by laterite retaining

walls, which offered a strong visual edge of the street. The historic pattern of retaining walls is largely damaged over the years causing heavy soil erosion and uprooting of numerous trees along the street edges. High retaining walls defining the western edge of bazaar spine, which lent a definite character to the streetscape, are being disrupted by new constructions or due to lack of maintenance.



Laterite retaining walls defining street edge

3.2.8 The Street Floor

i) Matheran is well known for its red soil and the red laterite floor of the streets contributes greatly to its townscape character.

ii) The laterite cobbled paths served as an ideal surface for walking and horse riding. The floor of all streets was well compacted, cobbled and edged with laterite blocks. The profile of the floor facilitated easy disposal of surface water to the open drains along both edges of the road. Regular maintenance and yearly repairs have helped maintaining the historic streets for ages. In the recent years the roads have suffered greatly due to heavy tampering by tourists and the negligence in their maintenance. The present condition of roads is miserable, as most of the roads have caved in promoting waterlogging and their surfaces have become extremely uneven with exposed boulders rendering them unsuitable for use.



Traditional laterite cobbled street floor

3.2.9 Zoning

i) Matheran town was divided into two land-use zones - The bazaar area and the rest of Matheran. The Matheran area is predominantly residential while the bazaar includes mixed land-uses along with the local village settlement. The bazaar area is distinctly different from Matheran area in character and is governed by a special set of regulations right from its inception. The zones were defined by the end of nineteenth century when the bazaar was laid out in its final position where it stands till date.

ii) By designation of land-use Matheran area may be categorised as 'residential' but it actually has fairly scattered residential structures set amidst dense forest.

iii) The street, which served as the main access to the town was chosen as the hub of all important landuses and commercial thoroughfare. The situation of the bazaar spine on the eastern hill slope near the edge of the valley is remarkably different from the conventional siting of main spines on other hill stations. Normally the ridgeline of the hill was considered ideal for locating the socio-economic center of the town which was surrounded by other residential landuses. However accessibility was the principle factor of consideration that determined the siting of main bazaar in case of Matheran.



Bazaar located along eastern valley edge

iv) To create a leveled spine road the hill was cut and terraced. The characteristic streetscape of the bazaar spine with structures on elevated land on the west and lower level on the east is attributed to this physical modification.

3.2.10 Townscape Character

On the whole, the townscape character of Matheran was dominated by the forests while the bazaar area serving as the town core bustled with activity. Winding shady streets following the contours and the street-floors of laterite cobbles

established intimate relationship with the nature and the physiography of the hill. Natural settings and informal grouping of large plots guided by the winding streets contributed significantly to the townscape character.



Structure nestled in the forest

v) Very rarely one could get a glimpse of the bungalows from the street. Occasionally the humble structures of servants quarters or horse stables located near the entrance gate could be spotted from the street, otherwise a low randomly built compound wall and an elaborate entrance gateway suggested the presence of the bungalow. The structures that occupied meager ground coverage were substantially scattered being situated on large plots.



Entrance gateway suggesting the presence of the bungalow

vi) A few areas in the vicinity of bazaar and along the spine roads were densely built up in comparison to other remote areas where the plots were smaller in size and the ground coverage of structures comparatively larger. The built-forms of moderate scale having a uniform architectural character lent homogeneity and unity to the townscape. The structures in typical bungalow format with front verandahs, high plinths and pitched roofs dwelt within fairly wooded plots that maintained setbacks from the streets. Uniform building lines, their intimate scale and proportions and undulating skyline tied the structures informally to the streetscape.

vii) The bazaar spine was dotted with detached single storeyed structures having uniform builtform character that derived from domestic design. The characteristic profile of the street with high laterite retaining wall forming its western edge and irregular building line of the eastern structures situated at lower level lent a visual definition to the street. Though the street was actually narrow for a core area, the plot boundaries that maintained substantial setbacks from the road created broad forecourt areas that were fairly shaded with lofty trees. Being associated to the street these areas formed informal outdoor spaces that were enlivened with activity. The informal spine linking all infrastructure facilities was the lifeline of the fashionable hill resort.



Small plots along the street maintaining wooded setbacks

viii) The village settlement in bazaar area differed from other areas due to the denser urban pattern and fairly organised gridiron grouping. The area with detached smaller structures with narrow setbacks in front and narrow on the sides was conspicuously devoid of trees.

3.2.11 Landscape Character

i) Landscape of Matheran was characterized by the dominance of forests rich in indigenous semi evergreen species. The forests comprising a three tier system of tall and medium sized trees, bushes and exuberant ground cover was maintained in its pristine natural state in most areas. Even the private properties were insisted upon maintaining natural forest cover within while allowing only essential clearings around the bungalow. The extent of hard-paved areas was generally maintained at the bare minimum and the natural paving of laterite cobbles was extremely compatible with the earth-scape visually as well as physically.

ii) Excepting the immediate surrounding of bungalows that were developed as formal English gardens by the owners, ornamental

landscaping or formal street planting was not prevalent. Setbacks of varying widths between the plot boundaries and the street helped maintaining the continuity of the forest.



Plot configuration-maintaining continuity of forests

iii) Every viewpoint was provided with public access and the vistas from the viewpoints were ensured by clearing the forest in the close vicinity and regularly trimming the overgrowth. A bench often furnished the viewpoints or a stone seat but the area was normally left undeveloped and unbounded to maintain its natural profile. Besides the headlands and viewpoints numerous locations were identified on the plateau that could offer excellent vistas of surrounding landscape. All such locations marked as G.P.s or Griffith's Peeps on the survey map were maintained like viewpoints and the vista from G.P.s was always ensured by trimming the trees obstructing the view.

iv) The bazaar spine area comparatively less vegetated being densely built-up. Besides the natural vegetation and the street edges contributing to the landscape character of the bazaar spine there are no clues to the evidence of any historic street furniture or signage.

3.2.12 Ownership Pattern

i) Matheran is a unique settlement where most of the properties are leasehold, under the ownership of Revenue Department. The possession of leasehold properties lies with various trusts, companies and private parties. The pattern of leasehold status was introduced in 1853 (following the example of Mahabaleshwar, the British hill station developed prior to Matheran) when the first 70 plots were laid out and released for public sale. Recently the Government has extended the lease periods with revised ground rents that have been substantially hiked.

ii) The lease status of plots has been favorable for the town and in a way it has helped in

maintaining its historic integrity. As the ownership of the plots lay with the Government, the trends of speculation were in check, to certain extent. Even the forests in the leasehold properties were better guarded against exploitation being governed by the forest department.

iii) Presently the ownership of lands in Matheran other than the leasehold properties in possession of Revenue Department, is mainly distributed among the Forest Department, Matheran Municipal Council and Matheran Railways.

iv) All forestlands in Matheran are 'Reserved Forests' under the jurisdiction of Forest department, which also include the narrow belts of forest between the streets and plot boundaries as per the historic urban pattern and the lands under natural features such as viewpoints.

v) Most plots belonging to civic infrastructure are owned by Matheran Municipal Council while the entire land under the railway station, its ancillary structures and the railway tracks including the prescribed reservations on either side, are in possession of Matheran railways.

3.2.13 Identity (Names of Roads and Features)

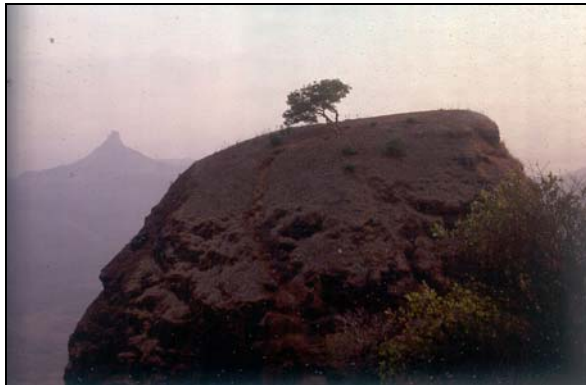
(ref. Annex.4 List of roads - Historic Identity)

i) Like the identity of bungalows, various roads and features such as viewpoints, springs and landmark locations were offered an identity that occasionally related to their historic background or contextual significance.

ii) While the principal spine road was named as Victoria or Queen's Road, another major road forming loop around the Rugby plateau was named as King's Road. McPherson Road, Malet Road, Murison Road, Willingdon Road, Elphinstone Road were among others that established their connection to the founders of the hill. Some names like Porcupine Point Road, Chowk Point road, Louisa Road and Garbut Point Road were simply suggestive of their destinations while others like the Cutting Road, Danger Path and Coolie Path were indicative of their character and the use. Roads were also named after important Indian personalities associated to Matheran such as Panday Road, Madhavji Road and Khan Road etc.

iii) Some viewpoints, springs and locations owed their identity to the persons responsible for their exploration and development while some acquired their names from the close relatives of early residents on the hill. Malet spring, Birdwood Point, Lumley seat were developed by the respective personalities while Charlotte, Louisa, Myra, Beatrice and Cilia were names of the

wives or sisters of certain European residents. Chowk Point, Khandala Point, Maldunga Point and Neral Point suggested the view that was obtained from while the Landscape Point, Artist Point and Honeymoon Point were simply appropriate for their scenic value. The name Garbut associated itself to particular type of quartz found on the plateau locally known as Gharbutt. Money Point was named so as the specie frequented the point in large numbers while the One Tree Hill was indeed a hillock with a single tree upon.



'One Tree' Hill

iv) The identity holds extremely significant association value specific to the historic background and local context.

3.2.14 CONCERN FOR ENVIRONMENT PROTECTION

i) The history of regulations governing the Development Control and ensuring the protection of environment and townscape character dates back to nineteenth century when the first batch of plots was released for public sale. (ref. Part III – 1.3.4). Rules specifying the maximum permissible size of the land holding, nature of the boundary demarcation and measures to be taken for the protection of natural surface drainage channels while siting the structure, were inherent part of the lease document. The Revenue Department governed and regulated the matters of Land Development while the Building Bye-laws were prescribed by Matheran Municipality.

ii) The concern of the authorities for the protection of the unique environment and the townscape character is reflected in subsequent lease documents as well as the directives of Revenue Department applied specially for Matheran Hill station.

Salient features of a Resolution (No. HST.1059-UD-19323-31, Sachivalaya, Bombay, dated 8th Sept. 1959) issued by the Revenue Department of the State Government of Maharashtra are suggestive of the sensitive approach.

- Rules governing the payment of ground rents and extension of Lease tenures, expansion or transfer of properties, change of use of leasehold properties etc.
- Regulations governing the construction on leasehold properties, procedures of building approvals, applicable building byelaws.
- Conditions governing development of new hotels, minimum space standards and the essential level of infrastructure facilities to be maintained by the hotels etc.
- Rules prescribing health standards and cleanliness in individual properties and control on unauthorized use of ancillary structures in leasehold properties.
- Stringent control on felling of trees or exploitation of forest cover in the leasehold properties and other forest lands, restrictions on the extent of clearing allowable for the structure on independent leasehold plots.
- Restrictions on killing of wild birds /animals.
- Rules governing blasting operations and quarrying sites.
- Rules identified for restriction on furious riding on certain streets, parking and stabling of horses. The standard rates of ponies and other conveyances.
- Regulation prohibiting any kind of wheeled traffic on the roads in Matheran.
- Restriction on unsightly hoarding or advertisement boards.

3.3 PRESENT SITUATION

3.3.1 Transformation of Historic Town Structure

i) The hill station suffered an initial inertia when the British left. Thereafter the development picked up momentum and past thirty years have seen increasing tourist activity followed by rapid growth and transformation of Matheran town. As the formation of new plots is not encouraged, the town has not physically grown, but over the years, notable changes have occurred in the townscape components while maintaining the established historic framework of the town more or less intact.



Transformations within historic urban pattern

3.3.2 Background of Transformation (Role of Development Plans in Promoting Change)

i) Prior to the Development Plan of 1887, the Land Development in Matheran was mainly controlled by the Revenue Department while Building Activity was governed by the Building Bye Laws prescribed by the Municipal Council.

ii) Following the First Regional Plan for Mumbai Metropolitan Region (1973), that identified Matheran as an urban area, the preparation of Development Plan for Matheran was initiated in 1977 by Matheran Municipal Council as the Planning Authority under section 30 of M.R. & T.P. Act of 1966. The Development Plan was finally published on 1st March 1987.

iii) Draft Modifications to the present D.P. under section 38 of M.R. & T.P. Act of 1966. were issued by the Matheran Hill Station Municipal Council and Town Planning and Valuation Department, Raigad Branch, in 1998. (Detailed appraisal of the said Draft Modifications is attached as Annex.1 – D.P. Appraisal and Comments)

iv) The Draft Modifications suggested major changes in the character of the Development Plan of 1987 and proposed to replace the prevailing Development Control Regulations by a fresh set of regulations. Besides proposing a number of inappropriate Land-use Reservations at various locations, the Draft Modifications also proposed to link the Hill Station to the region by ropeways and helicopter service. Proposal of motorable road was suggested to connecting Dasturi Naka with the proposed ropeway station at Monkey Point.

v) Major revisions in the D.C. Regulations included - 1.33 F.S.I. granted for the Bazaar area, higher F.S.I. benefits to the hotels as compared to the residences, permission to build stilts, basements and mezzanine floors etc. The detrimental effect of these regulations has begun to show in the new developments. The trend of exploitation and violation of F.S.I. rights is giving rise to incongruous built-forms and deterioration of townscape character especially in the bazaar spine. Higher incentives awarded to hotels are leading to development of large hotel complexes on heritage properties and the town is gradually losing its cultural identity.

3.3.3 Existing Land-use Pattern

(Ref.- 4.1 of Draft Modifications to existing D.P. of Matheran Hill Station)

Landuse Percentage to Total Town Area

Residential	22.49%
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Commercial	5.38%
Public & Semi Public Amenities	2.17%
Public Utilities	0.04%
Transport & Communication	2.00%
Recreation	2.77%
Forest Lands	63.32%
Misc. users	1.83%

v) The land-use pattern of Matheran is unique for an urban area as it is mainly dominated by the forest areas.

3.3.4 Density Pattern

i) The town density of Matheran is apparently low (6.5 persons per Hectare) as the forests and other natural and man-made features occupy large percentage of the geographic area of the town and the permanent population on the hill is meager. If the floating population is considered for the computation the figure would appear rather alarming (20.3 persons per Ha. Assuming 10000 persons as the floating population)

ii) The area of Matheran plots forms approx. 32.9% of the total town area while the area of plots in the bazaar zone comprise only 1.49%. The Matheran area does not actually house sizable permanent population as it is mainly occupied by bungalows serving as vacation houses and the hotels with temporary occupancy. Hence the gross figure for Matheran area may be decisive and unreal. If judged visually, the density is very low with patches of comparatively denser areas existing along M.G. Road near Galti Dara and in the vicinity of bazaar area where most of the hotels are concentrated.

iii) The gross density of bazaar area is fairly high as the village settlements have smaller land-holdings and greater percentage of permanent population. The village settlement is sprawling and being filled up with encroachments and informal hutments. As a result, the density has increased manifold over the years. (The gross density figures could not be presented as the factual demographic data for bazaar and Matheran areas could not be availed.)

3.3.5 Plot Distribution and Trends of Transformation

(Ref. Table Nos. 2 and 3)

i) Out of total 510 total plots in Matheran town, 254 plots are situated in Matheran area while the rest 256 comprise the bazaar area.

ii) The total areas occupied by Matheran plots and Bazaar plots are approx. 240 Ha. and 11 Ha. respectively. This indicates the concentration of small plots in bazaar area and the existence of large land holdings in Matheran area. Plots in

Matheran, largely belonging to bungalows have developed in phases over a period of 150 years. Out of 153 original bungalow plots, about 9 have been subdivided forming 162 independent plots. Presently, only about a hundred have continued their residential use, 50 have been converted and others are structurally unsuitable for use. Among the 50 bungalows that have changed their use, 37 have been converted into hotels and the others into sanatoria or holiday camps. About 4 old bungalows have been replaced by new hotel complexes after demolition with a few more are likely to follow the same fate in near future. The existing hotel complexes have ambitious plans of expansion exploiting the revised F.S.I. rights in their favour. The bungalows that are converted into hotels are mainly distributed in the close vicinity of bazaar area and along M.G. Road. Similar trends of conversion are evident in bazaar plots where about three to four old bungalows have been demolished to build new hotels while some have been converted into shops, restaurants and hotels.



Disruption of traditional townscape character – M.G. Road

3.3.6 Built-up Areas and Ground Coverage (Change in Traditional Pattern)

i) The trend of conversion of single family domestic buildings into hotels is giving rise of intensification of built areas on existing plots. The attached and detached additions to the existing structure essential for accommodating the changed use are leading to considerable increase in the ground coverage that has been substantially low (approx. 2% to 6%) so far. If the trend continues, overall ground coverage would increase substantially as the large plots comprise a sizable percentage of the town area. Besides increasing the ground coverage the trend would also lead to massive destruction of the forest.

ii) As per prevailing Development Regulations the allowable built-up areas as well as the ground coverage in Matheran plots is controlled at 10% of the plot area. It is observed that almost all the structures located on small plots

(Peerbhoy plots) have already exceeded their limit of permissible built-up areas being governed by the building bye-laws prevailing in the past that controlled the allowable ground coverage at max. 1/3rd of plot area while the concept of F.S.I. was not applicable. Incidentally the same lot of structures, being endowed by good accessibility, has displayed maximum rate of conversion (from residential to hotel use). Consequently a high percentage of structures indicate violation of permissible area limits.



New features replacing traditional Street edges – M.G. Road

iii) Fairly high F.S.I. (1.33) is allowed in bazaar area, with the ground coverage restricted at 0.67% is leading to the trend of G+1 storeyed built-forms in the area where the traditional pattern is dominated by single storeyed structures. Numerous plots in bazaar area have already violated all norms of regulations while building higher than G+2 and exceeding the allowable limit of F.S.I.

3.3.7 Changes in Townscape Character

i) Change in the traditional settings, interventions to the original buildings such as additions, extensions and change of finishes have led to deterioration of historic architectural character over the years.

ii) Increasing density and heights, considerable change in the traditional configuration of plots and the pattern of open spaces is gradually disrupting the townscape character.



New vocabulary of Architecture – Hotel Point View opposite the Karsandas Mulji Library

iii) New vocabulary of architectural forms, finishes and colours is now dominating the urban scene. Informal kiosks, and stalls built in substandard materials and adorned with hoarding and signboards in flashy colours and neon signs stand in contrast with the natural streetscape.



Sprawl of informal stalls along M.G. Road

iv) Besides encroaching upon the forestlands disrupting the historic street edges, these structures also obstruct the view of heritage structures that contributed significantly to streetscape. Increasing tourist activity, numerous fast-food joints and uncontrolled hawking lead to clutter and chaos in peak seasons.

3.3.8 Changing Landscape Character

i) Although the ambiance of natural forest cover is preserved in Matheran apparently, the forests in many areas are gradually depleting due to increasing density and construction activity. While the forests in remote areas are thriving, the streets have suffered great damage due to over-use and the street edges have been washed out due to erosion.



*Disruption of traditional street edges
Causing heavy soil erosion*

ii) The traditional pattern of laterite retaining walls edging the streets has been greatly disrupted leading to uprooting of thousands of trees per passing season. Heavy surface runoff and soil erosion are in turn leading to loss of valuable ground cover that holds immense ecological importance and contributes to health of the forest.

iii) Large hotel complexes, besides giving rise to destruction of forest cover on massive scale are also initiating change in the components of landscaping. Indigenous species of plants are replaced by ornamental planting. Instead of the natural paving, large areas are paved with impervious materials that leads to obstruction of natural drainage channels, aggravates the rate of surface run-off and also reduces the natural recharge of subsoil water.

iv) The traditional G.P.s (Griffith's Peeps) no more exist on the plateau. Ambitious plans of beautifying the natural viewpoints is disfiguring the natural landscape while the environmental condition of the points and their public accesses are largely neglected and unmaintained. The vistas from the points are obstructed by plant overgrowth in many cases.



Structure disfiguring the natural viewpoint

3.3.9 Increasing Pressure on Urban Services

i) Unproportionate rise in tourist activity over past few years is heavily taxed upon the urban services. The Hill station that partly depends on external sources for its water supply, has been suffering acute shortage of water in peak seasons. On the other hand the hoteliers as well as the local Municipal council have plans to add swimming pools to their amenities.

ii) Increasing practice of discharging untreated raw sewage into the valley areas is giving rise to deterioration of the entire eastern valley edge. As a result the natural viewpoints along edge are suffering serious environmental degradation.

iii) As the town is not served by underground sewerage system individual plots are provided with septic tanks. The limitations of the prevalent system of sewage disposal must be taken into consideration while proposing expansion of tourism facilities on the hill.

iv) The assessment of carrying capacity of the hill needs to be undertaken as a prerequisite of any management plan for Matheran.

3.3.10 Degrading Environment and Threat to Ecology

i) The adverse impact of rapid development and unproportionate rise in tourist activity has already begun to show in Matheran. The destruction of forests for the want of space for development is a matter of serious concern. The hotels produce kitchen wastes and the garbage on large scale that is disposed in the forest areas giving rise to air pollution and degradation of the forest floor. Plastics and other kinds of solid wastes indiscriminately thrown on the open lands by the tourists are causing contamination of the valuable forest floor.

ii) Destruction of traditional street edges and the integrated drainage pattern are leading to heavy soil erosion. As a result, the roots of the trees in the vicinity are left unexposed. Season by season Matheran is losing thousands of trees in this way and millions are on the verge extinction.



Forest at risk

iii) Old quarry sites, now abandoned, are also causing serious problems of soil erosion. Although quarrying is banned in Matheran now, the practice of removing of topsoil for gardening has continued without any check.

iv) The valley areas especially in the east have become a huge dumping place for the garbage, solid and liquid wastes and raw sewage which is causing serious environmental degradation.

v) The horse dung produced in large scale at the loading- unloading depot near Dasturi Naka is a

major environmental hazard as it gives rise to filth, air pollution and nuisance of horse mites.



Poor Health of Hill Station

v) If Matheran should survive as a 'healthy' resort, as it was meant to be, its 'Environment and Ecology' would be the most vital concerns. As the economy of Matheran capitalizes on its environment its degradation is bound to have far reaching impact on its existence as a hill station.

vi) Presently the forest eco-system of Matheran is maintaining a very delicate balance, which may be at great risk if the hill is subjected to unproportionate biotic pressures beyond its carrying capacity.

vii) Being a component of a continuous hill chain (Matheran - Malang Gad), Matheran shares a sensitive relationship with its region. As the health of hill has direct implications for its region, a comprehensive Management Plan aiming at 'Sustainability' is urgently needed for Matheran Hill and its region.

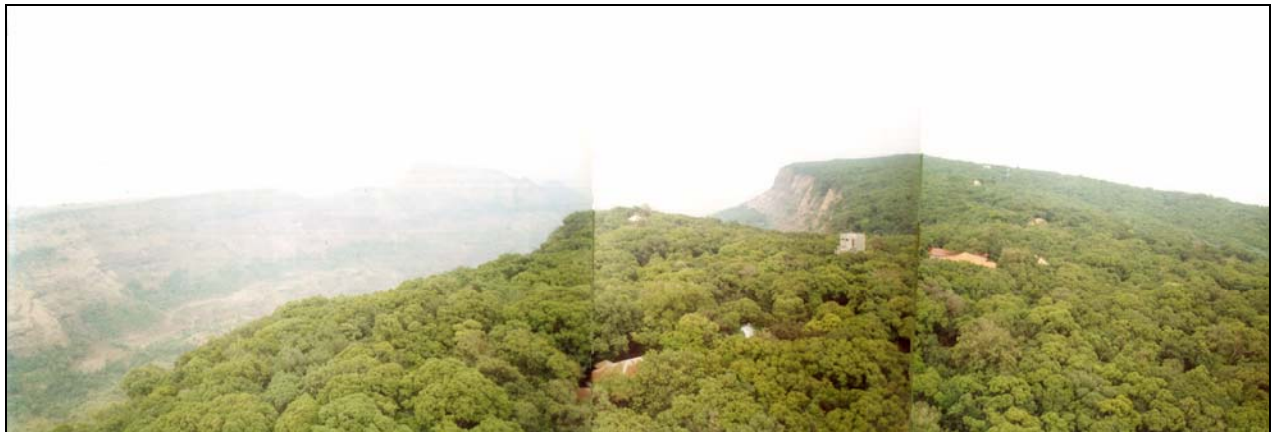
INFERENCE

The identification of traditional planning structure and the character of townscape and landscape have direct bearing on the evaluation of cultural heritage at 'Matheran Town Level' and 'Conservation Area Level'. (Ref. Character Appraisal, Part III – B, 5.0)





View of the central body of Matheran hill. The eastern spur of Garbut seen in the background.



Looking towards Alexander point and the southern stretch of Matheran plateau. Extension of Garbut plateau and the Sonderi peak seen to the left.



Panoramic view of Matheran hill seen from Neral.