GEOLOGIC - GEOMORPHIC
CHARACTERISTICS, FORTIFICATION AND
ARCHITECTURAL ELEMENTS OF ANCIENT
HINDU MILITARY CHECK POST, SHIVNERI
HILL FORT, JUNNAR, M.H. INIDIA.

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ABSTRACT

The triangular Hill Fort Shivneri had been used by Yadvas of Ancient Devagiri Kingdom as guard / check post and old trading route from Desh (interior country) to the Arabian Sea Port City of Kalyan. The Junnar city was an important trade centre in the 1st century AD during Satvahana Kingdom reign in the region. The military fortification was made by the Maratha Cheifs in 17th century (1630 AD). The great Hindu Maratha worrier Chhattrapati Shivaji was born at the Fort on 19th February 1630 AD and his name was dedicated to GodessShivai Devi of fort. The rigid and highly stable grounds of Shivneri Hill provide the intact super structure of ShivneriFort. The horizontal flat topped plateau table lands are rigid and compact in nature, belonging to the trappean basaltic rocks of Cretaceous ages. The fort was under possession of Maratha Chief (Bhonsale) from 1595 AD till the Anglo – Maratha war of 1820 AD. In this study, the lithologic and geomorphic characteristics of Shivneri Hill region and suitability of fortification under existing physical domain of the territory has been interpreted and analysed using satellite imagery data of the terrain. The study reveals that the geotectonic activity in geologic past leads evolution of caves underneath the scarp zones. The Hindu architectural features Gateways, Temples, Palaces, Monuments, Water storage systems are cultural heritages. The unique specific arrangement, seven serial gates provide high security to the fort during enemy / invaders attack. Under military invasion in March 1657, Shivaji raided Junnar which arises conflict with the Non- Hindu Delhi Sultnate. The precincts of fort follows the outer shape of triangular hill and it had been constructed with mud slurry walls. It covers 2 km length in N-S direction and triangular base of 1.65 km in EW direction. The detailed investigation is needed to reconstruct the events happened in historic period of Maratha Empire and policies adopted by Chhattrapati Shivaji under “HindaviSwarajya” (Indian Self Rule of Hindu).

KEYWORDS :- MILITARY FORTIFICATION, GEOMORPHIC CONDITION, BASALT ROCKS, CHECK POST, HILL, JUNNAR, HINDU ARCHITECTURE, MARATHA EMPIRE, CAVES, HINDAVI SWARAJYA.
A. INTRODUCTION : - The Shivneri Fort lies in Ancient Deccan Province, Western India, exhibits strong and secured hill fort of Devagiri Kingdom, Utilized as Trade Check post of merchants. The fort was under possession of Hindu Maratha Chiefs (Bhonsale) from 1595 AD. till the Anglo – Maratha war in 1820. It is located on the top of Basaltic Triangular shaped isolated hill extended over 2.0 km in length and 1.65 km width in E-W direction. The Shivneri Fort was occupied by Shivaji’s grand father Maloji (1552-1597 AD.) The Hindu warrior Shivaji was born at Shivneri Hill Fort on 19th Feb 1630 AD and named dedicated to the Goddess Shivai Devi of the Fort. In present study, the Satellite data of the terrain has been utilized to demarcate and interpret the geologic, geomorphic and structural features and correlated with the historical, cultural and constructional super structures and architectural elements of the monuments. The Strategic policy for military and guerilla warfare and coastal navy had been adopted by successors of Maratha Kingdom and Maratha Empire dominated over the Indian subcontinent till Third Anglo- Maratha battle / war (1818AD) which left the British East India Company in control of most part of Indian subcontinent. The Maratha Empire was founded on the principle of “Hindavi Swarajya” formulated by Chhatarpati Shivaji of Maratha Kingdom.

B. STUDY AREA :- The study area Shivneri Hills lies near the City Junnar (689 m.Amsl), Pune distt. M.H. The Shivneri Hill Fort is situated in geographical longitude 73°85′95″ E and latitude 19°19′90″ N. The area is a part of Harish Chandra Ranges (1438 m. Amsl) of western India represents successive hillocks and valleys of Deccan Basaltic Terrain. It Comprises Hills, plateau, Flat Topped ridges, Shallow and deep weathered pediments, Residual & Erosional Isolated hill rock through the tract in NW – SE axial orientation. The intermontain Valleys are occupied by settlements.

C. METHODOLOGY :- Under methodology, the S.O.I. toposheets were utilized as a basemap. Various literature regarding Maratha Kingdom & Western Deccan, Kokan coastal regions were consulted and analysed the facts with historical events. The Satellite imagery has been interpreted for geologic, geomorphic condition of terrain around fort hills. The suitability of Fortification and Hindu Architectural Elements have been compared and discussed.

D. GEOLOGICAL SETUP AND LITHOLOGY: - Regionally, the hill ridges have been stretched in NW orientation in linear pattern, mostly affected by lineament and faults in geologic past as evidenced by the shape of hills, sharp margins and presence of scarp at vertical cliffs. In the Shivneri Isolated Hill the western part shows N-S aligned escarpment and upheaval of mountaneous zone. Also the E-W lineament at basal part of Triangle hill makes a straight orientation. Geologically, the area is occupied by Deccan Trap Volcanic rocks belonging to upper Cretaceous age. A multilayered basaltic lava flows emerge out through fissure eruption and consolidated as Trappean layers. Varied nature of vesicular to compact trap rocks formed the lithological assemblages. The intermittent pause period, the deposition of sedimentary beds occurs as intercalations. In Junna region the lower beds of Trap rocks contains vesicular basalt whereas the upper rock formations composed of massive basalts. Hence upper basaltic rock beds are protective and occurs as scarp whereas the lower beds are susceptible to weathering and fluvial erosion leads development of caves and cavities below intact scarps of Sahyadri Group of basaltic rocks. The thickness of formation vary between (300-600m). The differential erosion, weathering and tectonic movement leads joints, fissures, scarp, faults, have been affected largely and produced the Hilllocks, Plateau, Residual hill, Isolated hill, Intermontain valley, Buried pedi plains, Geomorphic Units.

E. GEOMORPHIC CHARACTERISTICS:- Geomorphologically, the region is characterized by hill ranges, hill ridges and intermontain valleys aligned in NW – SE orientation. The major geomorphic units includes Structural hills, Erosional hills, Residual hills, & Isolated hills, hill slopes pediment, buried weathered zones, valley fills etc. The Shivneri Hill is a isolated type and in shape it appears as triangular hill. It is structurally influenced by tectonic activities prevailed in the geologic past. Three sets of lineament, fault planes NS, NW-SE and E-W surrounding the Fort Hill are responsible for Triangular shape of Shivneri Hill. Water Resource – The Badami lake, a big reservoir exist at the
centre of fort on hill top. It is a permanent water pound, also accumulated the rainy water from its catchment area. Apart from this lake there are two natural springs known as Ganga and Yamuna. It provide fresh water through out the year in all seasons.

F. SHIVNERI FORT HILL AND CAVES :- Regionally, the hill tract is a part of Harish Chandra mountain ranges of western India (Nasik, 1438 m AMSL). It comprises a series of hill ridges and intermontainvalleys, extending NW-SE orientation. Shivneri hill represent an ideal site for fortification due to its geometry, lithology, basaltic massive thick trappean rocks, high elevation, dense forest covers and rigorous accessibility. The occurrence of natural caves in the hill slope side of Shivneri Hills are common whereas the Lenyadri caves of Ganesha Parbat (Astavinayak temple) lies about 2 Km. It has been declared as a protected monument. Shivneri caves are located on Shivneri Hill top. A group of 60 rock cut Caves were excavated in 1st Century AD. Cave No. 51 has a Chaitya inscriptions. The nearby Tuljalena caves occurs in Tuljadevi Hill, 5 Km from Junnar in west. Cave No. 3 placed the Shrine of Hindu Goddess Tulja Bhavani Maa in Tulja Lena Caves Series.

G. FORTIFICATION CONFIGURATION :- The hill Fort Shivneri lies on the top level of triangular shaped Shivneri Hill. The Fort expanded over 1.65 sq. kms. The entrance has been made through Seven Gates (Doors) arranged in a Spiral Configuration. The Fort precincts have been made with Mud Walls all around the hillock margins following the shape of triangle fortification. The main gate of entrance trough south west face of the Fort and successive many gates inside. Apart from the southern Gate there is another entrance to the fort from the eastern edges of hillocks. It is known as Chain Gate. It provide accessibility to hold the chains to climb up to the Fort Gate. The mana darwaza is also famous among many other gates of the fort. Easy route is the main entrance located at S-W with stairs whereas the chain route made entrance on scarp zone of the hill and it requires tracking and climbing equipment.

H. MILITARY DEFENCE OF MARATHA KINGDOM (Chhattrapati Shivaji) :-

(i) HILL FORTS:- The military strategy includes creation of military organization with ground forces, Naval forces and establishment of a series of forts in the territory of reign. The Mavalinfantry, Telangi musketeers of Karnataka, Strengthen the Maratha Cavalry. Hill Forts had been given main priority in Shivaji strategy. He captured bigger forts of Rajgad, Torna, Kondharm, Singhagad, Purander. The strategic site forts were also rebuilt/ repaired. Each fort was under the control of three officers incharge performed the work jointly and responsible for maintenance and security of the fort administration.

(ii) NAVY :- Maratha Rulers particularly Chhattarpati Shivaji raised Naval power to control in the Kokan Coast region (1657) He purchased 20 Galivats/ships and his fleet exceeds more than 200 ships. A separate wing had been established to fortified the coastline, refurbishing and Sindhu Durg was the first fort and headquarter of Maratha Navy, many other islands in coastal zone, fortified as base station like Padma Durg by the successor of Shivaji reign.

I. ARCHITECTURAL DESIGN OF MONUMENTS :- Shivneri Fort is located on the Top of triangular Hill, The Hindu Architecture of canopied Balconies straight Flat walls and Arches of windows are common features. The temples, ponds and palaces were built by Ancient Hindu Devagiri Yadavasclan, which were renovated by Maratha Empire during Shivaji reign specific arrangement of chain route provide accessibility through rocky zones.
J. DISCUSSION AND CONCLUSION:- The Ancient Hindu Fort Shivneri was built by Yadavas of Devgiri state and it was occupied by Great Hindu worrier Shivaji’s Grand father Maloji (1552-1597). Shivaji was born at the hill fort on 19th Feb. 1630, devoted to his mother, deeply religious and defend the Hindu values in his life. (1630-1680) his legacy expressed as Hindavi Swarajya i.e. Self Rule of Hindu. The Shivneri fort lies on Rigid and intact isolated hill of Deccan trap basaltic rocks. Fortification with seven serial gates made the fort very secured structure during invaders attack. The religious Hindu monuments are still preserved and fort has been used as tourist place under G.O.I. The suitability of site selection and configuration pattern have been described with logic evidences of geologic – geomorphic terrain conditions. The architectural elements have been correlated with the super structure and utilization of the structure in a limited way. Further investigation is needed to discover the detailed interpretation of fort and its surroundings heritage monuments of Maratha Empire territories.

### TABLE – I

<table>
<thead>
<tr>
<th>S. No.</th>
<th>AGE</th>
<th>SUBGROUP</th>
<th>FORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Recent to subrecentquaternary</td>
<td>Recent</td>
<td>Alluvium, Sea Beach Sands, Unconsolidated Sediments</td>
</tr>
<tr>
<td>II.</td>
<td>Upper Cretaceous Deccan Trap of North Sahyadri Group</td>
<td>Mahabaleshwar</td>
<td>Mahabaleshwar</td>
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<tr>
<td></td>
<td></td>
<td>Diveghat</td>
<td>Purandargarh</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Diveghat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lonavala</td>
<td>Karla</td>
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<td></td>
<td></td>
<td></td>
<td>Indrayani</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kalsubai</td>
<td>Lower Ratangad</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Salher</td>
</tr>
</tbody>
</table>

N.B. Occurrence of Trap rocks in Junnar region (Pune dist.) contains Lower – Vesicular basalt, Upper – Massive basalt layers.
### TABLE – II

**MARATHA BATTLES UNDER CHHATTARPATI SHIVAJI**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>BATTLE</th>
<th>YEAR</th>
<th>LOCATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Umberkhid</td>
<td>3rd Feb 1661</td>
<td>Sihadri mountain Range Near city Pen</td>
<td>Gureilla warfare victory of Maratha against Delhi Sultnate</td>
</tr>
<tr>
<td>II</td>
<td>Salher</td>
<td>1672</td>
<td>Salher in Nasik</td>
<td>Victory of Maratha Empire</td>
</tr>
<tr>
<td>III</td>
<td>Vikramgad</td>
<td>1672</td>
<td>Kolwan Territories</td>
<td>Decisive Victory of Maratha</td>
</tr>
<tr>
<td>IV</td>
<td>Kalyan</td>
<td>1672</td>
<td>Near Mumbai</td>
<td>Maratha Repulsed loss of Army</td>
</tr>
<tr>
<td>V</td>
<td>Bhupalgarh</td>
<td>1679</td>
<td>Bhupalgarh Fort</td>
<td>Defeat of Maratha lost BhupalgarhFort, looted wealth</td>
</tr>
<tr>
<td>VI</td>
<td>Sangmner</td>
<td>1679</td>
<td>Sangamner Fort</td>
<td>Last battle of King Shivaji, Senapati ShidhyiNimbalkar killed with 2000 Maratha soliders</td>
</tr>
</tbody>
</table>

NB. – After Chhattrapati Shivaji reign the succesors took war of 27 years. From 1681 to 1707. It was ended with defeat of Non Hindu Delhi Sultnate and it open the expansion of Maratha Empire towards North of India.
FIG-I SHIVAJI’S REIGN TERRITORIES
(JUNNAR SHIVNERI FORT) – LOCATION
FIG-I A SHIVNERI FORT – GEOLOGICAL SETUP
FIG-III
REGIONAL GEOMORPHIC ZONES OF SHIVNERI FORT
(Based on Satellite Data) © Author Dr. H.D. Diwan, 2020
FIG-III SHIVNERI FORT CONFIGURATION (Gates and Accessibility)
FIG- IV SHIVNERI FORT CONFIGURATION (Based on Satellite Data Scene, 2020)

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FIG-V SHIVNERI HILL FORT (Multilayered) (Bldg, Cave, Lake, Forest, Hill Top)
(Based on Satellite Data Scene, 2020) © Author Dr. H.D. Diwan, 2020
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FIG- VIII SHIVNERI FORT DOOR WITH HINDU CULTURAL CARVINGS ON LINTEL SLABS & PILLARS
FIG- IX SHIVNERI FORT – GATEWAY – PARAPET AND ARCHERIES POINT NOTCHES
FIG-X SHIVNERI HILL FORT – HILL SLOPE SECTION (BELOW INTACT ROCK SCARP - CAVE CHAMBERS)
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