



Lovely Professional University
Documentation of the Royal Bath of Kangra Fort
(Restoration of Kangra Fort)

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In Partial Fulfilment
Of the Requirements for the Degree of
Masters in Interior and Furniture Design

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Documentation of Royal Bath of Kangra fort

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Date

CERTIFICATE

This is to certify that **Shivani Verma** bearing Registration Number **11300419** has completed her Dissertation Project titled, “**Documentation of Royal Bath of Kangra Fort**” under my guidance and supervision.

To the best of my knowledge, the present work is the result of the original investigation and study. No part of the project has ever been submitted for any other degree at any university.

This paper is fit for submission and the partial fulfilment of the conditions for the award of the degree of Masters of Interior and Furniture Design.

Signature

Name of the Research Supervisor:

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Phagwara, Punjab

Date:

DECLARATION

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation and referencing of published and unpublished sources). I, the student of Masters of Interior and Furniture Design under Lovely School of Architecture and Design, Lovely Professional University, Punjab, hereby declare that all the information furnished in this report is based on our own intensive research and is genuine.

Dated:

Name and signature of the student

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First of all, I would like to thank God for keeping me in good health throughout the project development and for giving me strength to be able to complete the work.

I would like to show our gratitude and special thanks to **Mr. Vijeshwar Singh Gandhi** my mentor, for his guidance, support and understanding throughout the research compilation, and also for his useful suggestion and remarks to my research paper and I also wish to express my gratitude to the officials and other staff members of Lovely School of Architecture & Design who rendered their help during the period of my research work.

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ABSTRACT

It is very important to stay attached to the roots we belong to, which help us understand our culture, tradition and history much better. It gives an individual confidence and country its backbone.

Conservation of old heritage sites in India are very few. India is full of culture and has rich heritage sites which have not been taken care of in proper manner and not documented for, in event of any natural disaster.

It is important from historical, communal, aesthetic and evidential point of view to conserve a culture rich heritage and be proud of it.

The paper is documentation of such culture rich heritage site Kangra fort's royal bath. The Hamam's material, process and planning is documented.

Keywords- kangra fort, heritage, country, backbone, conservation, culture, disaster, communal, aesthetic, evidential, royal bath.

CHAPTER 1 INTRODUCTION

1.1 INTRODUCTION:

India is a land of culture and tradition which stands its charm from the Historic monuments. These monuments have aided in making India a united nation. But few of these monuments are destroyed by natural hazards. Amongst many such historical buildings stand the “Kangra Fort”

Kangra Fort is a historic fort in timeworn Kangra region of District Kangra in Himachal Pradesh state of India. It is located 20km away from Dharamshala. This 4000 years old fort has a lot of historic influence and was notably invaded by 52 kings in total including the Sikhs, Rajput, Mughals, Etc. The most commanding and impactful ruler was Maharaja Ranjit Singh of Punjab. The Royal Bath in the Fort is an excellent example of the carvings and drainage systems of older times. (Katoch, 2017)

The fort is said to be constructed by the Katoch Dynasty to set an empire. The fort is spread in an area of 4km. The fort is divided into various parts including two main entrance gates which leads to the garden and the HAMAM area on the right. The water of the HAMAM was believed to be flowing from the great Hindu Pilgrimage MANIMAHESH according to the local stories. (Katoch, 2017)

The information about the Great Royal Bath is available nowhere in print media and on electronic media so the documentation of the Royal Bath will prove to be useful in near future to maintain and refurbish the structure. The carving details are believed to be from Hindu Katoch Dynasty. Designs consist of geometric as well as curvilinear motifs.

1.2 AIM:

To document the Royal Bath for further conservation and preservation of this historic site for its communal value, historic value, aesthetic value and evidential value.

1.2.1 Evidential value:

The evidential value in the hamam is the height of the riser of the stairs i.e-1 feet which state that the humans of the era when the fort was built and used were taller than the existing population.

1.2.2 Historical value:

The entrance which leads towards the lawn and the hamam is divided by two gates which are also known as “PHATAK” was constructed during the Sikh rule under Maharaja Ranjit Singh.

1.2.3 Aesthetic value:

The structure is made with sandstone in flaxen colour and is of neutral colour scheme. The style of the fort and hamam structure being constructed by the Rajput also remind us of the forts and havelis in Rajasthan.

1.2.4 Communal value:

The locals have many stories to narrate which were narrated to them by their insisters. And how the placed used to be in different eras. One such story is that the water is believed to be fed by river ganga from MANIMAHESH because once an old man from kangra lost one of his earring at MANIMAHESH and the same was later found at the pond in kings hamam zone.

1.3 OBJECTIVE:

- i. Material specification and study.
- ii. Proper dimension of the structure and its elements.
- iii. Record its value by local study.
- iv. Identify the patterns and motifs.

1.4 SCOPE AND PARAMETRES:

The Great Bath has not been documented, so no proper photographs, drawings, dimensions and material information are present, so this documentation will be of great value in near future to keep this structure alive.

1.5 RATIONAL AND JUSTIFICATION:

The reason for selecting this topic is that the chronological locations are the bases of antiquity and ethos. The current day circumstances of the bygone sites are a wakeup call for the national and international administrations to preserve what is left. The dissertation emphasizes on distribution of the historical standing of the Kangra Fort and documenting it for preserving it in future.

1.6 LIMITATIONS:

The site is partially ruined and the documentation of the whole is not possible as of August, 2017.

1.7 METHODOLOGY:

INTRODUCTION



LITERATURE REVIEW



CASE STUDY



FIELD STUDY



DOCUMENTATION



CONCLUSION

CHAPTER 2 LITERATURE REVIEW

“An historic building is one that gives us a sense of miracle and makes us want to know more about the people and culture that shaped it. It has architectural, aesthetic, historic, documentary, archaeological, economic, social, and even political and spiritual or symbolic value; but the first impact is always emotional, for it is a symbol of our cultural identity and continuity- a part of our heritage” (Feilden, 1989)

Any building which has been suffering hazards and disasters for 100 plus years and is still sustaining is can be called a historic building. Since it was created, to the present day, a building of historic repute has human and creative columns which can only be discovered by its historic study.

2.1 STUDY

Before we prevail any kind, a full study of the history of the building must be done.

Study of this kind must comprise-

- i. Communal, monetary and political aspects of the time it was constructed and renovated.
- ii. Creative values and the ideas of proportion and arrangement related to the structure.
- iii. Study of material.
- iv. Environmental experience of the building's surroundings.

2.2 DECAY CAUSES

Only few of the historic monuments survive today. Domestic properties often get demolished by the hardness of the nature which is forced on them. The cause of decay of the building are- Gravity, Action by humans, various environmental effects.

CHAPTER 3 CASE STUDY

KANGRA FORT

3.1 STREET ADDRESS:

Old Kangra, Kangra, Himachal Pradesh 176001

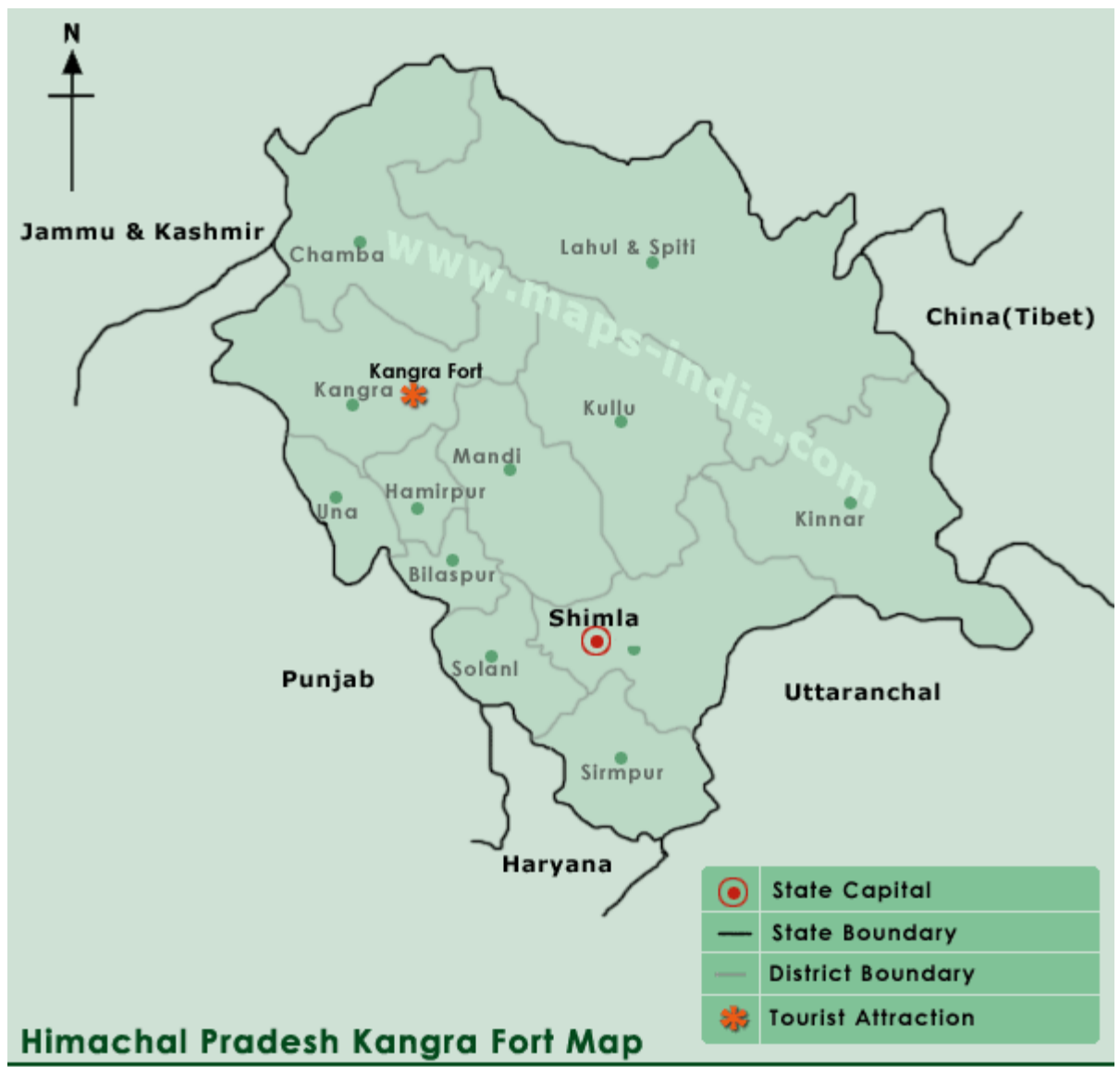


FIGURE 1. HIMACHAL PRADESH KANGRA FORT MAP

(SOURCE-GOOGLE IMAGE)

3.2 GEOGRAPHICAL LOCATION:

Located Between Three Rivers Sutlej, Beas and Ravi

32.1°N 76.27°E (source google maps) south-east facing

3.3 MAP:

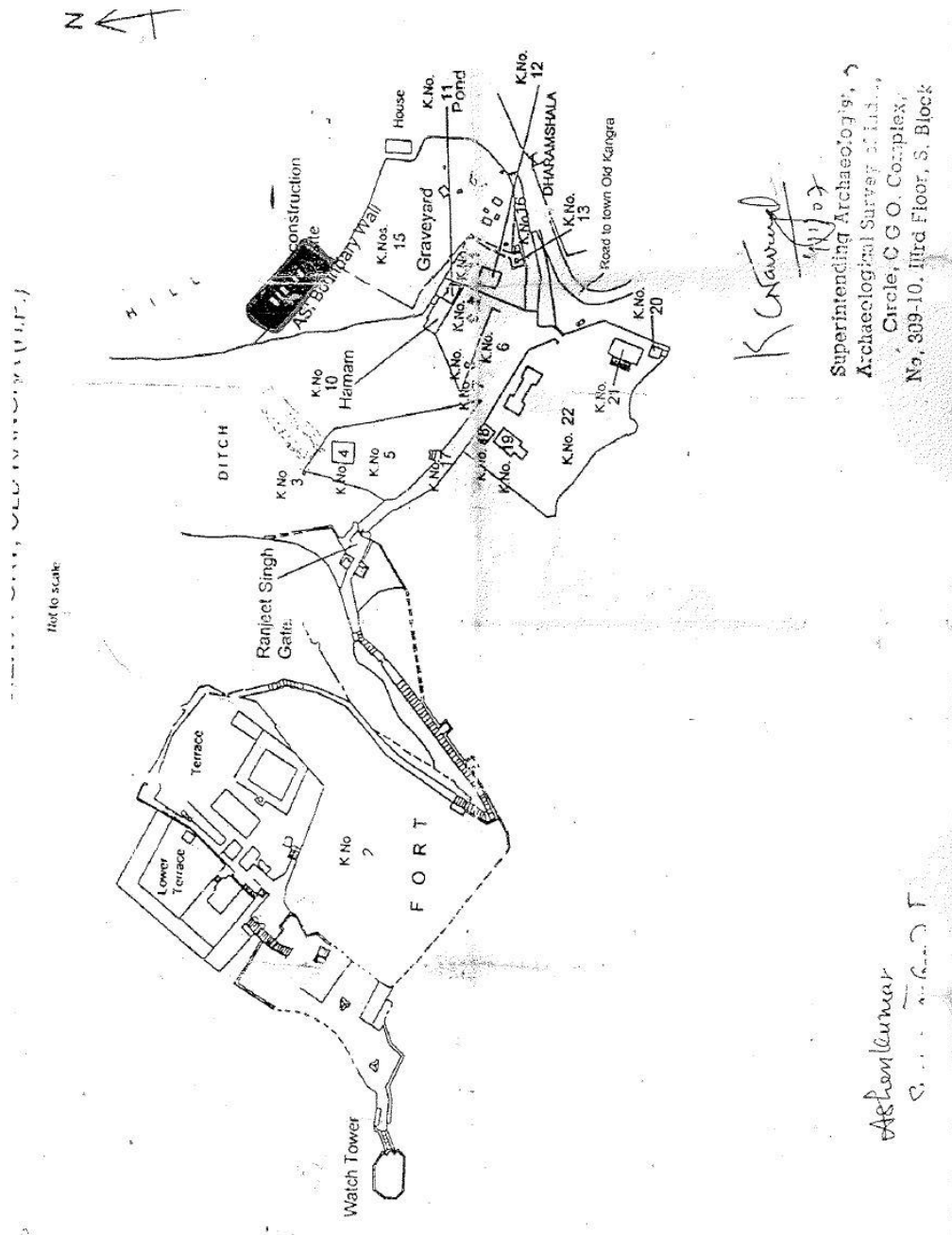


Figure 2. Plan of Kangra Fort

(source- authority of Himachal Pradesh tourism)

3.4 PHOTOS:

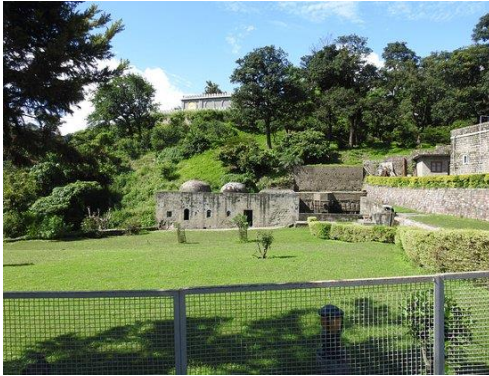


Fig.3- Facade of HAMAM
(source-author)



Fig 4. Facade of HAMAM
(queen's zone) (source-author)



Fig 5. Facade of HAMAM (king's zone)
(Year 1950-source google images)



Fig 6. Facade of HAMAM (king's zone)
(Year 2001-source google images)



Fig 7. Facade of HAMAM (king's zone)
Year 2017 (source-author)



Fig 8. Part of HAMAM (king's zone)
Year 2017 (source-author)

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Fig 9. Inside HAMAM (queen's zone)

Year 2017 (source-author)



Fig 10. Part of HAMAM (queen's zone)

Year 2017 (source-author)



Fig 11. Bathing area (queen's zone)

Year 2017 (source-author)

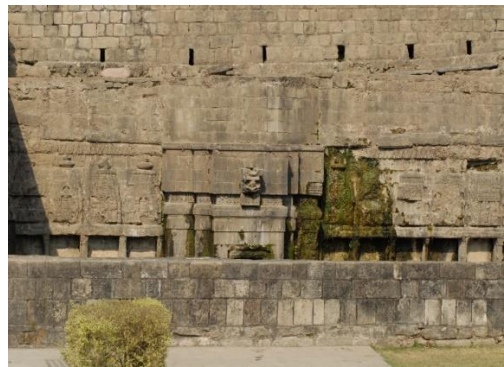


Fig 12. Wall elevation (king's zone)

Year 2017 (source-author)



Fig 13. Dimensions of carved wall
(king's zone)(source-author)



Fig 14. Dimensions of carved wall
(king's zone) (source-author)

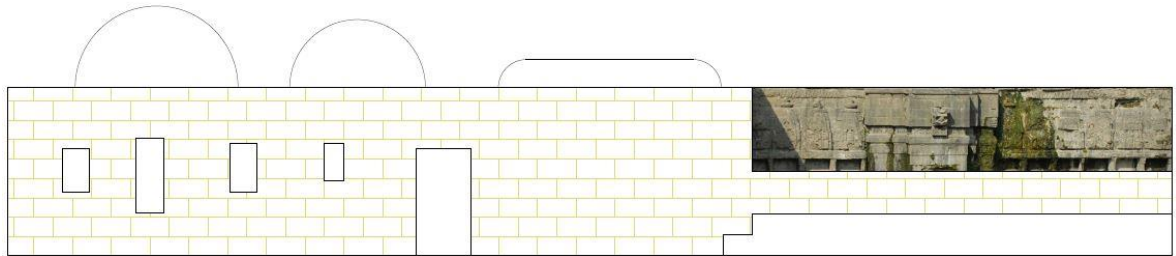


Figure 15. carved wall (king's zone) (source-author)



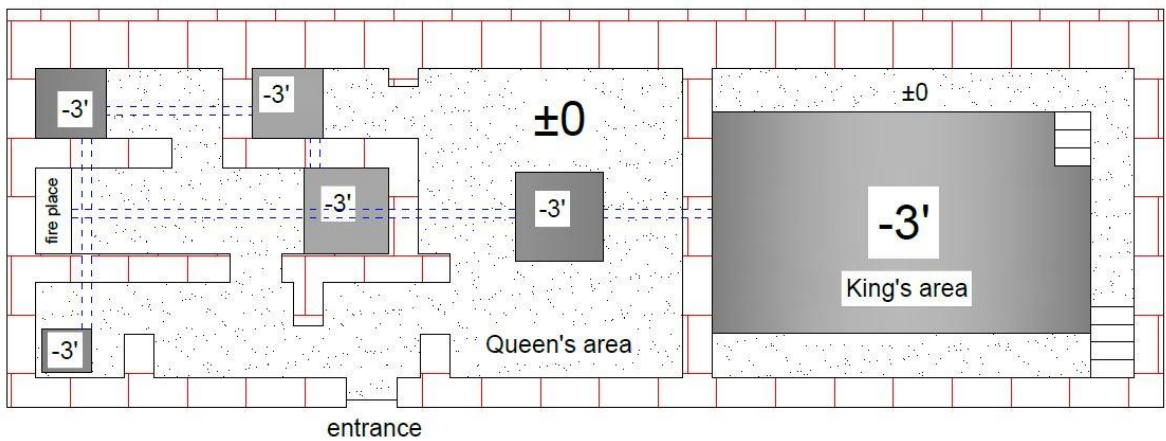
Figure 16. carved wall (king's zone) (source-author)

3.5 DRAWINGS:



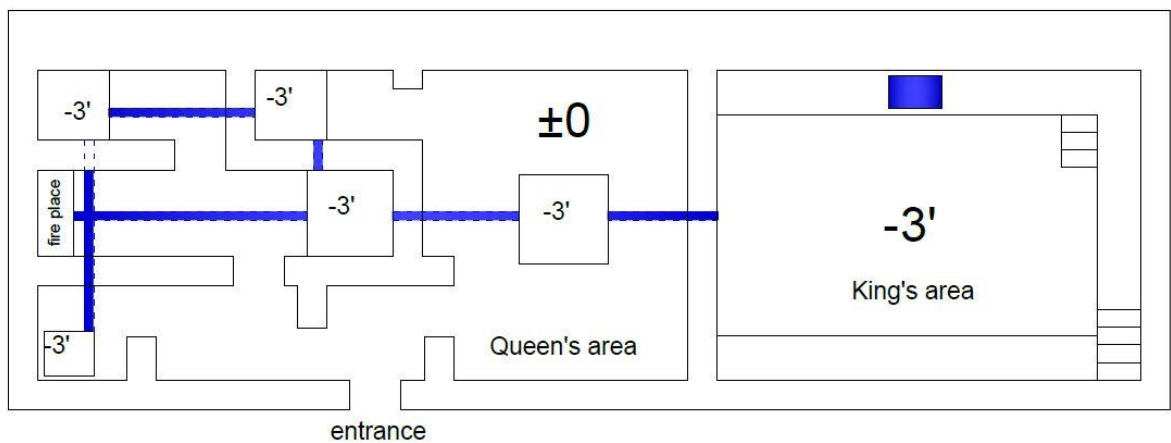
FACADE OF HAMAM

Figure 17. Facade of Hamam (source-author)



PLAN OF HAMAM

Figure 18. Plan of Hamam (source-author)



WATER SUPPLY PLAN OF HAMAM

Figure 19. Water supply plan of Hamam (source-author)

3.6 MODEL:

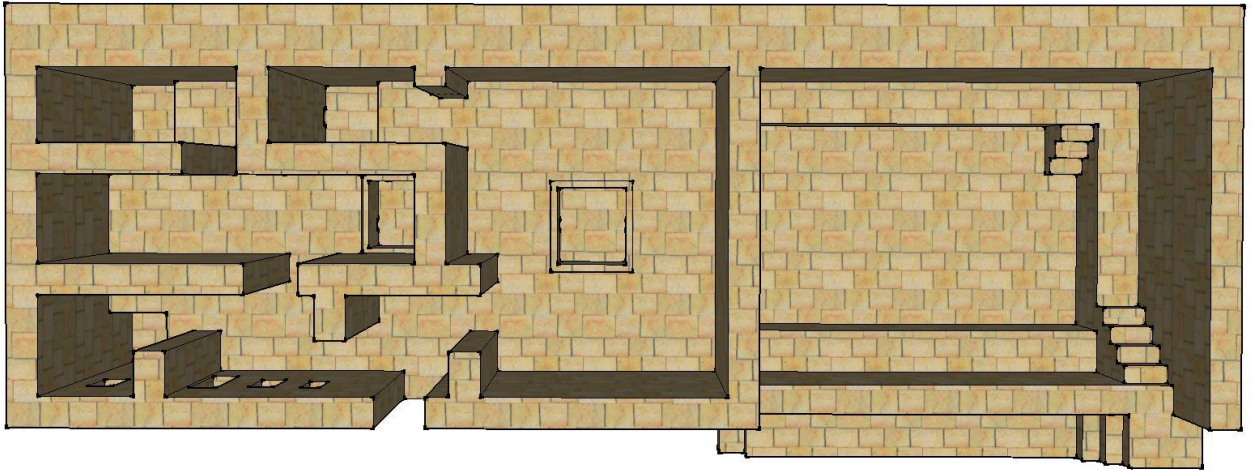


Figure 20. Section of Hamam (source-author)

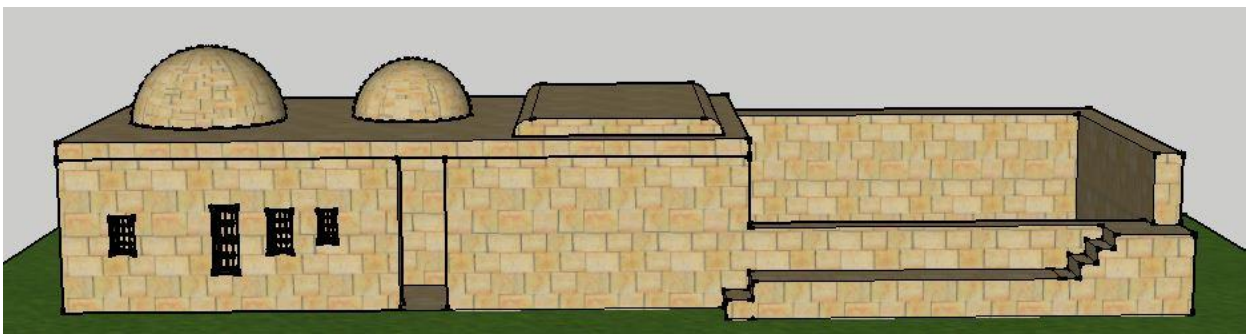


Figure 21. 3d view of Hamam (source-author)

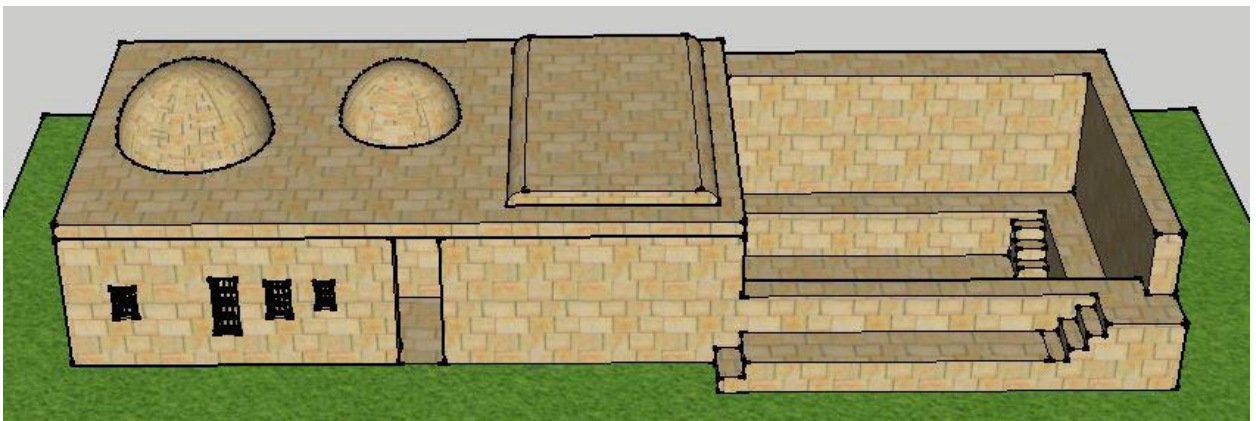


Figure 22. bird's eye view of Hamam (source-author)

3.7 HISTORY OF THE BUILDING:

3.7.1 CONSTRUCTION DATE:

4TH CENTURY BC- largest and oldest dated fort in India

3.7.2 BUILT BY:

Maharaja Susharma Chandra of Katoch Rajput Family

3.7.3 ARCHITECTURE STYLE:

Rajput Architecture-

It uses geometric shapes, royal carvings exquisite artwork and rock carved figures.

3.7.4 FORT TYPE:

Giri Durg or Parvat Durg- A mountain fortress

3.7.5 RULED BY:

- Katoch Dynasty
- Raja Porus
- Rajanaka Bhumi Chand
- Tikaraj Aishwarya Katoch
- Alexander the Great
- Mahmud Gazni
- Jahangir
- Maharaja Ranjit Singh
- Britishers Garrison
- Raja of Kashmir Shreshta

- Muhammad Bin Tughlaq
- Ghamand Chand
- Maharaja Jai Singh
- Amar Singh Thapa
- Maharaja Jai Chandra (Katoch, 2017)

3.7.6 DESTROYED:

Heavily Damaged In Earthquake On April 4th, 1905.

Magnitude-7.8 Earthquake

3.8 HERITAGE VALUE OF BUILDING:

3.8.1 SCIENTIFIC IMPORTANCE:

The modes and methods used in constructing the hamam were quite sustainable. The traces of the water supply are still present till date. The drainage and water flow system of the hamam is an excellent work example.

3.8.2 HISTORIC IMPORTANCE:

The fort was ruled and invaded by various kings at different times and also left impacts on the fort building. For example:

- i. Lakshmi Narayan Temple (made by Maharaja Jai Singh)
- ii. Ambika Devi Jain Temple (made by katoch family)
- iii. PHATAKS (made by Maharaja Ranjit Singh)

3.9 BUILDING ELEMENTS:

- i. Sand Stone walls

- ii. Heavily carved stone structures
- iii. Sand stone Domes

3.9.1 CHARACTER DEFINING ELEMENTS:



Figure 23. Flower pattern carved
(source-author)



figure 24. Carving inspired by
Temple structures (source-author)



Figure 25. Human figures carved
(source-author)



Figure 26. Rhino head carved
(source-author)



Figure 27. Flower pattern, geometric pattern carved. (source-author)

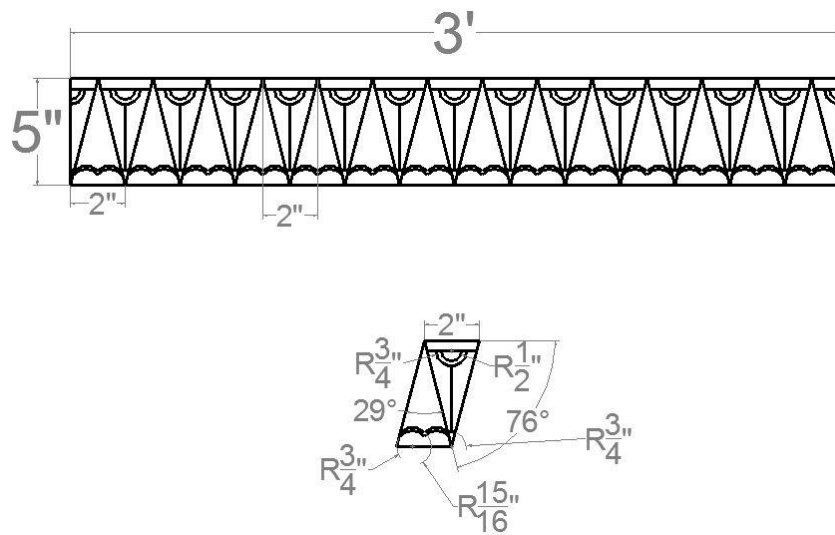


Figure 28. Carving detail with dimensions of geometric pattern in figure-27 (source-author)

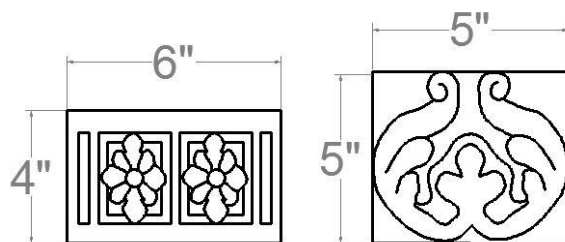


Figure 29. dimensions of carved floral patterns in figure-27 (source-author)

3.9.2 BUILDING FAÇADE:



Figure 30. Facade of hamam (source-author)

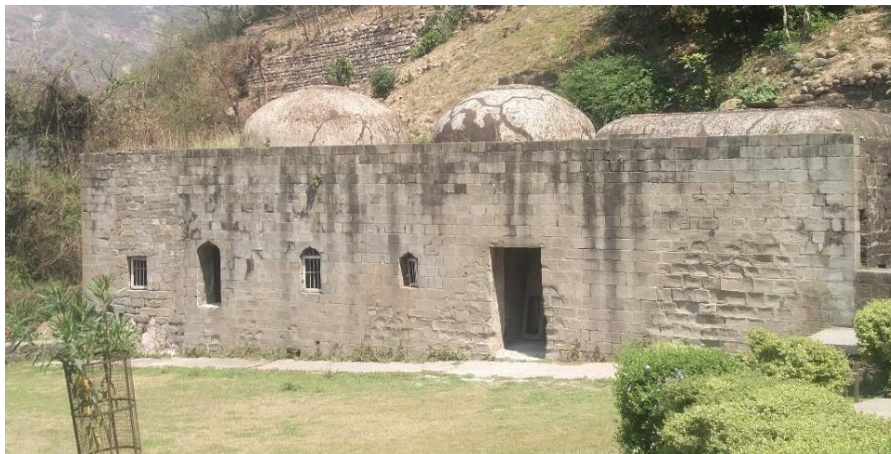


Figure 31. Facade (queen's zone) (source-author)



Figure 32. Facade (king's zone) (source-author)

3.9.3 SPATIAL CONFIGURATION:



Figure 33. Spatial configuration of fort Figure (source-author)

3.9.4 COLOR:

The Sand stone makes the fort and the Hamam to appear LIGHT OCHER YELLOW in colour. Although it is very lightly pigmented. The proper tone of the structure is FLAXEN.

yellow	canary	gold	daffodil
flaxen	butter	lemon	mustard
corn	medallion	dandelion	fire
bumblebee	banana	butterscotch	dijon
honey	blonde	pineapple	tuscan sun

Figure 34. Flaxen colour (google images)

3.9.5 MATERIAL:

i. Sandstone



Figure 35. Sand stone (local material)
(Source-author)

ii. Lime (un-slacked)



Figure 36. Un-slacked Lime (local material)
(Source-author)

iii. Surkhi



Figure 37. Surkhi (local material)
(Source-author)

iv. Sand



Figure 38. Sand (local material)
(Source-author)

v. Molasses (Gur)



Figure 39. Molasses (Gur) (local material)
(Source-author)

3.10 DIMENSIONS:

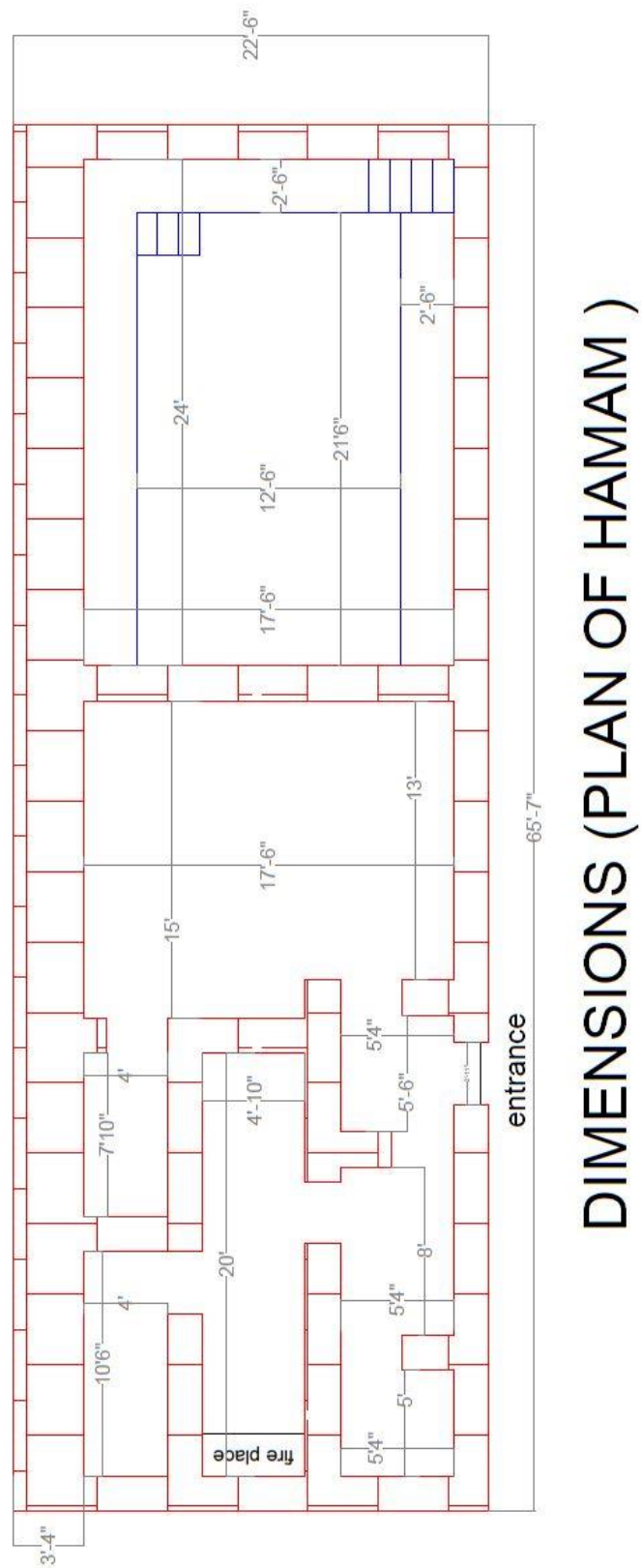
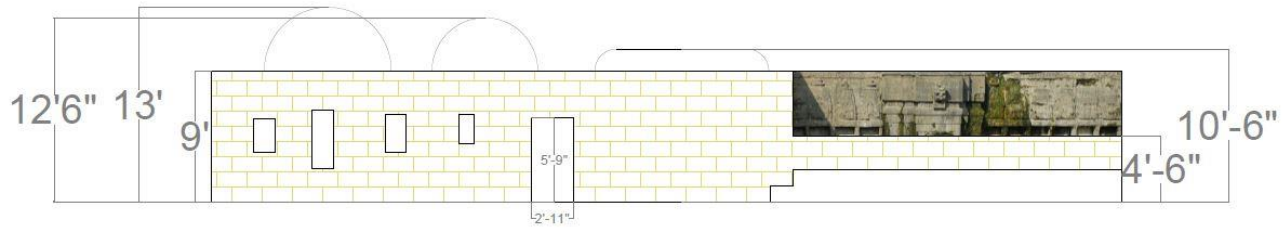


Figure 40. Dimensions of plan of hamam (Source-author)



DIMENSIONS FACADE OF HAMAM

Figure 41. Dimensions of facade of hamam (Source-author)

DIMENSION OF DOOR



Figure 42. Dimensions of Door of hamam (Source-author)

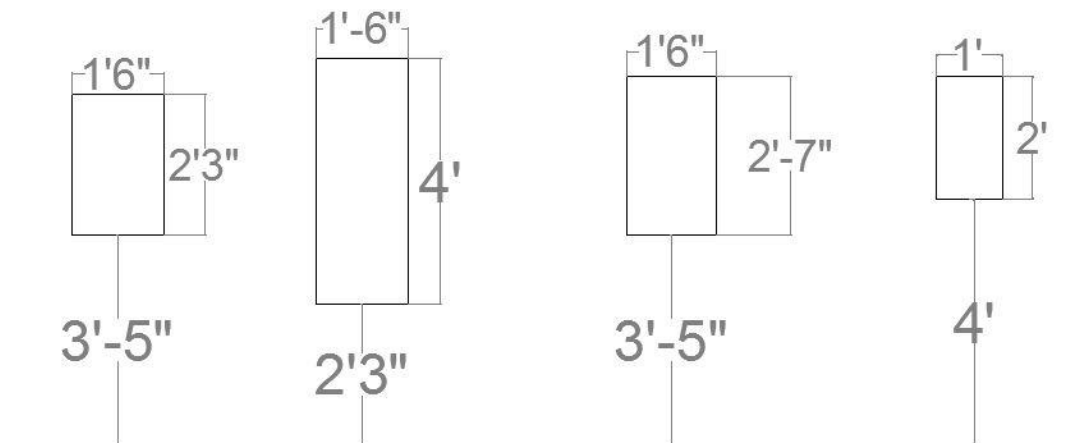


Figure 43. Dimensions of windows of hamam (Source-author)

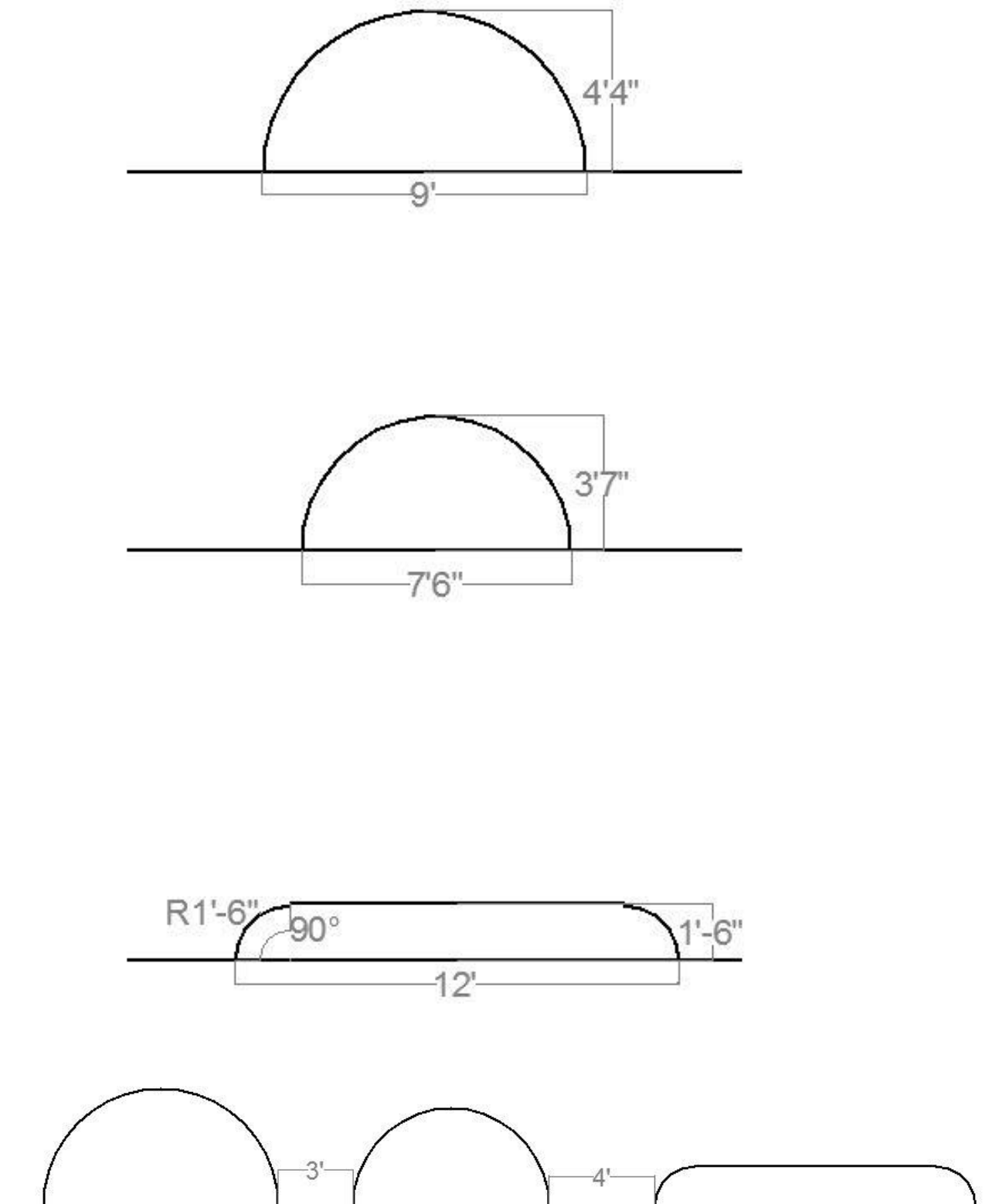


Figure 44. Dimensions of domes of hamam (made in sand stone) (Source-author)

3.11 TOOLS AND TECHNIQUES:

Different types of traditional tools are used in stone carving process.

Types of Stone are classified according to the texture and nature of the stone. The carving technique varies as per the texture.

Rough stone is carved with heavy chisels, hammers. But for soft texture soapstone is easily carved by scooping. (EJNSINGER, 1953)

List and Details of Tools and Materials:

1. **Chisels:** Wide edged and point edged chisels.
2. **Hammer:** It is used for hammering.
4. **Sand paper:** It is used to polish the surface of the stone.
5. **Palamunai uli:** Chisel used to level the surface of the stone.
6. **Water:** Water is sprinkled continuously to avoid heat generation.
7. **Oil:** It is applied to the stone as it gives characteristic black colour and smoother surface.
10. **Scales:** These are used for measurement.





Figure 45. Carving done with chisel and hammer (Source-author)



Figure 46. Detailed carving done with sharp chisel (source-author)

CONCLUSION

The documentation of the royal bath including the motif and patterns of that era, material use, and techniques of construction, draining system have helped attain a lot of knowledge and all of this outcome of knowledge can be implemented in architecture and interior design today.

Also the proper documentation of kangra fort (hamam) has never been done before so this documentation with proper dimensioning will be of immense use to archaeological survey of India for refurbishing the Hamam structure.

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