



A comparative study between Harappan architecture and Vedic Architecture

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Abstract

The contribution of both Harappan culture and Vedic culture is very significant and creditable in Indian history. The period of Vedic culture is considered to be after the Harappan culture. Archaeologists and Historians also consider the invasion of the Aryans as one of the reasons for the decline of the Harappan culture. Archaeologists have determined the period of Harappan culture to be 3300 to 1300 BCE and the period of Vedic culture is 1800 to 700 BCE. Both cultures originated in the North West and western region of India by the different races. Both cultures have the same geographical environment and climatic similarities. The occupation of Vedic culture has similarities with the Harappan culture. The researcher of this paper has tried to explain Harappan architecture and Vedic architecture and compare both cultures in terms of architectural context with the help of archaeological and literary sources.

Key Words: Harappan culture, Vedic Culture, Architecture, Comparative Study

Aims of this Research

- To study the architecture of Vedic culture and Harappan culture
- To compare both cultures based on their architecture
- To study its utility in the present time

Architecture and Culture

Architecture means the art or science of building. It is the practice of designing and building structures, especially habitable ones.

Architecture is a reflection of cultural values in the form of sacred spaces and religious places. Religious architecture and funerary architecture are included in this category. Urban planning and social structures include palaces and castles, residential architecture, civic buildings, public spaces monuments and memorials, etc.

The relationship between architecture and culture is deep and multidimensional. Architecture represents cultural values, beliefs, and objectives, while culture shapes buildings' forms and utilities. We understand how the built environment reflects and shapes societies by exploring historical perspectives, architectural styles, artistic expressions, and the mutual influence between architecture and culture. By knowing and making connections architects can create places that encourage cultural diversity, nurturing a sense of identity, community, and heritage.

Harappan Architecture

The overall layout of Harappan cities and villages is distinguished by the orientation of streets and buildings according to the cardinal directions—east and west, north, and south. The orientation of Harappan cities along the cardinal direction is not simply a coincidence but is probably linked to religious beliefs, reflecting the development of precise astronomical observations of the movement of the sun, moon, and stars across the heavens. Early astronomical texts from Mesopotamia, ancient India, and China indicate the primary directional reckoning was not based on the North Star, but rather on the rising and setting in the east or west by the sun, moon, or bright stars. In modern astronomy, we usually think of Polaris, the North Star, as being a constant unwavering point of sighting direction, but around 2300 BCE, Polaris was not at the center of heaven, that place was taken by a relatively dim star called Draconis.

Establishing an east-west line for marking out the foundation of a building could have been done by sighting the stars that rise in the east or set in the west, or by mapping the sun's movements. An early Vedic text (ca. 700 B.C.) recommends sighting the rising constellation of the Pleiades for establishing an east-west line.

Although the Harappan architects used the cardinal directions to lay out houses, streets, and large public buildings, they were not fettered by these parameters, and the actual layout of streets is distinct as a rough net pattern. The walls of the houses were rebuilt at different angles and even the city walls were often built curving instead of along the cardinal directions. These irregularities demonstrate that while specific directions may have had some spiritual or social meaning, the people living in the cities were willing to break rules when it became more expedient to build a wall at an angle or to enclose an area with a curving wall.

The most interesting feature of the Harappan civilization is its town planning. It is shown by considerable uniformity still we can notice some regional variations in it. The uniformity is seen in the layout of the towns, streets, structures, brick size, drains, etc. The major Harappan sites (Harappa, Mohenjo-Daro, Kalibangan, Rakhigarhi, Banawali, and others) are divided into two parts—one is a citadel on a higher mound on the western side and another is a lower town on the eastern side of the settlement (Fig 1). The citadel has large structures which might have performed as administrative or ceremonial centers. The inhabited buildings are built in the lower town. The roads intersect each other at right angles. It splits the city into several housing complexes. Narrow streets link the main street. The front doors of the houses opened in these narrow streets and not the main streets.

The houses of common people differed in size from single-room houses to bigger structures. These houses were largely constructed of burnt bricks. The larger houses had many quarters surrounding a square courtyard. These houses were provided with separate wells, kitchens, and bathing platforms. The difference in the size of the houses suggests that the rich people lived in the larger houses while the one-room buildings or quarters might have been proposed for the poor section of the society. (Fig 2)

The drainage system of the Harappans was rich and well-designed. The drains of every house opened into the street drains. These drains were covered with bricks or stone slabs (which could be removed for cleaning) and were made at a regular distance by the side of the streets for cleaning. This indicates that the people were well aware with the knowledge of sanitation.

Materials used in construction were mud brick, burnt brick (with a standard ratio of 1:2:3 and 1:2:4), stone, wood, mud, gypsum, etc. English bond was used in construction.

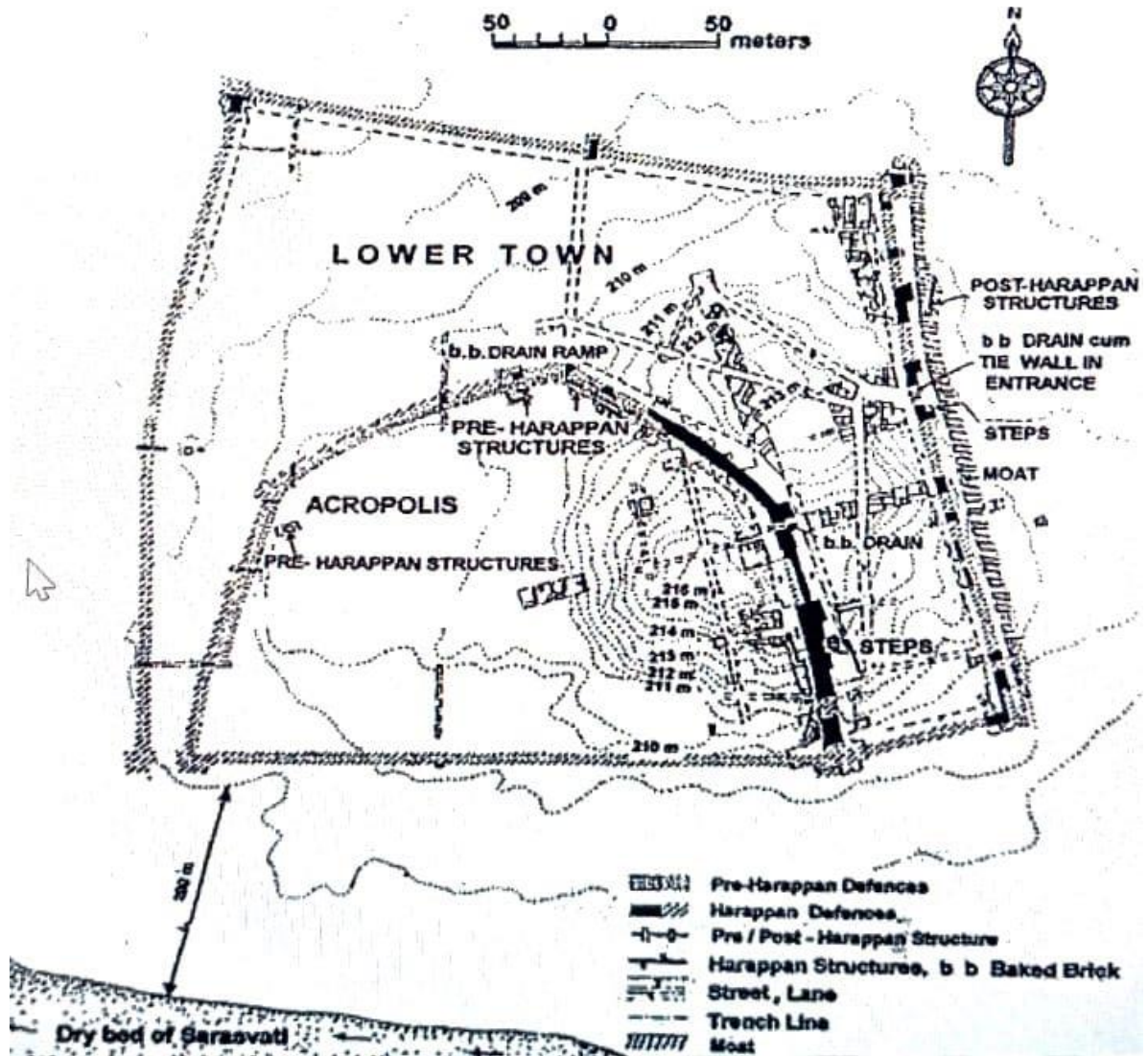


Fig. 1 Banawali City Plan

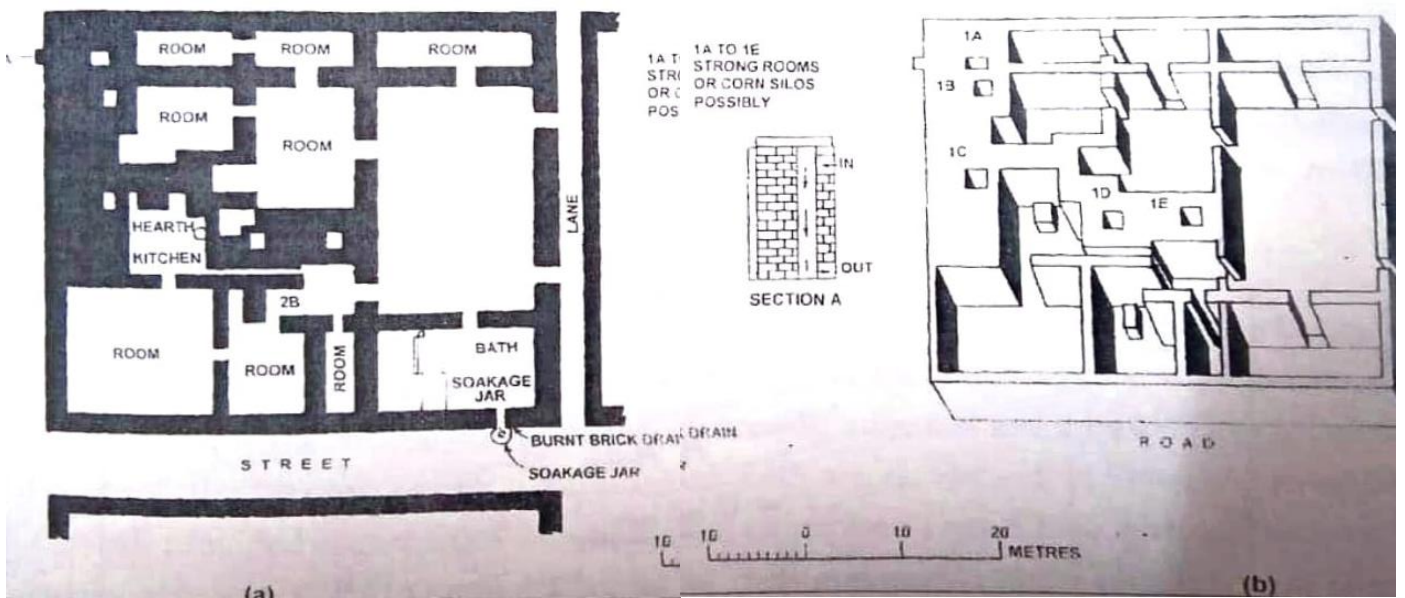


Fig. 2 Banawali House Plan

Vedic architecture

We get the idea of many crafts, constructions, and cluttering ideas of material prosperity from the Vedic literature, although their practical examples are not yet visible. An attempt was made to see the vital connection of many elements and ideas with the Vedic culture in the advanced remains of Harappan culture and art but unless it is possible to read the Harappan writings it is difficult to say in this context. In Rigveda, there is a strong ‘Pur’ or city of the Asuras, which most scholars consider to be indicative of a fort-like city construction. It is mentioned several times and the credit for its destruction is given to the god Inder and called him *Purander*.

According to some principles, the house was measured properly according to the prevailing standards. Its measurement work was started on the east side, which was probably supposed to entrance gate of the house. Three types of Dhams and *ghar* have been described in one place- Param, avam, and Madhyam.

Based on Hindu architecture often reference is made to Vastupurusa or “the spirit of the building”. One legend explains this as follows. There was an evil demigod (Bhutta) born during Siva’s fight with the Asur Andhaka. The Bhutta possessed terrifying features and unstable hunger. The legend goes that having done great penance, the Bhutta won a boon from Siva that allowed him to swallow the three worlds that constitute the Hindu cosmos. As this being pushed himself and began to inhabit the heavens, he fell flat on the earth. The various gods and demigods grab this opportunity and hold various parts of his body to the ground, rendering him helpless. This being came to be called Vastupurusa the reason that the gods and demigods succeeded in lodging themselves on his body. Legends hold that the deities, in pinning him down, occupied different parts of his body and continued to reside there (Fig. 3). Brahma suggests that he will receive offerings from people on building sites before construction to satisfy his hunger. This body of the Vastupurusa is supposed to be sensitive at many points called marmas. It is an important principle for any building to avoid injury to the marmas located on the body of the Vastupurusa. To ensure that this is achieved, texts prohibit any direct construction of major diagonals, seen as the Veins (siras or nadis) of the Purusa.

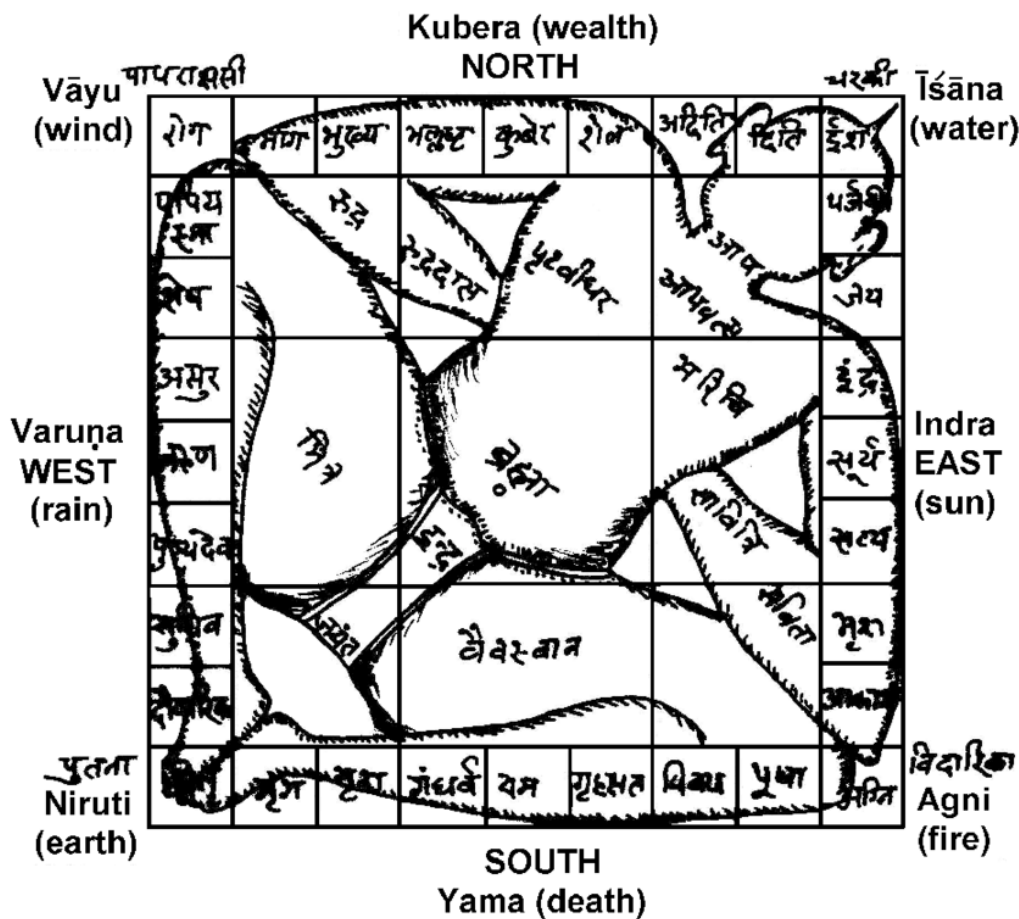


Fig. 3 Vastupurusa

Vedic Architecture or Vaastu Shastra

To describe Vaastu Shastra-Vaastu, which means physical environment, and Shastra meaning knowledge or principles, is one of the traditional Hindu Standards of city planning and architecture. Its current popularity stems from its focus on a wholesome approach to space, and method. A home can be much more like it can be a special place that creates an impact of good health, happiness, family harmony, and enlightenment. Vedic architecture constantly provides our homes with these effects by using laws of nature that connect individual intelligence with cosmic energy.

Vaastu Shastra in essence unifies many subjects like science, art, astronomy, and astrology. It can also be said as an ancient mystic science that was used for designing buildings, and ancient places. Vaastu Shastra according to believers helps one to make lives better by securing the living space and preventing things from going wrong.

Vaastu is the science of direction that combines all the five elements of nature and balances them with an individual and the material. These elements included Earth, Water, Air, Fire, and Space. According to scriptures, ancient sages and seers knew the secrets of using all the five elements of this universe and their special characteristics and influences such as the magnetic field, gravitational effect, etc.

This knowledge formed a base for what developed as Vaastu Shastra. The five elements also called “Paanchbhoots” of nature, cover the way to enhanced health, wealth, success, and happiness in a progressive environment.

Vaastu extracts the positive energies of the five elements of nature; solar energy, lunar energy, magnetic effects of earth, wind energy, and heat energy of fire and equilibriums to bring harmony into the life of a person planning to build or live on a building.

There are four categories of Vaastu:

1. The Earth or Bhoomi, is the principal dwelling place on which everything rests.
2. The Structure
3. Yaana (roof)
4. Furniture

So, the principle of Vaastu Shastra extends from the macro level to the micro level which includes site selection, site planning, and orientation. It also deals with the zoning and disposition of rooms, proportional relationships between the various parts of the building, and the character of the building.

Comparison between Harappan architecture and Vedic architecture

Architecture and culture are strongly connected since a society's planning and building of its structures imitates its values, beliefs, and desires. A physical expression of culture shapes architecture. The connection between architecture and culture is shown in architectural plans and construction methods. Regional variation can be noticed in Harappan architecture where main Harappan sites like Harappa, Mohen-jo-Daro, and Banawali, divided into two parts (Citadel and Lower Town) as in Dholavira city was divided into three parties (Citadel, Lower Town, and Middle Town or Baily) (Fig 4). But a different kind of town planning we found at Lothal, in present-day Gujarat, on the western coast of India. This city was divided into six sections and each section had a wide platform of earthen bricks. Lothal is different from other sites of the Indus Valley Civilization in terms of town planning in that it has entry to the houses on the main street while other sites have shown lateral entry.

In the Vedic period, people wanted to match themselves with the energy of the universe which is the reason they developed the concept of Vastupurusa. Every building has a different level of energy and rooms inside the house should be constructed according to match the level of energy. This construction planning gives them a sense of mental peace and attachment to the universal energy. A square in the Vastupurusa was divided into 36 parts, 64 parts then 81 parts. Each square was assigned to a different god.

Houses in the Vedic period were constructed according to religious books. Different types of people have different types of houses; the rich have large houses while the poor have huts. In a discussion of the rich house, there was a central courtyard in the house. Rooms were built around the courtyard as described in Vastupurusa Mandala. The width of the walls was $1/16^{\text{th}}$ of the span of the room. The direction of god is described as the sun in the east, wind in the west, wealth in the north, and death god in the south.

Mainly wood and clay are used as construction materials for Vedic people timber columns, and bamboo or wooden beams are used for the roofing of houses. Ceiling was high and the flooring was of rammed earth covered with cow dung. The entrance of the house was designed with geometric and floral patterns with natural colors. This believes, that it will bring good fortune to them.

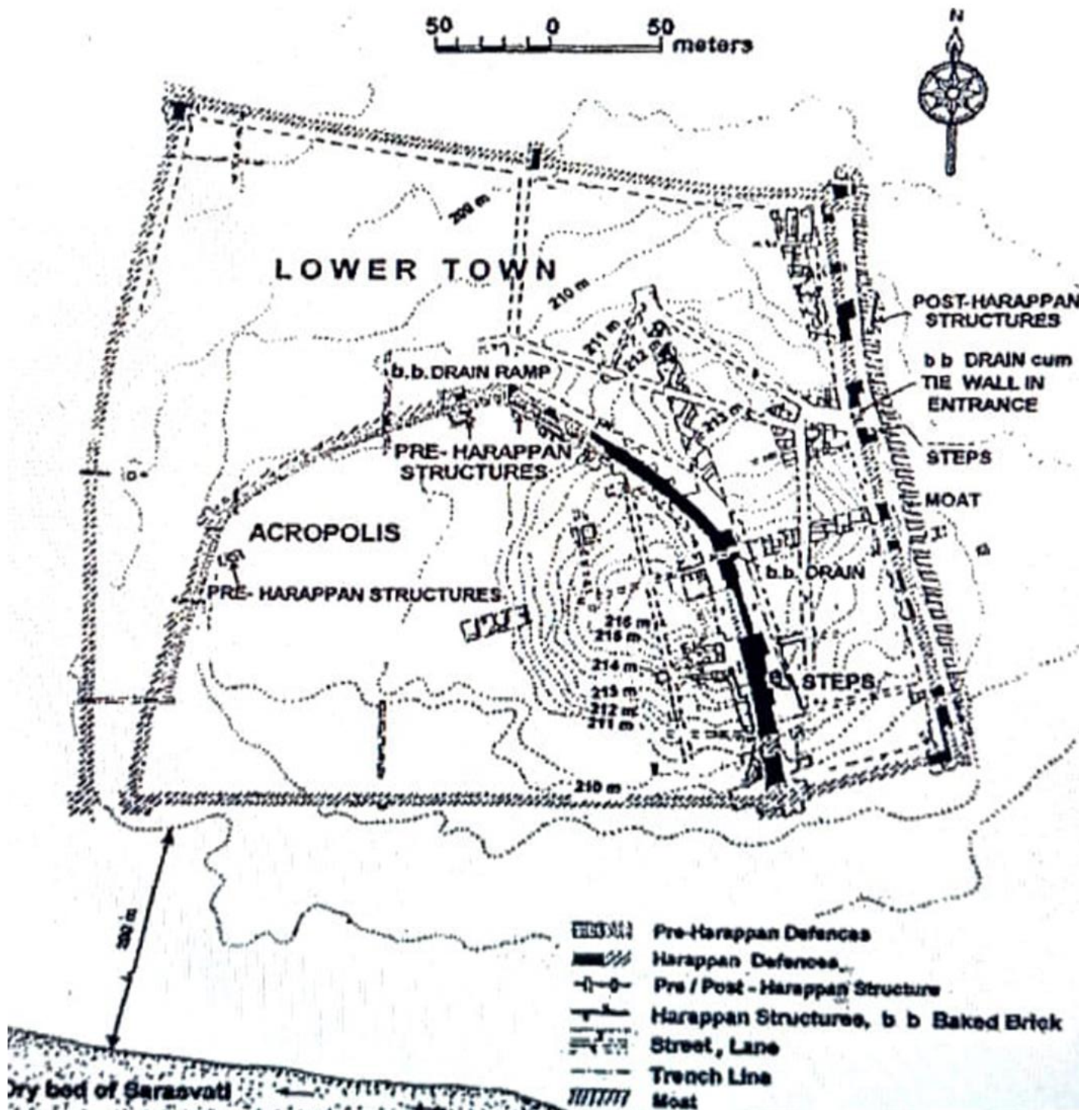


Fig.4 Dholavira

CONCLUSION

From the study of Harappan and Vedic culture, it become clear that the architecture of both cultures was made of very special techniques and the quality was excellent. The importance of this architecture is the most visible to us in the present times. Where Harappan architecture is very helpful in city planning, Vedic architecture cannot be ignored in house construction. However in today's time with growing urbanization, lack of space, and significantly the rampant

sense of faithlessness in anything that modern science fails to explain, it is practically impossible to dream of a home or office approving to the laws of “Vaastu”. Its current popularity is from its focus on a wholesome approach to space and form.

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