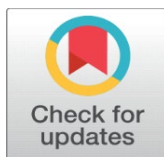


ENVIRONMENTAL VALUES IN HARAPPAN CIVILIZATION

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ABSTRACT

World is also going through several environmental crisis such as pollution, global warming, rising sea level, greenhouse effect, changes in cycle of seasons, rising temperature etc. to save our environment and earth we need to go back to our roots. We have to understand the system that follows by the Harappans a to keep our nature clean and safe, if possible, we need to implement it in today's life. All this starts at primary level like home and schools. We should embody our environmental values and culture in our textbooks for upcoming and younger generation so that we can save our environment.

Keywords: Harappa, Indus Valley Civilization Environment, Values, Textbooks

1. INTRODUCTION

When I say environment, I refer it to everything that exist in our surrounding. The trees. The plants, animals, birds, sun, moon, water, sky etc. when we look deep into ancient Indian culture, we will find that, there is some relevance or some scientific reason behind everything they follow. The Harappan civilization is full of intelligence and skills. The Harappan system of town planning and drainage shows that how much they were aware and concern about the divine nature, the people at that time were technologically advanced and very knowledgeable in the laying out of the construction of the city as whole [Rothermund \(2004\)](#) though there have been

no temples were found but some seals indicates that they worship nature and knows the importance of environment.

Harappan civilization arose in the basin of Indus, Ghaggar-Hakra River valley. It is one of the oldest Civilization, contemporary of Mesopotamian civilization of Egypt and Mayan Civilization of Mesoamerica. Indus Valley civilization had a developed, urban, and progressive culture. It was bronze age civilization. It is famous for many of its specialties but what attract our attention is its town planning and drainage system. Today in 21st century Our metropolitan cities like Delhi, Mumbai, Chennai, Kolkata, which are developed and highly populated face the problem of lack of proper city planning and drainage. during rains the cities face drinking water crisis, water, and river pollutions, drowning of the streets, overflow of drains. there are some places in every state of India which is underdeveloped, crowded, and have lack of proper facility of sanitation and hygiene. These are those places where people used to live in miserable conditions. "Swachh Bharat Abhiyan" and "smart city project" of Indian government are the examples of it. It also shows that how badly our society needs it. At present world is suffering from environmental crisis. Natural hazards and calamities are very frequent in past few centuries due to imbalance in our environment. We all are trying to bring that balance back, but we also need to know what measures this ancient civilization used to take to while town planning to deal with pollution.

2. HARAPPAN CIVILIZATION: AN EXAMPLE OF POLLUTION FREE TOWN PLANNING

Town planning is an art of laying out towns with due care for health and comfort of inhabitants, for industrial and commercial efficiency and for reasonable beauty of buildings is an art of intermittent activity" [Haverfield \(1913\)](#) Harappa was discovered in 1921 by Daya Ram Sahani. Mohenjo-Daro was excavated by R D Banerji: its official announcement was done in 1924 by John Marshall.

2.1. DIVISION OF THE TOWN

The city was divided into upper and lower town. The upper town was known as acropolis or citadel. It was inhabited by the members of ruling class. The citadel was fortified by crenelated walls. Citadel was based on mounds the lower town has brick houses occupied by common people. Houses were made up of burned and baked bricks. They are generally of two or more storeys. Rooms are made around a rectangular courtyard which worked as huge ventilations for them. Doors were rarely open towards main street, the windows and ventilation faced side lanes and open at the back side might be due to dust, dirt. It also helped to avoid noise pollution. The adjacent houses have a narrow space of "no man's land". it will bring fresh air and sunlight for both of the houses. Presently we use to construct our door and windows towards the main street. That narrow space is also conserved by us in greed of a little more space. Large open areas inside the gateway, it could be a marketplace or some checkpoint

"The remarkable thing about the arrangement of the houses in the cities is that they followed grid system." [Sharma \(2005\)](#)

There are some public buildings designed especially for the public purpose.

2.2. GREAT BATH OF MOHENJODARO

It was excavated at Mohenjo-Daro. It was an example of Harrapans engineering skills. It has beautiful brick work. It is rectangular in shape and measures 11.88 x 7.01 m; it is 2.43 m deep. The floors and walls of the tank was built by burnt bricks they were made water-tight, finally fitted bricks. Waters was evidently supplied by three large wells which are situated in adjacent rooms. at the north and south brick steps led to the bottom of the tank. There were some changing rooms around the tank. It is plastered with some gypsum mortar. Water proofing was done by layer of bitumen along the sides of floor walls of the tank. Tank could be emptied by drains. This tank is used for ceremonial or ritual bathing purpose.

2.3. GREAT GRANARY OF MOHENJODARO AND HARAPPA

Great granary was found at Mohenjo-Daro, it is 45.71m long and 15.23m wide. While there were six small granaries found at Harappa. It is used for storage of grains as revenue or for emergencies, as today we have FCI'S (Food corporation of India).

2.4. ROADS AND STREETS

Roads were constructed by baked bricks. The streets intersected each other at right angles. It gives the city a rectangular shape. Today as population is increasing so the traffic, long traffics burnt fuels which generate harmful gases, due to which it also contributes in air pollution. People are getting asthmatic, so does small children. Proper division of streets can distribute the traffic, save time and we all need to adapt vehicles which are environmentally friendly.

2.5. SANITATION AND DRAINAGE SYSTEM

The authority maintained highly efficient drainage system. every house is connected with the main drain. The drains were covered with slabs or baked bricks. They have inspection holes for maintenance, these drains were connected with larger sewerages, it takes the dirty water outside from the populated areas.

Every house has private bathrooms and personal wells, it is built in such a way that it could get easily connected to the main drainage system. The drains took wastes from kitchen, bathrooms, and indoor toilets. The indoor toilets had brick seats; the civilization also have public toilets. "The Mohenjo-Daro ruins present a picture of community in which both personal and community cleanliness was quite effectively practised, and water supply reasonably safeguarded from contamination as a rule". Khan (2014). Lothal has underground drainage system; the main sewer was 1.5 m deep, and 91 cm wide connected with all sewers. The drops at regular intervals worked as automatic cleaning device. Khan (2014) A wooden sheet at the end of the drain held back the solid waste.

2.6. WATER AND WELLS

We have already discussed drainage system above in details, for the water the houses have their own wells, community wells were also present there to serve the groups of small houses. Indus valley civilization is also known for its water management. They give rivers a very worshiping and divine status. Mohenjo-Daro receives less rain and situates away from Indus because of it they need to store and collect water. archaeologist excavated approximate 700 wells only from there.

Archaeologists have also found remains of reservoirs for water storage. "The archaeological survey of India has revealed that one third of the area of the city of Dholavira in the Rann of Kutch was devoted to the collection and distribution of fresh water. The city was situated on the slope between two streams. At the point where one of the streams meet the city wall; people carved a large reservoir out of rock. This was connected to a network of a small and big reservoirs that distributed the water to the entire city all year round". Khan (2014)

2.7. RAINWATER HARVESTING, IRRIGATION AND STORAGE

They used to sow the seeds when the river had flooded the fields, flood water made the soil rich. They might use river water for irrigation. They were probably the first farmers to take water from underground wells.

Dholavira had massive reservoirs, the inhabitants created more than sixteen reservoirs. Reservoirs are cut through stones vertically about 7 meters deep and 79 meters long.

3. CONCLUSION

There is no doubt that the Harrapans have amazed the world with the environment awareness and consciousness. They have world class town planning and drainage system. By 1700 BC the civilization was on the verge of decline. Many possible reasons were given by archaeologists one of major one was ecological changes, changes in temperature, shift in monsoon pattern led to the downfall of the well flourished civilization. Today we are facing the same situation, pollution, rise in temperature, changes in seasonal cycle but nobody is protesting against it, we need to stop unsustainable development, deforestation otherwise some day we will face the wrath of nature.

CONFLICT OF INTERESTS

None.

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