

The Comparative Study on the Technology Advancement and Inventions in The Indus Valley and The Egyptian Civilisation

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ABSTRACT

The present culture and customs followed in the present dates back to the past history. The ancient Civilisations tell us the correlation and transformation of cultural and religious practices. The Indus Valley Civilisation is deemed to be important Civilisation from which the concept of Hinduism developed. The Egyptian Civilisation has also been an important and interesting concept for study. Though there has been a lot of discussion on these Civilisations their correlation and comparison is still unknown. This research paper attempts to compare the technology advancement in Indus Valley Civilisation and the Egyptian Civilisation. The study also tries to identify the various advancement and development with respect to technology in Indus Valley Civilisation and tries to study advancement and development with respect to technology in Egyptian Civilisation . Finally this research attempts to recommend steps for effective archeological study in terms of Civilisation.

Key words: *Indus Valley Civilisation, Egyptian Civilisation, technology, inventions.*

Introduction

The term Civilisation refers to the development of human conduct and culture with respect to time. The past of World including India could be traced from the several years of history. It could be learnt from the evidence and the traces that are left by the ancestors. The dry palm leaves, weapons, copper plates and other artefacts help us understand the past culture and history more precisely.

These traces have given immense contributions to the history of the world, from which the culture could be easily traced. It is evident that the cultural flows have led to the development of religious practices . The discoveries in the recent past have helped us understand the past cultural practices of our ancestors and its present impact. One such important and indispensable discovery is in the sites of Harappa and Mohenjo-Darwo. This historical site was discovered in the year 1920 by the contribution of several archeologists. The excavation done in these sites help us gain acquaintance and knowledge about the past in a larger and in a better perspective. On the basis of these findings by the archeological sites has been dated between 2600BC to 1900BC. This is one of the oldest Civilisation in the world. This Civilisation is referred as the Indus Valley Civilisation or also addressed as the Harappan Civilisation.

This age of Civilisation is addressed as the the Bronze Age Civilisation. The area that flourished under this Civilisation is marked from the basins of river Indus. The Indus Valley Civilisation was situated in the present east of Pakistan and the north west of India. This Civilisation is similar to that of Civilisation in Egypt and Peru.

The discovery of Indus Valley Civilisation dates back in the nineteenth century this was time when India was controlled by the British and was deemed as the British Indian Empire. The then British engineers attempted to lay railway lines in the then north western part of India which is now Pakistan, led to the discovery of Harappa.

The discovery of this archeological site led to the discovery of many other similar sites and helped the archeologists in discovering the ancient culture. The most important and the largest cities of the Indus Valley Civilisation is Harappa and Mohenjo-Daro.

It could be analysed that the municipalities of the Indus Valley Civilisation was highly organised and carefully planned.

Another undeniable and important Civilisation is the Egyptian Civilisation or the ancient Egypt. This Civilisation is one among the six important Civilisations in the world. The Egyptian Civilisation was concentrated in the present north Eastern Africa. This Civilisation was along the lower banks of the river Nile. It is known and is a

part of Bronze Age. This Civilisation was started 3150 Bc and this period lasted till the 50 BC. There was a decline in this Civilisation because of the invasion by Roman Empire.

This Civilisation period is broadly divided into ten periods. The Civilisation's territory extended from the delta of Nile to Numbia. Archeologists who researched these areas have stated that the civilians have lived along the banks of Nile and it is known that agriculture flourished in these areas because of the fertility of the soils. The movement of people was restricted in this Civilisation because the people were indulged in farming.

As Civilisation took place development and advancement in all domains took place including the advancement and development in technology. This research paper attempts to study and compare the technological advancements in the Indus Valley Civilisation and in the Egyptian Civilisation.

Objectives

1. To compare the technology advancement in Indus Valley Civilisation and the Egyptian Civilisation.
2. To identify the various advancement and development with respect to technology in Indus Valley Civilisation.
3. To study advancement and development with respect to technology in Egyptian Civilisation.
4. To recommend steps for effective archeological study in terms of Civilisation.

Limitations

Lack of evidence on these field of study is drawback in the research work.

Research methodology

The research is based on secondary source of data, which include:

1. Articles
2. Books
3. Journal
4. Research paper

a. Methods

1. Analytical Method
2. Descriptive method
3. Qualitative method
4. Comparison method

b. Types of Research

1. Applied Research
2. Qualitative Research
3. Comparative Research

Hypothesis

H₀: The Ancient Egyptians are more technologically advanced when compared to the civilians of Indus Valley Civilisation.

H₁: The Ancient Egyptians are not technologically advanced when compared to the civilians of Indus Valley Civilisation.

Review of literature

1. **Dani, Ahemad Hassan(1971)** discussed about the evacuations done by the archeologists in Pakistan. The authors discuss about the Indus Valley Civilisation and also explain about the sculptures found in the sites of Harappa. The study by these authors help us understand that the Indus Valley Civilisation is one of the oldest Civilisation.
2. **Dales and George F(1976)** talks about the outposts of Harappa city. The author explains about the sculptures that are found in this region. These sculptures and artifacts help the readers understand the culture and practices in the ancient Indus Valley Civilisation. This research was done with a help of archeological findings and reports based on the findings in the sites.
3. **John Britton (1996)** studies the archeological inventions in the ancient Egyptian society. The author analyses about the sculptures and other inventions found in the archeological sites of ancient Egypt and he compares it with the present contemporary world. The author suggests that more proper excavations should be done for better understanding.
4. **Doherty and Sarah (2013)** tries to explain the discovery of pottery wheel in the Ancient Egypt. The authors study the origin of pottery wheel in Egypt and explain the role of pottery wheel in Egypt. The authors discuss about the use of potter's wheel in the 4th century and also explain about its archeological application.
5. **Budge, E. A. Wallis (1969)** in their work discusses and explains about the culture and religious practices that were followed in the Ancient Egypt. The authors also talk about the traditional ornaments and other things used by the Egyptians of ancient times. The authors study reveal that the civilians of ancient Egypt had vast knowledge in aerodynamics and technology.

Technological Advancement and inventions in The Indus Valley Civilisation and Egyptian Civilisation

From archeological findings and excavations it could be found that the civilians of that period showed technological achievements in the past. Some of their unique achievements in technology is inventions include the inventions of ornaments and button, the past evidences and Artifacts help the researchers identify that ornaments were made in the form of buttons and were made with help of sea shells. They had holes in it so that they could worn with a help of thread. The ornaments in shape of buttons were craved on stones and pebbles reveals that the people in Indus Valley Civilisation excelled in the inventions of ornaments and they also excelled in craving.

The excavations in Harappa and mohenjen-Daro tell us that the citizens of the Indus Valley Civilisation had great knowledge in geometry and measurements. The oldest measuring instruments, rulers made of copper alloy and ivory was found in the archeological sites of Lothal. The measuring scale found in the archeological site of Nurpur dates back to 2500 BC. The evidence show us that the people were more indulged in more Of indoor games. Evidence of dices were found in the excavations.

Clear evidence of step wells show that the civilians of the Indus Valley Civilisation excelled in dwelling and digging also. The step wells in Mohenjen-Daro show the accurate foot work and the architecture invention in the Indus Valley Civilisation. Furniture found in mohenjen-daro mark the level of significance in Civilisation. Evidence tell us that the people of Indus Valley Civilisation used bullock carts. The carts with a cover on top made out of copper was found in Harappa. Excavated sculptures depict the clothes of the people of Indus Valley Civilisation. Men clothing is a two piece cloth that covers their lower part and their right upper under cover.

Women covered their entire body with a fan shaped cloth that covered their hair also. In the excavations from Mohenjen-daro ivory and metal holders for applying cosmetics show that tradition of applying cosmetics prevailed in the Indus Valley Civilisation. The town planning and the construction of roads show the unique inventions in terms of construction in the Indus Valley Civilisation. The furniture and utensils used in the

Indus Valley Civilisation symbolises the level and quality of Civilisation. Animals such as oxen, pigs, buffaloes were domesticated by the civilians. However animals likes dogs and cats were kept in homes as pets. In case of the Egyptian Civilisation, the ancient tools that were used in the construction of Egyptian housing included reeds and clay. Lucas and Harris stated that the reeds in the household constructions were plastered with help of clay and this done to prevent the entry of heat and to cool the place more effectively .Other tools used by the civilians of ancient Egypt include limestone, chiseled stones, wooden mallets, and stone hammers. It could be understood that the Ancient Egyptians had knowledge on the construction of sails . This was mandated by the concept of aerodynamics. The earliest Egyptian sails were implemented and installed to prevent the entry of the winds. Egyptians of Ancient Egypt also had knowledge on glass working. Glass jars and other sculpture made of glasses were found in the process of excavations. They also had knowledge on astronomy also. As a part of technology the ancient Egyptians also had knowledge on medicine technology. Most cities in the Ancient Egypt was situated in the banks of the river Nile. Hence the mode of transportation was water based evidence of cargo ships, papyrus boats could be found. The papyrus excavated from these regions reveals their excellence in medical technology. Findings tell us that Egyptians used potter's wheels for manufacturing of pottery from as early as the 4th Dynasty. Evidences symbolise that men wore clothes that are similar to loin cloth and women wore clothes which were a single piece long robes having strapped in the side of shoulders. The games that were played in ancient Egypt are similar to that are played today. These games are similar to that of checkers. Sheep's, goats, cows were used for domestic purposes.

Interestingly sources and archeological findings reveal that people also attempted in domesticating hyenas, wolves, gazelles and cranes. Painting that were taken as a part of archeological findings tell us that the Egyptian gave importance to cosmetics.

The Egyptians developed a variety of furniture. There in the lands of ancient Egypt is the first evidence for stools, beds, and tables. Gold jewellery and other ornaments were also found during the Egyptian excavations.

Comparison of advancement of technology in Indus Valley Civilisation and Egyptian Civilisation

particulars	Indus valley civilisation	Egyptian civilisation
building	Construction of step wells and unique architecture could be sensed in the Indus valley civilisation	reeds in the household constructions were plastered with help of clay and this done to prevent the entry of heat and to cool the place more effectively
geometry	Measuring scales were invented which were made with help of copper alloy and ivory	geometry and measurement showed their significant presence in ancient Egypt
Planning	Construction and town planning was seen significant in the Indus valley civilisation	The town planning was significantly planned.
Medicine technology	-	Knowledge and evidence on medical excellence could be found
aerodynamics	-	Ancient Egyptians had knowledge on the construction of sails
Sculpting	Sculptures signifying religious practices were found in Mohenjen-Daro	Glass jars and other sculptures were found
craving	Ornaments were made with help of sea shells. The stones were craved and were used as ornaments. Cravings signified the religious customs.	Ornaments of gold and silver were found in the excavations. Craving were found on rocks and pillars.
Writings	Writings on palm leaves were found	Writings on papyrus and on stone tablets were found
Furnitures	Furniture found in mohenjen-daro mark the level of significance in Civilisation	ancient Egypt is the first evidence for stools, beds, and tables.
Transportation	Evidence tell us that the people of Indus Valley Civilisation used bullock carts. The carts with a cover on top made out of copper was found in Harappa	Most cities in the Ancient Egypt was situated in the banks of the river Nile. Hence the mode of transportation was water based evidence of cargo ships, papyrus boats could be found.
Clothing	Excavated sculptures depict the clothes of the people of Indus Valley Civilisation. Men clothing is a two piece cloth that covers their lower part and their right upper under cover. Women covered their entire body with a fan shaped cloth that covered their hair also.	Evidences symbolise that men wore clothes that are similar to loin cloth and women wore clothes which were a single piece long robes having strapped in the side of shoulders.
Recreations and Games	The evidence show us that the people were more indulged in more Of in door games. Evidence of dices were found in the excavations.	The games that were played in ancient Egypt are similar to that are played today. These games are similar to that of checkers.

Domestication of animals	Animals such as oxen, pigs, buffaloes were domesticated by the civilians. However animals likes dogs and cats were kept in homes as pets.	Sheeps, goats, cows were used for domestic purposes. Interestingly sources and archeological findings reveal that people also attempted in domesticating hyenas, wolves, gazelles and cranes.
Cosmetology	In the excavations from Mohenjen-daro ivory and metal holders for applying cosmetics show that tradition of applying cosmetics prevailed in the Indus Valley Civilisation.	Painting that were taken as a part of archeological findings tell us that the Egyptian gave importance to cosmetics.

Findings

1. The ancient Egyptians excelled and were technologically developed in aerodynamics and medicine technology.
2. The achievements in terms of aerodynamics and medicine technology could not studied in Indus Valley Civilisation because there is lack of archeological findings.
3. The ancient Egyptians were more technologically developed when compared to that of the civilians of Indus Valley Civilisation.
4. The articulate footwork in terms of building could be found in both Indus Valley Civilisation and in Egyptian Civilisation.
5. The advancement and achievements in terms of technology could not be properly identified because there is a lack of excavations in Indus Valley Civilisation.

Suggestions

1. The respected government shall conduct more detailed archeological study in these sites.
2. Proper findings shall also be allocated for the excavations process by the government.
3. A team of archeologists and historians could be formed so that the un discovered features in Harappa and Mohenjen-Daro could be discovered.
4. The findings in these archeological sites could be properly preserved as it might serve a great benefit to researchers who attempt to compare the ancient Civilisations.
5. Study on these Civilisations shall be made more approachable and accessible by the concerned government for more accuracy .

Conclusion

The Civilisation in the past history always correlates with the present . This is evident from this comparative research. The study helps in comparing the technology advancement in Indus

Valley Civilisation and the Egyptian Civilisation and also to identify the inventions and advancements in each Civilisation. The study reveals that the ancient Egyptians excelled and were technologically developed in aerodynamics and medicine technology. The achievements in terms of aerodynamics and medicine technology could not studied in Indus Valley Civilisation because there is lack of archeological findings. The study finds out that the Ancient Egyptians were more technological forward when compared to the civilians of Indus Valley Civilisation.Hence the study states that Ancient Egyptians are more technologically advanced when compared to the civilians of Indus Valley Civilisation. It could be suggested that study on these Civilisations shall be made more approachable and accessible by the concerned government and the respected government shall conduct more detailed archeological study in these sites.

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