

A Study of Faunal evidences in Harappan and Pre Harappan levels in some selected archaeological sites in India

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Introduction

In view of the predominance of cattle compared to all other animals (domestic and Wild) that was estimated in the present study, it was thought worthwhile to compare with Harappan levels of other sites in India and Pakistan and see if similar trends have prevailed across the entire Harappan belt of India sub-continent. In Harappan level animal Utilization represents domestic fauna outnumbers the wild animals. About 80 percent of the faunal assemblage from any of the Harappan sites belong to domestic animals.¹ People who lived in early phase obtained proteins from domestic animals such as cattle, buffalo, sheep, goat and pig. Usually cattle were used as primary food recourse with significant economic bearing. Because of these reasons around 60% of the total faunal assemblage emerges that of cattle from all the early Harappan sites. According to meadows new agricultural opportunities resulting from the introduction of the summer-sown cereal crops, when combined with the new means of animal-based traction, transport and communication².

Methodology of the research.

The use of quantitative method to archaeo-fauna are a fundamental requirement in the archaeo-zoological studies. There are two kinds of methods, which can be applied for the taxonomic abundance.

1 Number of Identified specimens (NISP).

2 Minimum Number of Individuals (MNI).

Number of Identified specimens (NISP).

NISP is the basic counting unit to understand the relative importance of species in the culture. The NISP can be used based on the size of the population and weight of animals. This method bears both advantages and disadvantages. The advantage of this method is, easy to calculate bones and, there is no need for further numerical manipulation. The disadvantage of NISP is, the skeletons of some species have parts than the skeleton of others and it ignores this fact. This method is very sensitive to bone fragmentation. This does not affect equally to all the animal species and all bones. The highly fragmented assemblage will have higher NISP for all species.

2 Minimum Number of Individuals (MNI).

The importance of various animals can be determined with the help of MNI method. This will be helped to set up an evidence for cultural change in the local population. However, several decades before first time this method was utilized in palaeontology. This method was introduced to archeo-zoology, by Whitle (1953). There is a simple way of calculating the MNI. This is done by classifying the bones to proximal or distal and right or left side, for example, if there are 5 distal left and 4 distal right femora, the MNI will be 5. This is not the exact number as they might have come from more than 5 animals.

Discussion.

There are a number of Harappan sites spread in India and Pakistan. The subsistence patterns have been studied on the basis of animal bones in these sites. Harappan sites and relevant researchers can be mentioned as follows.

Site	Reserches	Year
Mehergrah III, IV	Meadow	1981,86,89.
Balakot I	Meadow	1979,86,89.
Balakot II, III Harappan	Meadow	1979,86.
Jalipur	Meadow	1986,89a.
Nausharo	Meadow	1989a.
Harppa	prashad, Meadow	1936,1991.
Mohenjo Daro	Sewell and Guha	1931.
Kalibangan	Nath	1969.
Rupar	Nath	1968a.
Bara	Nath	2968c.
Alamgirpur	nath and Biswas	1969.
Dhlavira	Roy and ptel	1993,1997.
Rangpur	Nath	1962.63.
lothal	Nath and Rao	1985.
Kuntasi	Thomas and joglekar	1994.
padri	Thomas and joglekar	1994.

Girawad is one of the nearest early Harappan sites located in close proximity to Rakhigarhi. This site has yielded numbers of animals Which belong to an early Harappan phase. Animals, like cattle, buffalo, sheep, goat, Nilgai, wild pig, Axis axis, domestic pig, Antilop, gazelle, dog, house rat, Lamellidens, Diginostoma pulchella, Birds, fishes were found. This is very similar to the faunal checklist that we have from Rakhigarhi³. Kalibangan which is located on the left bank of the Ghaggar River (Sarasvati) in the northern part of Jajasthan, district Hanumangarh, has provided a rich faunal assemblage. The faunal

evidence includes *Equus caballus*, *camelus*, *Elephas maximus*, *Rhinoceros*⁴. This trend Continues not be so even at mehergarh⁵. Even in a period in the wild animals decrease in number. Early Harappan phase of Mehergrah shows an increase of domestic animals like cattle, sheep and goat. Balakot a site located about 16km inland from the Arabian sea off the southeastern corner of the Las Bela pain, with an altogether different ecological zone, has produced interesting faunal evidence in two of its distinctive phases, which belong to pre Harappan and Harappan traditions. These traditions show well developed cattle economy. from animal assemblage of Balakot, 75% of the assemblage Was dominated by cattle. Another quarter includes the remains of sheep, goat's gazelle, wild boar and wild Asiatic ass⁶. Jalilpur a site which is situated in Punjab and southern Pakistan provides the faunal evidence of Early Harappan tradition. The site has yielded 90% of cattle. While other animals such as sheep, goats, and gazelle account for merely 10%. In the Harppans levels remains of fish, land tortoise, river turtle, and birds were identified from Mohenjo Daro, Nausharo⁷. Mollusks also were used as a food item by people in those areas. The representation of wild animals like deer, gazelle, Blackbluck and Nilgai increase by 25% during Harappan times at the sites mentioned above. Gujarat and Saurashtra Harappan sites during early levels reports various wild species along with elephant and rhinoceros. Water buffalo has been discovered from various sites in early Harappan levels whose importance is well documented by the seals from several Harappan sites. The representation of other domesticated animals like sheep, goats to greater extent increases in this period⁸.

Utilization of domestic animals in Early Harappan level

There are lots of Harappan sites reported from India. The faunal material which was found from these early Harappan

phases provides remarkable details to understanding man animal relationship. A majority of these animals, consisting of both domestic and wild have contributed to the food economy and wealth of the Harappans. Animals from different habitats such as the terrestrial, avian and aquatic were exploited for various purposes.

Domestic animals predominate (80%) Harappan levels. A great amount of the animal protein was served by these domestic animals such as cattle, buffalo, sheep. Goats and pigs. Etc.

Cattle

The majority of faunal assemblage of early Harappans is dominated by *Bos indicus*. This evidence shows that people had acquired excellent skills of livestock management. On other hand cattle were utilized for common necessities of day to day life such as:-

Regular supply of meats for the inhabitants.

Helped in agricultural operations.

Used as a draught animal⁹.

Most of cattle were used for meats. Young and semi adults were killed in the age group of 1.5 to 3 years and adults killed in age group of 4-8 years.

The by-products of cattle were great economic aspects of early Harappan culture. Skin, horn, bones were used to make various kinds of instruments which fulfilled the requirements needed for daily life. Religiously cattle were utilized as a sacrificial animal. However, cattle pastoralism was one of the main economic pursuits of the early Harappan levels.

Sheep/ goats

Sheep and goats were the second important animal in the subsistence economy at all the early Harappan sites. Usually it is difficult to identify the morphological differences between sheep and goats. Both species are bearing much closer shapes. In Shikarpur and Kuntasi goat outnumbers the sheep. Probably it is befitting to state that sheep is a grazer, and goat a browser, and the latter is more adapted to different environmental conditions¹⁰. Most of times sheep and goats were killed at an Young age (1-2). As Well as these animals used for by - products such as wool and milk. Usually, bones of these animals count for about 105 of the total faunal assemblages in every early Harappan level.

Buffalo.

Buffalo has been reported from several early Harappan sites in India. This animal indeed supported the food economy of the early Harappans. A good number of buffalo bones have been recovered, and it is abundantly clear that this large bovine provided enough of animal protein to the Harappans. It is difficult to recognize morphological differences between cattle and buffalo from the fragmentary faunal remains. With the help of long bones and specific examination, they can be separated out. Buffalo bones represent 5 - 10% of the total faunal collection of early Harappan level. This animal's bone is very less when compared with cattle. The reason is that cattle were easier to manage than buffaloes.

Domestic pig.

Generally the pigs represent about 2 - 3 % of the total domestic population in early Harappan levels. Only 11 of domestic pig bones were recovered in Rakhigarhi RGR6,

canis familiaris	-	+	+	+	+	+	+	-	+	+	+	+	-
Felis catus	-	-	-	-	-	-	+?	-	-	-	-	-	-
Bos sp.	-	-	-	-	+	-	-	-	-	-	-	+	-
Bubalus arnee	-	-	-	-	+	-	-	-	-	-	-	+	-
Ovis orientalis	-	-	-	-	-	-	-	-	-	-	-	-	-
Boslaphus tragocamelus	-	-	+	-	+	+	+	-	-	+	+	+	+
Antilope cirvi-capra	+?	-	-	-	+	+	+?	-	-	+	+	+	+?
Axis axis	-	-	+	+	+	+	+	-	+	+	+	+	-
Axis porcinus	-	-	-	-	+	-	+	-	-	-	-	+	-
Cervus unicolor	-	-	+	+	+	-	-	+	-	-	-	+	+?
Sus scrofa	+?	-	-	-	+	-	+	+	+	+	+	+	-
Felis libyca	-	-	-	-	-	-	+?	-	-	-	-	-	-
Felis chaus	-	-	-	-	+?	-	-	-	-	-	-	-	-
Hystrix indica	-	-	-	-	+	-	+	-	-	-	-	-	-
Rattus rattus	-	-	+	+	-	+	+	-	-	+	+	+	-
suncus stoliczkanuus	-	-	-	+	-	-	-	-	-	-	-	-	-

+ Present. - Absent. ? Doubtful. \$ Stratigraphy uncertain.

DV= Dholavira. RG= Rangpur. LT= Lothal. SK= Surkotada. KS= Kuntasi. NG= Nageshwar. RJ= Rojdi. KP= Khanpur. MV= Malvan. BK=Babarkot. PD=Padri. SP= Shikarpur.

OT= Oriyo Timbo

Conclusion

The faunal assemblage examined as a fairly good state of preservation, especially with regard to the dentition and a fore and hind limb extremities. The fragmentation of bones depends on factors such as butchering techniques, carcass utilization, cooking, the secondary uses of bones excavation, transport,

encompassing a temporal range from the times of the life assemblages to the stage of recovery and laboratory analysis. The fauna at those sites comprise the number of species of animals, consisting of mammals, birds, mollusks. Mollusks are represented by just two bivalve species, while the birds could not be identified owing to poor preservation and lack of identifiable parts present. However, it is worthwhile to mention here that the diversity and the wide spectrum of the animal species from a small section of the massive collections from Rakhigarhi represents a ‘tip of the iceberg’ kind of a situation! The site of Rakhigarhi indeed emerges finally the most challenging site with regard to a rich storehouse of knowledge with regard to the man and animal relationships for a long time span of more over a millennium during Early to Mature Harappan times.

End notes.

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