

Transportation in Ancient India: A Study

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Abstract: *Origin of wheel was started in Neolithic period in prehistoric times. Since then man a lot improvement in this technology time to time. Ancient texts and epics various modes of transport that were used in the Indian civilization. With the decent road system people used different mode of cover long distances. Some artifacts remains are also suggested the ancient people have known the used of technology of transportation terracotta bull cart and other findings indicated it. In this paper will discuss about the mode of transport in special reference of Harappan civilization in ancient India.*

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The invention of the wheel is well-known for its revolutionary consequences. We shall discuss here mainly how it facilitated transport in the Harappan culture. Growing archaeological evidences, though indirect in nature, throw ample light on the transport technology of the Harappans which they effectively devised to suit both land and water. . We may first discuss the land transport. For inland trans- port bullock-carts were used a considerable number of model representations of which in terracotta have been found in many Harappan sites. From these models along with their present equivalents still functioning in the Sind region one can easily reconstruct the actual specimen which was most frequently used. As Piggott observes:¹ For slower and heavier transport, the ox- art was extensively used in the Harappa culture. Models of carts in clay are among the commonest antiquities on the prehistoric sites of the Punjab and Sind, and the type represented is exactly that which today cracks and groans with its ungreased, nearly solid wheels in the villages round Mohanjodado The type, we now know, is unchanged even in its wheel-base, for the recent Harappa excavations have revealed cart-ruts be-longing to an early phase of the city's occupations having a width of some 3 feet 6 inches, which is

that of the modern carts in Sind. Such things have a long survival-value--the standard gauge of modern English carts was already fixed by the third century B.C., in these islands.

S.R. Rao attempts to reconstruct the models of the carts in more detail: Three main types from Lothal are reconstructed with the help of the toy wheels and cart frames found in excavation.² The first type has a solid chassis, which is concave or flat types have a perforated chassis, but the latter has, in addition, a detachable cross-bar. On such a chassis wooden posts were fixed to form a boxlike frame. The wheels of Lothal carts were attached to the free projecting ends of the axle which itself was secured with leather straps to the main frame. Lynch-Dins seem to have held the wheels in position. The carts with a detachable cross-bar and those with a chassis made up of two curved bars were confined to Saurashtra. Perhaps the latter were meant for carrying light loads, while the other two types carried heavy loads. In this context Gordon Childe's reconstruction of Harappan cart may also be mentioned³ : In the Indus Valley, numerous models illustrate the under-carriages of the carts of the Harappa civilization, which were constructed in just the same way as the contemporary village carts of Sindh, whose axle turns with the wheels. The frame consisted of two curved beams set parallel, and joined by two to six cross-bars. The pole might run under the cross-bars or be mortised into the foremost. Two or three corresponding holes in each of the side-beams must have held upright poles to contain the box of the vehicle, presumably of wickerwork. A pair of holes at the centre of each side-beam would have held pegs projecting downwards to fit on either side of the axle. Thanks to this arrangement, it is easy to dismantle the vehicle by simply lifting the frame off the axles. In fact, Childe's reconstruction appears to be more scientific than that of others. Mention may also be made of another model resembling modern Ekka, the miniature bronze and copper models of which have been found from Harappa, Chanhu-daro etc. This model looks like a little covered trap with a canopy and curtains of fabrics set up on four poles above the cart-frame. In Harappan model is a seated driver, well forward between the shafts and observed as holding the reins with one hand. Gordon Childe also has accepted these as passenger carts. As Childe describes " A chassis of the usual type supports a light body covered with a gabled roof. The passengers sit back to back, and in one case the driver sits on the front cross-bar of the frame. Similar vehicles can still be seen in India.

Rao conjectures that. These were the same as the horse-drawn chariots, described in the Rig-Veda, for which direct evidence at our disposal is at -present indeed meager. Whether spoked wheels were in use or not are a matter of controversy and we have to wait for more evidence. The long distance journeys through wooded or undulating tracts must have been conducted by caravans of pack-oxen. For long distance trade and commerce, land transport only was not sufficient and to supplement the land transport an elaborate water-transport network was definitely devised by the Harappans. It was equally or more important than land-transport. In this case also our evidences are not direct, though it is generally admitted that boat and ships were built in this period. Their shapes and technological setup can mainly on the basis of their representations either on seals or on potsherds or even from the terracotta models. S.R. Rao claims that Lothal was a boat building centre too. From the roughly sketched boat on a potsherd from Mohenjo-Daro the following technical characteristics may be discerned:⁴ It has a sharply upturned prow and stern and is apparently controlled by a single oar. The mast may possibly be a tripod, and one or two yards are shown, or, conceivably, one only, the second line representing a furled sail. This type was probably river-boats, from which goods were loaded on a shelving bank. On a reused seal the representation of another boat has been found, which is 'mast less with a cabin and a man at oar'. From this representation it is pre-summed that the real one was probably lashed together at both bow and stern—perhaps an indication of their making of reeds, like primitive Egyptian boats. In the centre there is a hut-like representation, the prototype of a modern cabin, which was also probably made either of wood or of reed. A steersman could sit at a rudder or steering oar on a raised platform over the bow. This was also used probably for river traffic. From the terracotta models of boat from Lothal three major types of it are distinguishable; of these, two types had sails and the other was without sails. In a complete terracotta model of boat, according to Rao ⁵ a sharp keel, pointed prow and a high flat stern are observed along with three blind holes, one near the stern the other near the prow and the rest near the edge of the boat for fixing the mast, for fastening the ropes of the sails and for supporting the oar respectively. In other models pointed keels, raised sterns and prows are noticeable while in the third type flat base and pointed prow are prominent with the absence of provision for mast. Rao is of opinion that "the first two types of sharp-keeled boats with provision

for the mast must have sailed on high seas, whereas the third type resembling canoes was used in the estuary only."4° on two potsherds found at Lothal painted depiction of multioared boats have been found which were most probably used in ancient Sind. More direct evidences for the anchorage of vessels have also come from Lothal. These are actual stone anchors, circular or triangular in plan with rectangular section and one perforated right across for passing the ropes. "Blind-holes" are also bored on them for anchor-fixing. The identification of these circular and triangular perforated stones as anchors, as is proposed by is not free from doubt.⁶ More scientific and serious investigation may determine their true nature. The transport technology of the Harappan period, in all probability, has somehow been transmitted to the succeeding period; Without little change, the traces of which have already been: eked by eminent scholars.⁷ In comparison to present techno-logy the transport technology of the Harappan period may well be regarded as pre-historic, but in that period it was no less advanced than that of the contemporary Egyptian or Mesopotamian civilization.

Reference

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