

FORGOTTEN CITIES ON THE INDUS

*Early Civilization in Pakistan
from the 8th to the 2nd Millennium BC*

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The Rise of the Indus Civilization

M. RAFIQUE MUGHAL

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South Asia's first civilization, known as the Harappa Culture or Indus Civilization, was already flourishing by the middle of the 3rd millennium BC within the vast area of the Greater Indus Valley drained by the Ghaggar-Hakra and Indus river systems of Pakistan. Best known from its two extensively excavated, principal urban centres at Harappa on the River Ravi, where it was first discovered and recognized, and at Mohenjo-Daro on the right bank of the Indus, it is characterized by many a unique and distinctive feature which set it apart from the contemporaneous civilizations of the Nile and Tigris-Euphrates Valleys.

An astonishing aspect of the Indus Civilization is its geographical extent far beyond its core region in the central Indus Valley where Mohenjo-Daro, Harappa and the third, as yet unexcavated, urban centre of Ganweriwala are located. It reached as far north as Badakhshan in northern Afghanistan and southwards all along the Arabian Sea coast of Pakistan and Western India. Political domination or cultural expansion on such a vast scale had never before been achieved by any oriental civilization in the ancient world. An equally outstanding feature is the concept of town-planning, most impressive at Mohenjo-Daro which is traversed by streets and lanes lined with public and private buildings with an elaborate drainage system.

The long life-span of the Harappan cities and towns, their growth and proliferation mostly in the flood plain, clearly demonstrate the availability of sufficient economic resources and surplus which could be mobilized for the construction of huge fortifications and public buildings on artificially raised platforms. The Harappans also possessed the technology required for the effective employment of the riparian population in these undertakings, thus eventually inducing the rise and development of interrelated socio-economic, political and

religious institutions. A network of inter-settlement trade or exchange existed within the Greater Indus Valley and with neighbouring regions for the procurement and supply of raw materials and the distribution of finished products.

Possessing the essential elements of full urbanization, Harappan society was sharply stratified as is evident from the varying size of private houses and the differences in grave furniture and modes of burial.

Specialized craftsmen were engaged in the manufacture of shell, faience and terracotta bangles, beads, flint utensils and pottery, in seal-cutting and engraving, copper-smelting and in the production of metal goods. The glyptic and representational arts were well developed and numerous cult objects are indicative of the formal role of religion. The mass-production of standardized articles of different kinds and their occurrence throughout the Greater Indus Valley presuppose a high level of technology, an elaborate communication network, and an effective political or administrative system controlling a vast territory, all of which induced a sort of pan-Indus cultural integration not approached elsewhere in the ancient world.

Older concepts

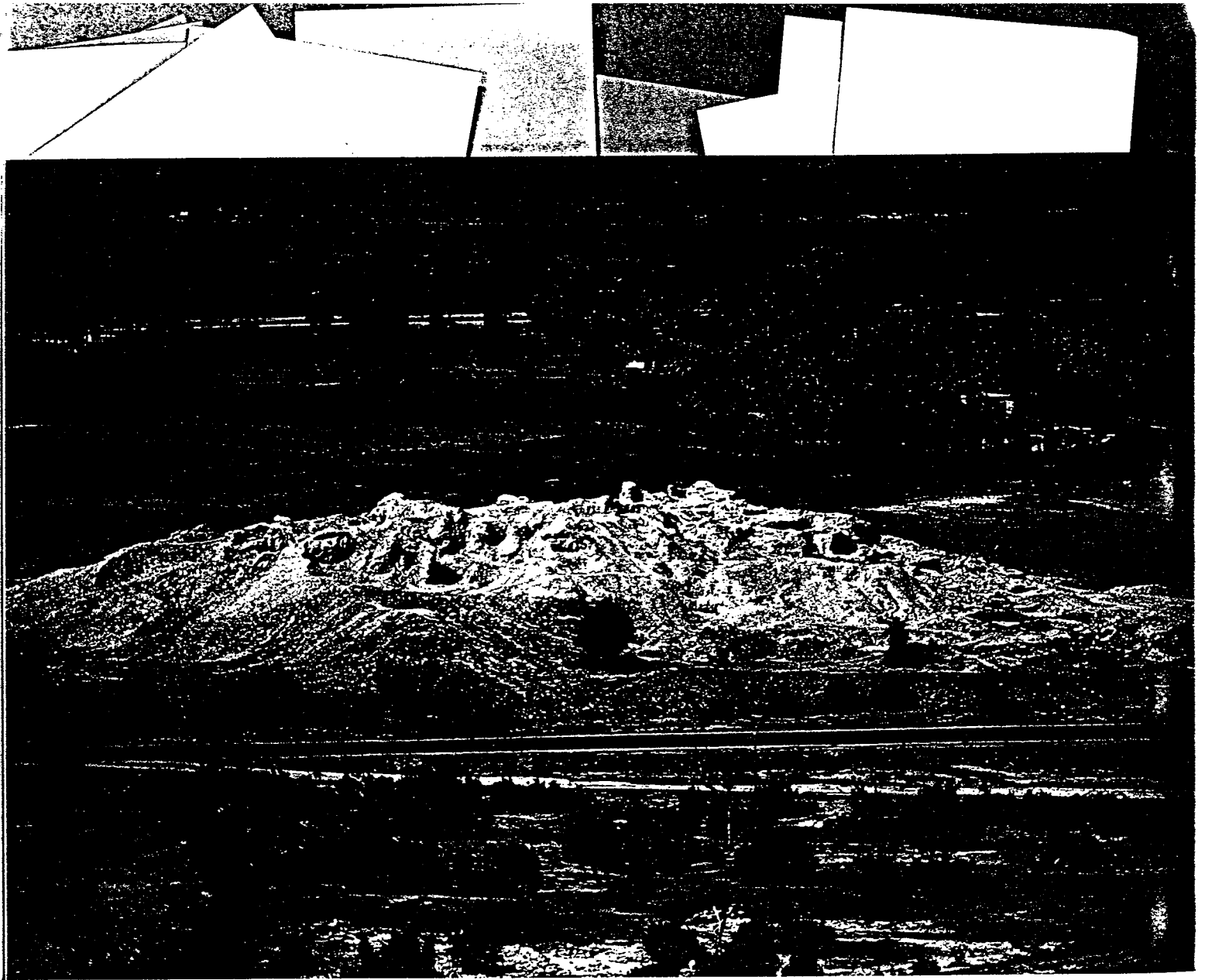
Ever since the discovery and extensive excavation of the principal urban sites of the Indus Civilization, its origin or genesis in the Greater Indus Valley has been one of the most fundamental and vital questions for which no satisfactory answer was forthcoming for a long time. The picture that emerged from the available evidence presented a fully urbanized, matured and developed stage of the Harappa Culture dating to the 2nd half of the 3rd millennium BC. The rise of civilization in the Indus Valley was commonly viewed in terms of contemporary



Pl. 90 Kot Diji: pottery vessel

developments in Western Asia (Mesopotamia and Iran), therefore the origin of the Indus Civilization was thought to be a result of colonization or stimulus diffusion from the west. This idea of the ultimately foreign origin of the Indus Civilization, or at least its inspiration from the Western Asiatic centres, implicitly rejected the possibility of an indigenous origin; it also ignored inherently favourable ecological conditions in the Indus Valley proper for permanent human settlements which could have favoured the rise and development of such a civilization.

The impact of general uniformity as demonstrated by the Harappan architectural and artefactual remains, suggestive of possible uniform administrative, political and socio-economic structures throughout the Greater Indus Valley, was profound and, consequently, much emphasized in the archaeological literature. Henceforth, all cultural developments during the 3rd millennium BC were viewed and interpreted with reference to the Harappan Culture and its chronology. Some settlements which yielded evidence recovered from find contexts located stratigraphically below Harappan material – and



Pl. 91 Kot Diji: view from Fort over prehistoric site

which thus appeared to be chronologically earlier than the mature Harappa Culture — were regarded as “pre-Harappan”. The Harappan cultural traits such as town-planning, fortification, script, ceramics, metallurgy and tool production, if found to be present at the settlements of the early 3rd or 4th millennium BC, were also regarded as “pre-Harappan”, or else their presence at the early sites was thought to be due to influence from the major cities such as Mohenjo-Daro and Harappa. Thus, amid the dichotomy of “Harappan” and “pre-Harappan” terminological uncertainty and the various concepts in circulation, the true identification and definition of the early stage of Harappan cultural development remained obscure.

New conceptual framework

Amidst considerable theorizing on the origins of the Indus Civilization, a significant breakthrough took place in the mid-1950's as a result of excavations at Kot Diji (Khan 1965), located opposite Mohenjo-Daro on the left bank of the Indus (Pl. 91). Here, underneath cultural remains of the mature Harappan period, a thick occupational deposit revealed certain forms, decorative designs and other elements such as miniature clay cart-frames and wheels, cones, animal figurines, triangular terracotta “cakes” and even fortifications which had previously been attributed to the mature phase of the Indus Civilization. These early materials from the stratified layers yielded the (calibrated) radiocarbon dates of 3370 and 2655 BC. The associated finds, initially called

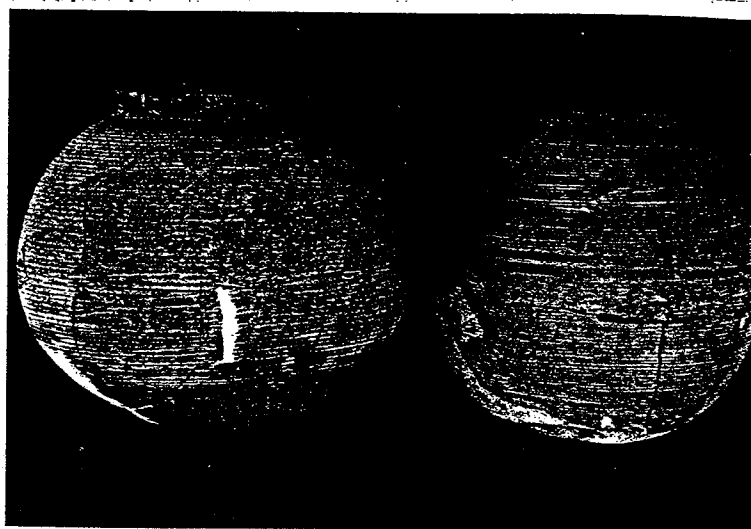
"Kot Dijian" after the site itself, were distinctive in character but nevertheless typologically related to those found in 1946 under the defence wall at Harappa. At that time, due to the lack of comparable evidence, such early materials were thought to represent a village community "alien" to the Harappa Culture (Wheeler 1947).

In southwestern Sind, the site of Amri revealed an early settlement below the mature Harappan remains. In its earliest levels grouped under Amri IA, characteristic Kot Dijian globular vessels with short, straight rims were found. The levels above, Amri IB, were dated between 3660 and 3360 BC (calibrated), thus raising the possibility of dating the Kot Dijian pottery found in the Amri IA levels to the beginning of the 4th millennium BC.

Identical ceramic evidence from Jalilpur near Harappa, Kalepar or Bhoot in Cholistan and, further east, from Kalibangan provided valuable clues to the existence of a cultural phenomenon which was wide-spread in the region between Harappa, Kot Diji and Amri and extended eastwards up to the fringes of the Thar desert. The most vital information, however, was that the early occupation at Kot Diji not only took place eight centuries or more before the succeeding mature Harappan phase at this site and elsewhere in the Indus Valley, but also that it contained the earliest known elements of the Harappa Culture.

Associated with the early cultural assemblage at Kot Diji were some distinctive pottery types, such as globular vessels with short, straight rims and plain or slipped surface, or with horizontal, multiple grooved lines (Pl. 92). The shoulder is generally painted with a wide band near the neck. The other recurrent pottery type comprises the flanged vessels, often painted with black on red (Pl. 93) or, rarely, with a buff slip. These two pottery types, together with bowls and cups, are now used for identification, comparisons and as indicators of the spatial distribution of the Kot Dijian ceramics in the Indus Valley. It was significant that the associated ceramics also contained those pottery types which were otherwise thought to be characteristic of the mature Harappan phase, viz. (i) offering-stands of tall and squat types; (ii) pans with incurved rim and slipped inside, some with a wide band painted below the rim; (iii) storage jars; (iv) ring-stands; (v) cylindrical vases, some with carination near the base; and (vi) red-slipped, thin-bodied vases with pedestal base.

These pottery types continue to occur all over the Indus Valley in the succeeding mature Harappan period during

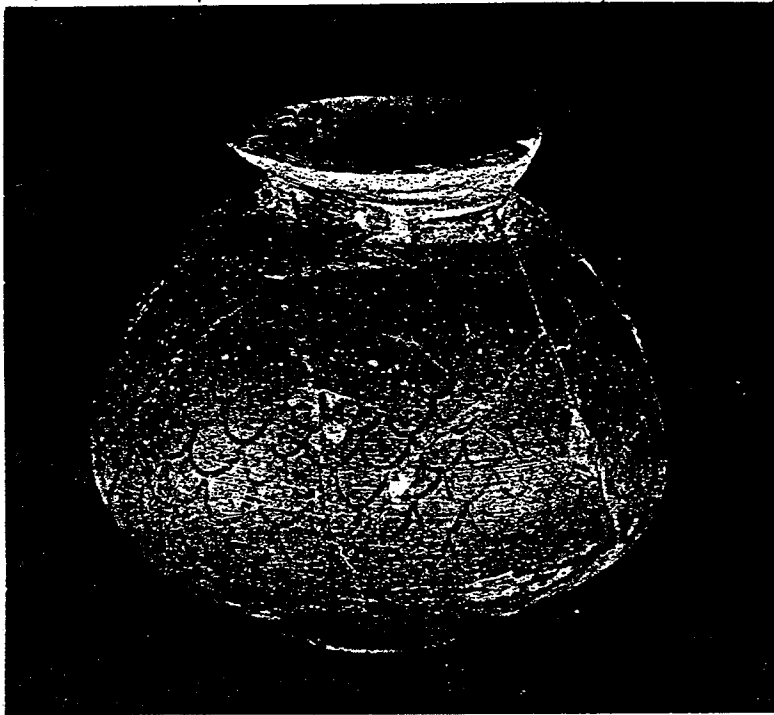


Pl. 92 Sarai Khola: pottery vessels of Kot Diji type

the 2nd half of the 3rd millennium BC. Moreover, an unusual, wide-shouldered type of vessel ornamented with a painted horned deity motif found at Kot Diji and other contemporary sites resembles those recovered from mature Harappan levels at Mohenjo-Daro (Pl. 90).

The evidence of other categories of artefacts from Kot Diji is consistent with that of the pottery in demonstrating cultural continuity from the late 4th to the mid-3rd millennium BC. The entire data from stratigraphical contexts, when analysed statistically, revealed clearly that most categories of materials from the early Kot Dijian levels are generally similar to those found in the later mature Harappan occupation. Some variations in the size of tools are discernible, suggesting an independent tool-making industry, but the tradition persisted through the lower (Kot Dijian) and upper (mature Harappan) levels for more than 1,000 years. The Mother Goddess cult is also present throughout, though a change in the style of figurine representation was introduced in the mature Harappan period. Similarly, the humped bull figurines with large horns of the early period gradually became stylized. Other objects of copper/bronze and semi-precious stones also occur throughout the early and mature Harappan periods. The only exceptions, in fact, are the steatite seals, cubic weights and the Indus script, which did not emerge or develop until the fully urbanized phase of the Indus Civilization.

The entire ceramic and other evidence led to the logical conclusion that the assemblages from the lower Kot Dijian right through to the upper mature Harappan levels are intimately related as products of one continuous cultural process. Therefore, the cultural assemblages revealed in the early levels at Kot Diji and the comparable



Pl. 93 Kot Diji: vessel of black-on-red ware (NMK: KD B V 3,6 1957/3795)

finds from other sites represent, both chronologically and culturally, an "Early Harappan", or developing, formative, early urban stage of the Indus Civilization. Thus, it has become evident that many complex and interrelated cultural processes which led to urbanization in the Greater Indus Valley had begun sometime during the 4th millennium BC. Mohenjo-Daro and Harappa represent the culmination of such processes around the middle of the 3rd millennium. The delineation and definition of an Early Harappan stage by the present writer (Mughal 1970) transformed the conceptual frameworks proposed since the discovery of the Indus Civilization in the 1920's.

Further fieldwork

Since the presentation of this new theoretical framework on the genesis of the Indus Civilization, an overwhelming amount of new archaeological data has been revealed through intensive excavations at numerous sites and extensive surveys in the Greater Indus Valley. Their results have elaborated further on the Early Harappan cultural development, and fully substantiated its claim to represent the early formative or early urban phase of the Indus Civilization.

The new evidence comes mostly from Pakistan. In the upper Indus Valley, explorations conducted between the Sulaiman range and the Indus River in the 1970's revealed four important Early Harappan sites, of which Gumla (Dani 1970-'71) and Rahman Dheri (Durrani 1981, 1984) were excavated. The entire Gumla sequence falls within the early 3rd millennium BC, while that of Rahman Dheri starts from the 2nd half of the 4th millennium. Although both Rahman Dheri and Gumla have Kot Diji-related material, the first settlement at Rahman Dheri also shows strong influence from northern Baluchistan. To its north in the Bannu Basin, a succession of sites of the Early Harappan period have been located, among which Lewan (Allchin et al. 1986) and Tarkai Qila (Allchin and Knox 1981) were excavated in the late 1970's. A third site, Sheri Khan Tarakai, currently under investigation, seems to push the cultural sequence back to the 5th millennium BC (Khan 1983). In the Taxila Valley, Sarai Khola (Halim 1970-'71), Jhang and Hathial (Khan 1983) were excavated and other contemporary Early Harappan sites discovered. The Swat Valley, too, was influenced by the cultural developments in the Indus Valley; at Ghalagai (Stacul 1969), Kot Dijian-type pottery was found in levels dated to ca. 3000 BC. Near Harappa, the site of Jalilpur (Mughal 1972) was excavated in 1971 and 1976. Comparable Kot Diji-related material was found at 40 settlements in the Cholistan desert in the course of extensive surveys conducted between 1974 and 1977 (Mughal 1982). Further south, the Indus Kohistan and Kirthar piedmont regions were intensively surveyed between 1975 and 1977 and a large number of Kot Dijian, Amrian and mature Harappan sites located (Flam 1981). In the Kachi plain of Baluchistan, which is physically a part of the Greater Indus Valley, the site of Mehrgarh has produced an astonishingly long cultural sequence starting around 7000 BC (Jarrige 1982, 1984 etc.). Encompassing the previously known neolithic horizon of the Quetta and Loralai valleys and later cultural developments of the Baluchistan plateau in its early periods I to III, the Early Harappan phase here is represented by Mehrgarh IV, V and VI.

In the neighbouring Indian territory originally drained by the Ghaggar-Hakra and its tributaries in northern Rajasthan, East Punjab and Haryana, a large number of Kot Diji-related sites have also been located. Of these Kalibangan (Lal 1979, Thapar 1973), Siswal (Bhan 1975), Banewali (Bisht 1982), Manda (Joshi 1984) and a few others have been excavated.

Significant features of early urbanization

Intensive field research carried out since 1970 has produced an impressive map of the Early Harappan settlements, showing greatest density in the central Indus Valley, especially along the old Ghaggar-Hakra riverbed in the Cholistan desert of Bahawalpur (Pl. 94). Considering all the discoveries made to date, the distributional pattern of the Early Harappan settlements almost duplicates that of the mature Harappan period, suggesting full adaptation of the early communities within the same ecological niche (with the exception of the coastal strip and outposts such as Shortugai) at least 800 years before the rise of the large urban centres of Harappa and Mohenjo-Daro.

Significantly, most of the essential elements of urbanization, which later on characterized the mature phase of the Indus Civilization as exemplified by the major urban centres, had already appeared or evolved by the latter half of the 4th millennium BC. Several ceramic forms and decorative designs of the Early Harappan phase continued to remain in use alongside new pottery forms and ornamentation introduced during the mature period. The wide distribution of Early Harappan artefacts suggests intensive interaction and sharing of technical knowledge among the early communities of the Greater Indus Valley and even beyond it. Their uniformity in style over a large area is indicative of standardization and craft specialization, which were already established by the beginning of the 3rd millennium BC.

General regularities in the layout and refinement of the buildings, combined with their progressive complexity noted in the Early Harappan settlements, reflect well organized and stable communities inhabiting the vast plain of the Indus. The huge mud-brick fortifications at Kot Diji and those associated with the early Kot Dijian levels at Harappa are indicative of economic and social changes that were taking place in the 4th millennium BC, as the construction of such monumental buildings must have involved the mobilization of labour and economic resources on a substantial and organized scale. Implicit in such activities is the availability of economic surplus, which in turn is related to the emergence of a stratified society and the technological capacity for the effective utilization of agricultural resources in the riverine zone and marginal areas.

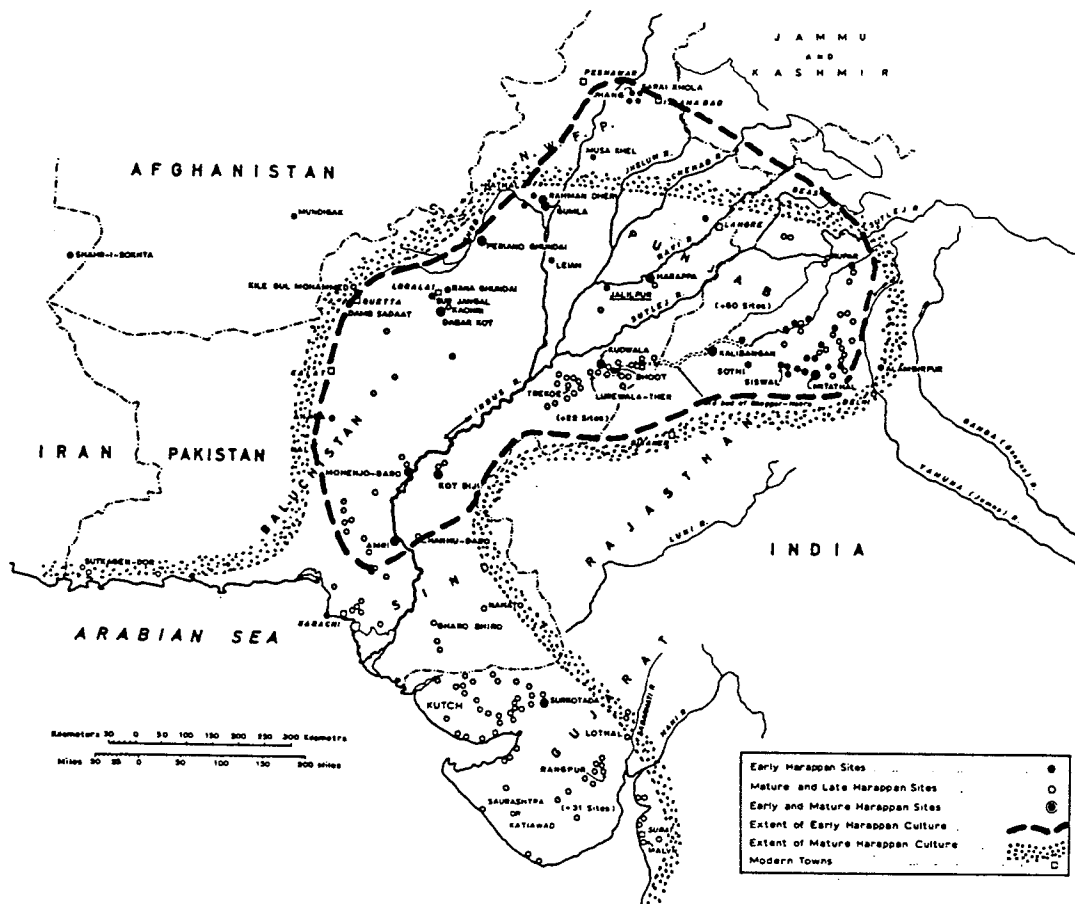
It seems that cultural developments in various ecological niches ultimately coalesced into a form which became

manifest in the uniformity of cultural features observable all over the Indus Valley by the middle of the 4th millennium BC. This crucial stage in time may mark the beginning of the Indus Civilization. This beginning seems to post-date Mehrgarh Period III, which ended around the close of the 5th millennium BC.

Another criterion of urbanization is the existence of long-distance trade or exchange with foreign regions. Such an exchange or trade had already been established during the Early Harappan period. Items like lapis lazuli originating from its principal source area in northern Afghanistan have been found in abundance at Rahman Dheri and Gumla in the Gomal Valley, Sarai Khola in the Taxila Valley, Jalilpur in the Central Punjab, at Kot Diji, Mehrgarh and other contemporary sites. The copper artefacts discovered in the early 3rd millennium contexts indicate access to and availability of this important metal through exchange from sources in Baluchistan and Rajasthan. Contacts with southern Iran and the Gulf, including eastern Arabia and southern Mesopotamia, are attested by the occurrence of a carved steatite vessel in an early level at Mohenjo-Daro dated to the early 3rd millennium BC. It is thus clear that the Greater Indus Valley constituted an integral part of a large sphere of interaction in which inter-regional ties were already established during the Early Harappan period. This pattern of long-distance trade or exchange was intensified and further enlarged in the later period, as demonstrated by the location of mature Harappan sites all along the coast of the Arabian Sea, near the sources of lapis lazuli in Badakhshan, and the presence of mature Harappan material in Oman, Abu Dhabi, Bahrain and Kuwait.

The high level of craft specialization is also evident in the artefacts of the Early Harappan period. Some craft sites are located near the sources of chert, where cutting tools in the form of blades were manufactured. During the subsequent mature Harappan period, the Rohri Hills were the major centre of tool-making and the point of distribution to various towns and cities of the Indus Civilization. Kilns for firing small objects have been found at numerous Early Harappan sites in Cholistan. The shape of these kilns is precisely similar to those found at Mohenjo-Daro and Harappa.

The representation of terracotta female figurines of identical form and the painted motif of the horned deity (Pl. 90) are reported from several Early Harappan sites, namely Sarai Khola, Jhang, Gumla, Rahman Dheri, the sites in the Bannu Basin, Kalibangan and Manda. This



Pl. 94 Map showing extent of Early and Late Harappan sites in the Greater Indus Valley

evidence suggests common religious beliefs or rites throughout the Indus Valley which received further emphasis and elaboration in the succeeding mature Harappan period.

The early form of the Indus script is still obscure due to insufficient evidence. However, simple marks or signs engraved or incised on pottery of the Early Harappan period appear to represent the beginning of writing. Small seals with Indus characters have been found at Rahman Dheri which could be compared stylistically with those excavated at Mound F in Harappa. Graffiti on the Early Harappan pottery particularly comprise a large number of marks or characters. These inscriptions seem to suggest early attempts at writing from which the enigmatic Indus script might have developed.

Conclusion

In brief, the overwhelming evidence pertaining to the 4th and early 3rd millennia BC prompts the conclusion that a wide-spread cultural phenomenon, characterized by a remarkable uniformity of material culture, had set an

enduring pattern incorporating the essential elements of urbanization which were subsequently assimilated and further developed during the mature phase of the Indus Civilization. Mohenjo-Daro and Harappa, in fact, represent the logical culmination of various complex and interrelated socio-economic, religious and political processes which were already underway at least 800 years before their climax into full urbanization around 2500 BC. As a result of these processes, a degree of pan-Indus cultural integration was already achieved before the emergence of large cities by the mid-3rd millennium BC. The Indus Civilization in its mature form, therefore, grew out of the early cultural phenomenon defined as Early Harappan, which constituted an early formative or early urban stage.

The genesis of South Asia's first civilization took place on Indus soil independent of other civilizations. The process of cultural development and change was continuous from the 4th to the middle of the 3rd millennium BC. This continuity of culture persisted until the decline of the Indus Civilization throughout the Greater Indus Valley during the early 2nd millennium BC.

THE MUGHAL GARDEN

INTERPRETATION, CONSERVATION
AND IMPLICATIONS

Based on a Collaborative Study Sponsored by
Smithsonian Institution, Washington, DC
Department of Archaeology and Museums, Government of Pakistan
University of Engineering and Technology - Lahore

Edited by
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THEORY AND PRACTICE IN GARDEN CONSERVATION

M. RAFIQUE MUGHAL
Director-General,
Pakistan Department of Archaeology
and Museums

The erstwhile Archaeological Survey of British India inherited a large number of Mughal gardens and their remains, some of which were listed and classified as "monuments" like standing monuments and sites. A series of annual reports produced by Sir Alexander Cunningham and Sir John Marshall on the monuments also include descriptions of gardens. The conservation works which were initiated at that time dealt mostly with the restoration and repairs of structures like pavilions, walkways, water channels and tanks, tombs, gateways, etc. The gardens within and around the monuments to which they were an integral part, somehow were not considered to be equally important. The conservation of a historical garden involved only plantation of trees and laying of lawns and turfing. The approach was generally archaeological by which gardens were regarded as antiquities like other structural remains. Since the historical gardens were never viewed in the context of their physical environment, the principles and procedures specifically applicable to the conservation of gardens were never formulated separately. Sir John Marshall's *Conservation Manual*, still regarded sacred by all the Archaeological Conservators in South Asia, contains eleven numbered paragraphs (among a total of 273) for historical gardens.

Marshall had no horticulturist with him. He says that the layout and conservation of ancient gardens "calls for special knowledge and experience" but adds that "questions regarding them should ordinarily be referred to the Director General of Archaeology" (para. 118). He advised the archaeological conservators to prefer planting of trees which were indigenous in the area where the garden was situated instead of "exotic" ones but warned against planting of thick foliage trees such as *Mimusops* (*Khirmi*), *Nim* and trees of ficus family for example, the *pipal* and *banyan*. In his opinion, such trees were

threat to the vegetation or monuments and should be "cut down and eradicated", if practicable. He however insisted that it was "important to preserve the essential character of the originals but it is not necessary to attempt to reproduce with pedantic accuracy the original appearance of the garden in all its particulars by banishing from it any trees, flowers or fruits, etc. which were not grown by the ancients" (para. 138).

The tradition of Marshall's days for garden conservation was maintained in Pakistan much after independence in 1947. The conservation reports on monuments published since 1947 clearly reflect our approach towards historical gardens and their conservation. The garden part of a monument complex is generally thought to involve plantation of trees, shrubs and maintenance of grassy lawns only. The gardens do not figure separately in the conservation history of South Asian monuments although excellent accounts on Mughal Gardens in South Asia (Bhagwat 1993; Stuart 1913) and in Lahore (Dar 1982) are available. In archaeological literature, however, the main emphasis has always been on the structural elements of the Mughal gardens.

This trend is best illustrated by the conservation and restoration schemes (called PC-I or Development Schemes in official language) which were formulated for Shalamar Garden and Lahore Fort. These conservation schemes were launched in 1974 by the Federal Department of Archaeology. The one for Shalamar Garden was implemented with a cost of Rs. 16.582 million between 1974 and 1989. For the improvement of lawns and water supply, less than 6 lacs (0.6 million) were spent. The remaining amount of Rs. 16 million was spent on the restoration and repair of structures on the two terraces. The scheme for Lahore Fort was launched at the capital cost of 10 million in which only 0.28 million were earmarked

for the improvement of gardens in front of Diwan-e-Aam, in Jahangir's quadrangle, *Charbagh* in front of Diwan-e-Khas and the Hazuri Bagh lawns. During the last five years, eleven schemes for the conservation of monuments in the Punjab Province have been operative. Among these four schemes relate to Jahangir's tomb, four belong to Lahore Fort, and one each for Rohtas Fort, Harappa and Mughal Garden at Wah. In the four schemes for Lahore Fort, nothing has been provided for the development or improvement of gardens. No special funds are provided for the extensive gardens around Jahangir's tomb. Two of the schemes pertain to the restoration of walkways and water channels and the perimeter wall (destroyed by floods prior to 1860), respectively with the capital cost of 7 and 13.5 million. Still, there was no provision for landscaping within the walled area of Jahangir's tomb.

It should be added that neither proper investigations were conducted in the Mughal gardens before drawing up these schemes until 1990, nor technical support was available from the concerned institutions who had carried out research on the Mughal gardens in Pakistan. The technical research and conservation measures therefore, remained exclusive of each other for all practical purposes.

Recently, a very significant change has occurred in the conservation of gardens. Deprived of access to relevant research data gathered by other agencies, the Federal Department of Archaeology itself undertook detailed studies and investigations at Wah Garden under the leadership of M. A. Halim, Deputy Director before drawing up a comprehensive scheme for the conservation and restoration of this unique Mughal garden. The results achieved so far are in fact a model of garden conservation research and heralds a new approach to the subject. The scheme for Wah Garden when implemented will cost Rs. 23.740 million. Yet another major development took place only a couple of months ago. Four schemes pertaining exclusively to the restoration and conservation of gardens were prepared for funding which are as follows:-

Cost (million)

1. Landscaping and development of Shalamar Garden, Lahore	Rs. 12.80
2. Lahore Fort Gardens	Rs. 9.60
3. Jahangir's Tomb Garden	Rs. 17.70
4. Akbari Sarai and Asif Jah's Tomb Gardens	Rs. 7.90
5. Noor Jahan's Tomb Garden	In preparation

This change in the concept of garden conservation is very new in Pakistan and certainly is of potential significance. The new approach is a major departure from the traditional view point which stressed conservation of structures but very little landscaping.

In conclusion, it may be re-stated that in the conservation of gardens, a clear distinction rather separation between architectural elements and landscaping existed since long. Having been grouped as monuments, the restoration and preservation of gardens essentially involved conservation of extant architectural remains. The landscaping part of the garden covered only a fraction of the total funding for garden conservation. The most recent trend indicates a clear departure from the old concepts and procedures of garden conservation. Separate proposals aimed at landscaping and development of gardens have been prepared which are being accepted for funding. Moreover, new schemes are being formulated based on factual data collected through detailed investigations of the garden sites. These schemes are first of its kind to be prepared for the development of historical gardens in Pakistan.

In recent years, tremendous interest in the Mughal garden architecture is indicated by the research initiated by Dr. James L. Wescoat Jr. with the support of Smithsonian Institution. These are excellent studies which enhance our understanding of the ancient garden landscape. Almost all the known surviving gardens in and around Lahore have been documented with remarkable care. However, it remains to be seen how much intellectual and academic exercise carried out during the past five years or so would be applicable for the conservation of gardens.

It seems that there has not been sufficient feed back to the garden conservators from the scholars on garden history and geography. At present, there seems to be two parallel efforts on gardens; one related to intellectual and academic interest and the other dealing with actual conservation and preservation of gardens and their architecture. It is hoped that some day, both the conservators and garden art historians will pool their expertise and knowledge and come up with solid suggestions for the conservation of gardens in Pakistan.

The function or use of the historic gardens in our times has changed from being an exclusive resort of the royalty and nobility to public recreation places. The changing role of historical gardens calls for re-consideration of our old policies and practices. Cer-

tain facilities have to be provided to the visiting public and in doing so, a few new elements will have to be introduced which may be inconsistent with the original environment. This has been one of the points of debate among the conservators, engineers and scholars of garden architecture. It is admitted that it is now impossible to recreate ancient environment around the gardens specially those which are located near or in the cities. Whatever the argument, the changing public needs have to be accommodated to some extent without sacrificing the original character of the gardens.

Not all the studies and documentation of the extant gardens in Pakistan have been fully supported by actual investigations on the site. Information available in the shape of visible remains and in the literary sources is relied upon for understanding of architectural elements and other details. At Jahangir's tomb, a limited investigation was carried out a few years ago but it was restricted to the walkways and

water channels (Mughal 1990) Extensive investigations have recently been carried out at Wah Garden. It is necessary that such investigations should be extended to reconstruct also ancient plant species through soil analysis. In fact, collective and collaborative efforts of the archaeologists, art historians, architects and engineers are needed to resurrect extinct gardens and to conserve and maintain them for posterity.

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