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Kashmir Neolithic and Early Harappan : A Linkage

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Evidence of settled life of early farming communities has been traced back to *circa* seventh millennium BC in the plains of Bolan Pass in the Baluchistan and Ganga plains in the northern South Asia represented by Mehrgarh and Lahurdewa respectively, the former preceding the Harappans in the West and the latter preceding a contemporary culture of the mature Harappans in the east with possibility of interlinkage in the latter period as reflected in the material culture including artifacts and ecofacts. Such interactions can also be traced with more convincing and varied data from Kashmir neolithic phase. Recent excavations of Kanishkapura (Kanispur) in Kashmir have pushed back the antiquity of Kashmir ceramic neolithic to the last quarter of the fourth millennium BC on C-14 determinations. This period is contemporaneous with the Kot Dijian phase which has now been traced at Harappa also and which contains representation of typical 'horned deity' on pots, a feature common to so many early Harappan sites, which is significantly represented at Burzahom. Dish-on-Stand, perforated jar and such other ceramics, carnelian beads, blades on semi-precious stones and such other features are common to both Harappan and Kashmir Neolithic and suggest at least the cultural contact between the two from the fourth millennium BC onwards. The evidence of copper-bronze objects in late neolithic phase at Burzahom, Gufkral and Kanispur suggests a long interaction between the Harappan and Neolithic cultures. Evidence of pit dwelling, polished tools and some traits of Neolithic have been noticed at early and mature Harappan sites, such as Rohira, Kunal and Bhirrana. The discovery of emmer wheat (*Triticum dicoccum*) of west Asian origin at Kanispur Neolithic levels and also their occurrence at early Harappan sites and disappearance during mature phase and afterwards is significant in not only suggesting contacts but also the route for penetration in the Indian sub-continent in the early phase when various cultures co-existed in different geomorphic zones with cultural interlinkages.

The region dominated by Indus-Sarasvati-Ganga system (Fig. 1) witnessed human activities connected with domestication of sheep and goat and knowledge of wild varieties of grains in the ninth millennium BC indicating beginning of settled life pattern which gradually developed into well settled cultures of rural communities using pottery in the sixth millennium BC when they had already domesticated several grains and plants and also animals. The study of

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Fig. 1

lake-core profiles, cultural elements and various radio-carbon and other scientific dates attest it.

The evolution of Neolithic stage in the middle of the ninth millennium BC from its preceding epi-palaeolithic cultural strata dating back to *circa* fifteenth millennium BC at Aq Kupruk in Afghanistan[1] on one side and discovery of wild rice phytoliths, dated around 10,000 years BP culminating into cultivated rice phytoliths dated since 7000 years BP in the lacustrine sediments[2] attested by fossil diatom assemblage[3] in a 2.8 m deep sediment trench profile from Lahuradewa Lake, Sant Kabir Nagar district, Uttar Pradesh[4] along with AMS date of cultivated rice or *Oryza sativa* being 8259 years BP (Cal.) or availability of cultivated rice and barely in the occupational deposit of Mesolithic period estimated to span during 8000-4000 BC at Damdama[5] in Pratapgarh district of Uttar Pradesh followed by the culture carrying microlithic tradition during the third - second millennia BC or evidence of rice cultivation and other crops from the Mesolithic (sixth millennium BC) to Neolithic (third millennium BC) sequence at sites Chopani Mando, Koldihwa and Mahagara under investigation for the last almost thirty five years or the Mesolithic tradition followed by Neolithic occupation and the cultural continuity at the site of Jhusi[6] till early-medieval period represented by a deposit more than 16m high on the confluence of Ganga and Yamuna in Allahabad (U.P.) are indicative of indigenous rise and development of cultures in the region whose authors were men of the soil and not outsiders. Due to geographical, geo-morphological and climatic circumstances, the cultural pockets developed separately with varied chronological framework

although keeping intercommunications with each other. The 31st *sukta* of the 4th *mandala* of *Rigveda* contains reference of the entire geo-political region at one place where it mentions the chariot of Usha lying on the bank of river Vipasa (Beas), water management and control of river Indus, killing of Sambara by throwing him down the hill and killing of Arya kings Arna and Chitraratha across the river Sarayu by Indra who gifted Divodasa 100 fortified cities constructed of stone masonry.[7] Pollen analysis of a 2.6m deep trench profile[8] in Basaha Jheel, district Unnao, Uttar Pradesh having evidence of *cerelia* and other culture *taxa* indicate anthropogenic activity in the region from fourth millennium BC onwards. Development of mind of the early inhabitants is indicated by the belief in supernatural, right from the upper palaeolithic times as evinced at the place of worship at Baghor in district Sidhi in Madhya Pradesh and bone mother goddess found from the eroded Gravel III in Lohanda nala, a tributary of Belan river in Uttar Pradesh.[9] Significantly, we can derive that the cross-cultural undercurrents in the pre and protohistoric India, particularly in the Ganga Plains were so powerfully interspersed that it becomes difficult or rather impossible to adopt the South African, European or West Asian Neolithic model to fit in here[10] and diagnostic traits of Mesolithic and Neolithic cultures in relation to the food economy perhaps requires classification and evaluation on different parameters. This is for such justified nomenclature, the terms like advanced Mesolithic or proto-Neolithic have been used for Period III at Chopani Mando (District Allahabad, Uttar Pradesh) where also a gradual occupational process of the site is available from epi-palaeolithic (Period I), early Mesolithic with non-geometric microliths (Period II A) and early Mesolithic with geometric microlithis (Period II B).

The earliest settlement of MR-3 in the piedmont area adjacent to the Indus plains at Mehrgarh[11] was an aceramic Neolithic culture dominated by stone and bone tools including polished axes, adzes, chisels, microlithic parallel-sided retouched blades, borers, scrapers, triangles, trapezes, lunates and microborers and bone awls. The 10 m Neolithic deposit with its lower three-fourths (Period IA) being aceramic, the upper one-fourth has a coarse ware with basket- impressions and evidence of domestication of animals - sheep, goat and cattle. The West Asian Neolithic does not have cattle as a prominent domesticated animal as it is at Mehrgarh alongwith water- buffalo (*Bos bubalis*) domesticated for the first time at the site in South Asia. Varieties of wheat and barley including emmer wheat (*Triticum dicoccum*) and fruits like jujube and dates comprised early Neolithic dietary. The size of mud bricks of houses were 28 x 14.5 x 7cm and 33 x 14.5 x 7cm, the former in the ratio of 4:2:1 which was the ratio of bricks of the Harappans, a significant continuity of tradition. Another important feature is the burial practice which was away from the houses and not beneath the residences as in South Indian Neolithic tradition. Extended or flexed body position in burials are found and the body was sometimes covered with red ochre of which lumps were also found in the graves. Similar practice was followed in Kashmir neolithic as seen on human skulls and bones applied with red ochre at Burzahom.[12] Interestingly, a copper bead was found in a burial which is quite surprising in the aceramic Neolithic context of great antiquity. Instead of pottery, stone vessels were introduced. The eight consistent radiocarbon dates for Period IA and B at Mehrgarh are as under:

Sub-Period	Lab. No.	Half-life (BC)	Calib-2 (BC)
IA Earliest	BETA-1407	5380 ± 300	5980
IA	BETA-1408	5185 ± 80	5749
IA Latest	LY-1948	3940 ± 750	4653,4648,4581
IA	LY-1949	3745 ± 185	4360
IB Earliest	LV-994	4530 ± 70	5238
IB	LV-993	4345 ± 95	5190,5058
IB Latest	LV-909	4170 ± 5	4892,4887,4841
IB	LV-910	4105 ± 105	4782

Thus roughly the beginning of Period I at Mehrgarh would be around 6000 BC and the end of it could be placed around 4500 BC.

The handmade basket-impressed coarse ware of Period IB gradually increased in Sub-period IIA and was better fired in IIB. Sub-period IIC witnessed the introduction of wheel-made pottery having affinity with that from Period II at Kile Ghul Mohammad and Mundigak in Afghanistan.[13] Stone axes and adzes decrease in number, but blades and bladelets and bone awls increase. Ivory and copper are also present alongwith terracotta human figurines. Period II has been placed between the middle of the fifth millennium BC and its end. Painted designs, specially depiction of birds and animals in a row, increased on pottery of Period III at Mehrgarh which has been placed in the first half of the fourth millennium BC when large granaries were made.

Period IV has been assigned the date between 3500 BC and 3000 BC and the short-lived Period V around 3000 BC. A single radiocarbon date of 2470 BC from Period VI helps in understanding the explosion in pottery indicating interactions with sites of Baluchistan, Afghanistan, Iran and Indus plains. The excavator on the basis of pottery has assigned middle of the third millennium BC for Period VII representing 'Zhob style' terracotta figurines, mother goddess, large mud-brick platform, a feature of Harrapan context and pottery with affinity with wares from Kot Diji, Amri (II B), Mundigak (IV), ' Wet ware', 'Faiz Mohammad Grey Ware', Shahr-i-Sokhta (II & III) and Harappan. Period VIII at Mehrgarh had a culture similar to the late Harappan. The nearby site Nausharo was occupied for the first time around the end of Period VI of Mehrgarh and yielded typical mature Harappan pottery from its Period II along with pots bearing characteristic signs of Harappan script.

Heavy burning activity is found in Period ID at Nausharo which is also encountered at Kot Diji between Kot Dijian and Harappan levels which has been interpreted by many scholars as invasion by Harappans to burn down the settlement of Kot Diji before settling there. The intervening layer containing ash, charcoal and potsherds between periods III and IV at Gumla also signifies the burning activity at the site before its being occupied by the people of mature Harappan phase who settled with the earlier inhabitants.

'Horned deity' is also depicted on pottery of Period I at Rehman Dheri[14] where the local manufacture of ring-based bowls and cups of fine red ware are found in association with pottery of Kot Dijian type. The ivory seal with two holes along one edge and engraving of two mountain goats and two scorpions and a frog is an interesting find.[15] The C-14 dates put the period around 3000 BC, contemporary to Period IV at Mehrgarh. Period II yielded typical Kot Dijian pottery and Period III has material closer to the typical Harappan.

The Kot Dijian culture survived at the sites in the Bannu basin at the Sheri Khan Tarakai in the late Neolithic complex datable around 4500 BC and at Tarakai Qila and Lewan in a later time frame.

The impressive mound Sarai Khola[16] which may be considered a part of Taxila itself, is about 2.5 km from the Bhir mound. The radiocarbon dates for Period I at the site ranging around 2800-3000 BC and the traditionally known antiquity of Taxila requires further investigation. The Period I with polished stone axes, chert and flint blades and other microlithis, bone points, burnished ware with brown surface having pans and bowls, the latter being mat-impressed at the base remind one to the Neolithic culture of Kashmir with which it is contemporary. Similar to the evidence of Burzahom, here also Period II has continuity of earlier culture with the introduction of Kot Dijian elements and female terracotta figurines with thin waist and broad hips reminiscent of those found at Gumla and Rehman Dheri and copper-bronze objects. The C-14 dates range around 2200 to 2500 BC, though mature Harappan culture is absent. Jhang near Sarai Khola[17] has also yielded Kot Dijian material.

Later excavations at Harappa have brought to light details of prior phases than mature Harappan period and belonging to the Kot Diji - related pre-mature Harappan and transitional and for the earliest deposits the C-14 date 3338 to 3202 BC[18] indicates the beginning of civilization in the middle of the fourth millennium BC.

While Jalilpur[19] represents culture phase, contemporary of the pre-mature Harappan period, the earliest levels at Mohenjo-daro still remain enigmatic due to high water-table. The 5 m thick deposit below the mature Harappan culture deposit at Kot Diji[20] manifests into various characteristics of cultural elements called Kot Dijian including the terracotta cakes, 'horned deity' motif etc. and the beginning of the culture is believed around 3000 BC. The beginning of Amri culture[21] on the basis of radiocarbon determinations has been placed along with that of Bala Kot in the middle of the fourth millennium BC.[22]

Recently, deposits of two periods before mature phase of Harappan culture, have been noticed at Harappa with 3 to 4 m thick deposit of Period I and handmade pottery was found with blades made on chert from Baluchistan and objects of marine shells from Makran Coast and graffiti with Harappan script in Period II suggesting the roots of Harappan civilization going back to *c.* 4000 BC.[23]

Some Japanese scientists have taken up the study to understand more about the formation process of the Harappan civilization by focussing on complex regional interaction that is reflected in manufacturing techniques of not only pottery but also of stone tools of the Kot Dijian assemblage, starting with the excavated material of Gumla and Rehman Dheri.[24]

Kashmir Neolithic : New Evidence

The knowledge about Neolithic culture in Kashmir is based on excavations at the three sites, Burzahom, Gufkral (Gofkral) and Kanishkapura (Kanispur) while there are a number of other Neolithic settlements in Kashmir valley which are still waiting to be excavated. Burzahom was excavated by T.N. Khazanchi for seven seasons (1960-1971) but Gufkral was excavated for only two seasons (1980-1982) by A.K.Sharma and Kanishkapura for only one season (1998-99) by the author.

Kanishkapura or modern Kanispur (Lat. $34^0$13' 35'' N and Long. 74^0 24' 30'' to 74^0 25'E), a prolific neolithic and historical site in the Baramulla district of Kashmir, was excavated by the author in 1998-99

while working as Superintending Archaeologist of the Srinagar Circle of the Archaeological Survey of India.[25]

The Neolithic remains were excavated in KNP-1 and KNP-2 areas while the historical remains beginning with Kushan period were found in all the three areas excavated, i.e. KNP-1, KNP-2 and KNP-3. Interestingly, it has been revealed that after the Neolithic settlement, the site was reoccupied only during the Kushan period when Kanishka seems to have established a city on his own name as mentioned in the *Rajatarangini* of Kalhana.[26] Unlike Burzahom and Gufkral, the site does not have any evidence of a Megalithic culture.

At Kanishkapura evidence of aceramic Neolithic (Period I) was found to be only 15 to 20 cm thick in the layer 8 overlying the natural soil at KNP-1 which is bereft of any ceramic industry. From this layer a polished stone celt was found. The average thickness of the ceramic Neolithic (Period II) levels at KNP-1 and KNP-2 was found to be 1.60 to 2.0 m. It has been inferred that the Neolithic population settled on the flat top of the *Karewas* at KNP-1 and later after enlargement of their settlement they occupied the slopes at KNP-2. Four successive floor levels along with post-holes were noticed at KNP-1 which are parts of rectangular houses which most probably had thatched roofs. Five bone points and six polished stone celts were recovered during excavations. The ceramic industry comprised both hand made as well as wheel turned pottery. Fine grey ware of medium to thick fabric, coarse grey ware, red ware, dull red ware, black wares of both plain and burnished varieties are important types. Evidence of brushing the wet surface of pots with reeds and mat-impressed designs on the disc bases of pots have been found. Pinched designs on applique bands and incised oblique decorations on the neck and rims of hand made vases have been frequently found. Similar decorations are also found on the body of the pots. Series of deep incised lines, notching and semi-perforated decorations were noticed on stems or stands of pottery, particularly on dish-on-stand. The important shapes include bowls, shallow bowls, or dishes-on-stand, jars, vases and long-necked vases.

The evidence of copper objects in the form of a bangle piece, a needle, two pins, an ear or nose ring and a chisel from the late Neolithic levels at Kanishkapura suggests the Chalcolithic contacts, probably with the Harappans, as also found in similar levels at Burzahom and Gufkral.[27]

Excavations at Kanishkapura have given the evidence of emmer wheat or *triticum dicoccum* which is found from early Harappan deposits at Kunal in district Hissar (Haryana) where evidence of pit-dwelling has also been noticed - a common feature of Neolithic settlement at Burzahom.

In the evolutionary stage the emmer wheat which is a product of highly arid zone seems to have come to Kashmir from the Middle East through Central Asia via Iran, Afghanistan and Mehrgarh. At Kunal, the excavations in trench WC 2, Qd. III yielded a dwelling-pit (diameter 2.40 m; depth 1.50 m) which was cut through layers 5 and 6, and fire activities inside the pit and plaster with fine clay mixed with whitish material justify its actual use. An interesting discovery from this pit comprised a small ring stone of Neolithic tradition.[28] Thus it seems that below the pre- or early Harappan levels at sites in Punjab-Haryana-Rajasthan-Gujarat region or beyond in Pakistan there can be located a level which is either pure Neolithic or proto-Neolithic which merged into the new Chalcolithic traits and gave rise to the early Harappan culture. Evidence of Mehrgarh partially suggests this. Contacts of Harappans continued with the Kashmir Neolithic which remained isolated from the direct impact of the new development of an

urban civilization that spread in a large area to the south of Kashmir. Emmer wheat has been found at Kunal mingled with barely and in the same manner it is found in mingled condition at Kanishkapura. Emmer wheat[29] has also been reported from the mature and early phases of Harappan settlement at Rohira in Punjab. Depiction of 'horned deity' on pot and abundance of carnelian beads at Burzahom also suggest the contact with Kot Dijians or pre or early Harappans.

The new evidence of radiocarbon dates from Kanishkapura[30] suggests the beginning of Neolithic age in the middle of the fourth millennium BC with ceramic Neolithic appearing in the late fourth millennium BC in Kashmir and not in the first half of the third millennium BC as popularly believed by archaeologists on the evidence of Burzahom and Gufkral. A calibrated C-14 date of one charcoal sample from Kanishkapura is 3361 BC to 2937 BC (average being 3149 BC). Table given below also provides details of C-14 dates as determined by Tata Institute of Fundamental Research, Bombay and Birbal Sahni Institute of Palaeobotany, Lucknow based on radiocarbon half life value of 5730 ± 40 years.

The radiocarbon evidence suggests movement and development of the Neolithic culture in the Kashmir valley. It seems that Central Asian Neolithic tradition entered the Kashmir valley in the second half of the fourth millennium BC when the Neolithic settlers occupied the western part of the valley around Kanishkapura and then moved towards central Kashmir as the dates from Burzahom indicate the occupation around 2881 BC onwards. The Neolithic settlements occupied further south-eastern part of Kashmir in about 2347 BC onwards around Gufkral. It was during this phase when Chalcolithic contacts might have developed between the Neolithic settlements of Kashmir in North and early and mature Harappan civilization in the Punjab-Haryana region in South which is indicated by the co-existing early Harappan settlement at Manda (Akhnur) in Jammu on the right bank of the Chenab and Malpur, a Neolithic site partly excavated during 1994-96, located very close to the former, but on the left bank of the Chenab.

Un-calibrated and Calibrated C-14 dates from three neolithic sites of Kashmir are as follows:

Teble 1 : BURZAHOM

Sample No.	Material	Period	Un-calibrated		Calibrated
TF.123	Charcoal	IA-Neolithic	4095 ± 110 BP	225 ± 125 BC	2586 BC
TF.13	-do-	-do-	3690 ± 125 BP	1850 ± 130 BC	2130, 2074 BC
TF.127	-do-	IB Neolithic	3935 ± 100 BP	2105 ± 115 BC	2465, 2343 BC
TF.14	-do-	-do-	3860 ± 10 BP	2025 ± 350 BC	2343 BC
TF.129	-do-	Neolithic	3670 ± 90 BP	1830 ± 95 BC	2114, 2080, 2039 BC
TF.15	Burnt organic material	IB Neolithic	3390 ± 105 BP	1540 ± 110 BC	1730, 1729, 1689 BC
TF.10	Charcoal	Neolithic	2580 ± 100 BP	705 ± 105 BC	797 BC
TF.128	-do-	IB Neolithic	4205 ± 115 BP	2380 ± 120 BC	2881, 2757, 2783 BC

Table 2 : GUFKRAL

Sample No.	Material	Period	Un-calibrated		Calibrated
BS 357	Wood charcoal	IB Neolithic	3369 ± 105 BP	1520 ± 110 BC	1681 BC
BS 431	-do-	II Megalithic	3466 ± 85 BP	1620 ± 90 BC	1884-1677 BC
BS 433	Charcoal	-do-	3612 ± 105 BP	1770 ± 110 BC	2131, 2077, 2047 1871, 1841-1779 BC
BS 434	-do-	-do-	3680 ± 105 BP	1840 ± 110 BC	2195-2151 2149-1900 BC
BS 359	Wood charcoal	IB Neolithic	3864 ± 115 BP	2030 ± 120 BC	2347 BC
BS 356	-do-	-do-	3466 ± 105 BP	1620 ± 110 BC	1860, 1847, 1770 BC
BS 370	-do-	IC Neolithic	2709 ± 105 BP	840 ± 110 BC	842 BC
BS 371	-do-	-do-	3466 ± 95 BP	1620 ± 110 BC	1860, 1847, 1770 BC
BS 358	-do-	IA Aceramic Neolithic	3039 ± 105 BP	1180 ± 110 BC	1313 BC
BS 360	-do-	IC Neolithic	3243 ± 95 BP	1390 ± 110 BC	1519 BC

Table 3 : KANISPUR (KANISHKAPURA)

Sample No.	Material	Period	Un-calibrated		Calibrated
BS 2058	Charcoal	Ceramic Neolithic	3970 ± 90 BP	2020 ± 90 BC	2470 BC
BS 2055	-do-	Ceramic Neolithic (At the junction of layers between ceramic and aceramic Neolithic)	4490 ± 100 BP	2540 ± 100 BC	3361 BC to 2937 BC (Average 3149 BC)
BS 2056	-do-	Ceramic Neolithic	3970 ± 90 BP	2020 ± 90 BC	2470 BC

Palaeo-botanical studies have brought out thirteen kinds of grains, seeds and fruits from Neolithic deposits at Kanispur (Kanishkapura), dated from about 3000 BC to 2000 BC. Hulled and naked forms of barely (*Hordeum vulgare and H. vulgare var. nudum*), breadwheat (*Triticum aestivam*), emmerwheat (*Triticum dicoccum*), lentil (*Lens culinaris*), fieldpea (*Pisum arvense*) and grasspea (*Lathyrus sativus*) which constituted main ingredients in the agricultural economy during Neolithic-Chalcolithic times in the Mediterranean zone and which were disseminated in the Kashmir Valley from the regions where we may expect the Neolithic people to have received cultural influence. Almond (*Prunus amygdalus*) and walnut (*Juglans regia*) evidenced by their fruit shells, acquired the dietary preference. Common vetch (*Vicia sativa*)- a common weed in pulse-crop fields, morning-glory (*Ipomoea*

sp.) poppy (*Papaver sp.*) and alfalfa (*Medicago cf. lupulina*) have also turned up in the carbonized material examined.

Writing about the enthralling occurrence of primitive emmer wheat from the early level of the occupation Saraswat writes that it is "known in early Neolithic agriculture in West Asia and Baluchistan region and regarded to have been dropped in Harappan times. Unexpected and puzzling presence of emmerwheat from a few Early and Mature Harappan settlements in Haryana and Punjab, however, remained in want of factual explanation for its occurrence in the eastern domain of Harappan Civilization in the Saraswati Valley. It is for the future to show how far the excavations of some early Neolithic settlements explored in Jammu, Himachal Pradesh and outer slopes of the Siwalik Frontal Range near Chandigarh, would link the Kashmir Neolithic zone with Panjab region, attesting the possible introduction of cultural traits along with emmerwheat, in accordance with the supposed expectation. The discovery of emmerwheat lends points to the suggestion that we may hopefully look for an extension of Neolithic fabric in the region of Saraswati valley, at an early date."[31]

The landsat imagery[32] combined with hydrological and other field investigations, aerial photography and studies related to palaeo-channels and tectonic movements in the Himalayas, Punjab, Haryana and Rajasthan have provided ample evidence of phases of flooding and drying up of Sarasvati and its tributary Drisadvati of Vedic pantheon. On various considerations the early Harappan period at Kalibangan has been assigned to *c.* 3000 to 2700 BC and mature Harappan Period to *c.* 2550 to 2000 BC.[33] The pre-Harappan ceramic industry called Sothi culture was confirmed later in the six fabrics at Kalibangan also. Significant enough are seven consistent C-14 dates from the charcoal samples excavated recently at Bhirrana, an early Harappan settlement in Fatehabad tehsil of district Hissar in Harayana which have been determined by the Birbal Sahni Institute of Palaeobotany, Lucknow. They are tabled below :

At least three consistent new dates as mentioned above from Bhirrana conform to the radiocarbon dates from Mehrgarh to the west and Lahuradewa to the east as ranging between the fifth to the seventh millennia BC indicating considerable human activity in the region. Three other dates range between second and third millennia BC when early and mature phases of Harappan occupation of the site is confirmed besides one recent date which may be because of mixing of charcoal from the top level of Muslim graves in the early deposit due to later pit activity.

Table 4 : BHIRRANA

Site	Sample No.	Depth	Radiocarbon age		Calibrated age(1 Sigma) Maximum	Minimum
BRN-1	BS-2308	.45-.50 m	3300 ± 200 BP	(1350 ± 200 BC)	1876 BC	1324 BC
BRN-3	BS-2310	1.25 m	3190 ± 160 BP	(1240 ± 160 BC)	1679 BC	1264 BC
BRN-4	BS-2311	.90-1.20 m	3890 ± 90 BP	(1940 ± 90 BC)	2472 BC	2203 BC
BRN-7	BS-2314	.60 m	5700 ± 170 BP	(3750 ± 170 BC)	4770 BC	4353 BC
BRN-5	BS-2318	1.42 m	6120 ± 250 BP	(4170 ± 250 BC)	5336 BC	4721 BC
BRN-2	BS-2327	.60 m	40 ± 80 BP	(1910 ± 80 BC)	(Recent one)	
BRN-6	BS-2333	2.95 m	7590 ± 240 BP	(5640 ± 240 BC)	6647 BC	6221 BC

Thus it is imperative to reconsider[34] the chronological aspect of sequence of early culture at Bhirrana where the deposits have been classified by the excavator into three cultural periods, namely early, transitional and mature Harappan periods respectively.[35] The dates of fifth to seventh millennia BC can in no way be related to the above chronological sequence, particularly in view of the fact that the so called early Harappan levels (1.70 to 1.80 m thick deposit) have shown several traits of the Neolithic or proto-Neolithic culture which include lesser use of copper and sub-terranean dwelling (Pits cut into the natural soil), a practice common in Kashmir Neolithic. The dwelling pits whose inside walls are mud plastered and which have average diameter of 2.30 m are mostly circular at Bhirrana and occasionally brick lining of irregular shaped bricks have been noticed which in the words of excavator himself 'do not confirm to the known ratio of the Early Harappan brick sizes'.[36] Such practice in early Harappan context can be seen at Mitathal[37] and at Kunal[38] in the region. The discovery of stone pounders and mullers make it significant. Earlier at early Harappan sites like Kunal and Rohira, emmer wheat (*Triticum Dicoccum*) and ring stones found in the earliest deposits have already suggested the contacts with Neolithic cultures which further gets strengthened due to availability of emmer wheat in Kanispur Neolithic levels, besides the evidence at Mehrgarh. All 6 fabrics of early Harappan pottery of Kalibangan are available at Bhirrana. In his recent article published in *Purātattva*, the excavator[39] has now revised the chronology and has suggested it as below:

Period IA : Hakra Ware Culture
Period IB : Early Harappan
Period IIA : Early Mature Harappan
Period IIB : Mature Harappan

The studies concerning the geomorphology, pollen records, phytoliths, diatoms and micro-charcoal based on the analyses of the 2.8 m thick sediment succession of the Lahuradewa lake have provided significant data regarding human activity, domestication of rice, palaeo-vegetation and palaeo-climate of the region from about 10,000 years BP as discussed earlier. Such data have also been recorded along with evidence of micro-charcoal and cerelia pollen found in the lake study of Sanai Tal (district Rae Bareli) together with a good number of radiocarbon dates from Dadupur (district Lucknow) and Bateswar (district Agra) in a larger area of Ganga plain.[40] The archaeological studies of Lahuradewa site have indicated that the inhabitants of Period I used huts made of *wattle and daub* and used mostly hand made coarse variety of red and black-and-red ware bowls and vessels between *c.* 7000-8000 and 5000 years BP. Copper was introduced at the site around *c.* 4000 years BP, the cultural assemblage of which period is largely comparable with the contemporary material of other sites such as Sohgaura, Imlidih, Narhan, Senuwar, Chirand, Koldihwa and Mahagara.[41]

The early dates from sites of Indus-Baluchistan region or Ganga plains have been fixed and accepted as they show consistence in chronological frame-work. However, the early dates of seventh-sixth to fourth-third millennia BC at the following sites can not be just ignored as they not only indicate human activity but also some antecedent proto-Neolithic, Neolithic or Chalcolithic cultural context not clearly identified so far in the lowest levels :

The Horned Deities

Indian art and tradition have some gods and demons with animal faces and Mahisha or Mahishasura

Teble 4 : Radiocarbon ages from different north Indian sites.

Sr. No.	Sites	Uncorrected dates	Calibrated dates
1.	Kalibangan, Rajasthan	6702 ± 129 (4752 BC)	BC 5566 (5436) 5289
2.	Barkhera, Madhya Pradesh	7460 ± 140 (5510 BC)	
3.	Dadupur, Uttar Pradesh	6330 ± 120 (4380 ± 120 BC)	BC 5284 (5189) 4857
4.	Siswania, Uttar Pradesh	4890 ± 130 (2940 ± 130 BC)	BC 3625 (3588) 3535
5.	Ganwaria, Uttar Pradesh	4740 ± 110 (27-90 ± 110 BC)	BC 3508 (3360) 3107
6.	Khairadih, Uttar Pradesh	-	BC 2853 (2559) 2404
7.	Takiaper (Takiapar), Uttar Pradesh	4730 ± 125 (2780 ± 125 BC)	-
8.	Bhirrana, Haryana	5700 ± 170	BC 4770 (4506) 4353
9.	-do-	6120 ± 250	BC 5336 (5041) 4721
10.	-do-	7590 ± 240	BC 6647 (6439) 6221

(Mahisha - Asura) is one of them who gets trampled by the goddess in Indian tradition. This demon can be equated to the Vedic *asuras*, created by Prajapati from his breath (*asu*), to one of the Assur deities of Semitic origin which appeared in Assyria as the national god of the people, Assur, King of all the gods, enabling the Assyrians to destroy ''the enemies of Assur''. It is believed that he was the local god of Assur, the earlier capital and became a national god when the capital was shifted to Nineveh. ''He is often represented as a man with a horned cap, and carrying a bow and his face appears in the middle of a winged circle, shooting an arrow or stretching out his hand; and this emblem is upon everything royal, robes, rock-carvings, obelisks, etc. A probable suggestion is, that Assur represents an early ruler or king; but later he was closely identified with the ruler of heaven and earth.''[42]

The horned human and animal deities such as Chnum, the god of the waters; Sebek, the crocodile headed god; Isis, the deity having all - bounteous nature; Anubis, the escort of the dead and Thoth, the Moon-god[43] were very common in the early Egyptian culture (Fig. 2) and have been depicted in art with their label names.

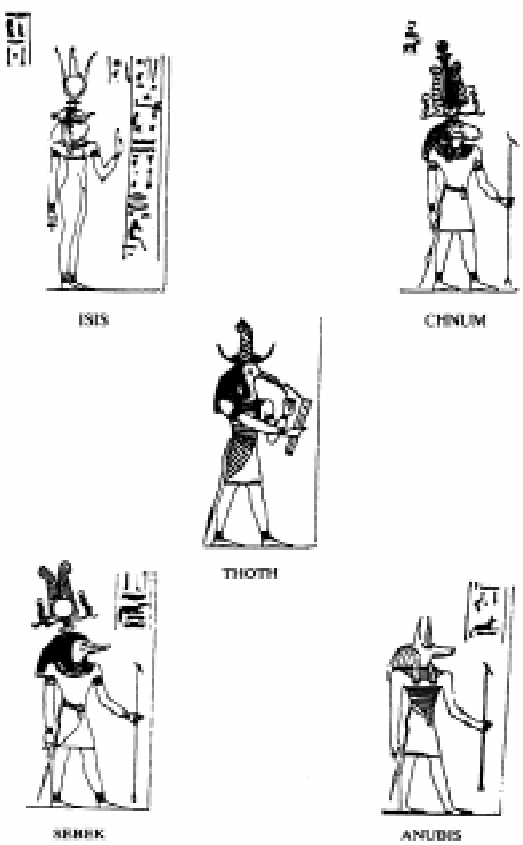


Fig. 2

The Kot Dijian 'horned deity' was perhaps the earliest of such class of supernatural being and perhaps gave birth to the concept of horned deities which spread all around, both the West Asia and to Indus-Sarasvati plain towards east.

Correlating this Kot Dijian form with the one mentioned in the early Rigvedic hymns (7.99.5; 5.29.6) as Sambara, the Asura whose 99 *puras* (fortified cities) were demolished by Indra and Vishnu[44] or with asuras such as Namuchi or Vritra etc. with whom the devas were always at fight and the final defeat of the asuras in the *Devasura* battle constantly point towards two larger group of people, the worshippers of devas and asuras separately who were continuously fighting with each other. It seems that immediately to the west of the South Asia the worshippers of Ahurmazda and Zoroaster (Zarathustra) carved out the particular form of worship with its legacy going back to the common early Vedic origin. The inhabitants of the Indus-Sarasvati-Ganga region continued to make reforms in their tradition having the original sense of supreme divine spirit of the Vedic 'asuras' changed into the form of demons or ahuras of the zoroastrians in the sense of god and correlating devas with the suras - all such developments taking place in the Rigvedic times only.

Regarding Sambara, Parpola has stated that in the non-vedic region of the Tantras, he is a terrifying and erotic manifestation of Siva in the form of a buffalow and in the Sakta pantheon Sambara has a counterpart in Mahishasura who has a great fist in his flag (timi-dhivaja) according to *Rāmāyaṇa*.[45]

It appears to me that Kot Dijian and early or pre-Harappan and Burzahom Neolithic 'horned deity', depicted on pottery and that too particularly on pots or water-vessels only (Figs. 3,4,5 & 6) represent the figure of Soma in water as in stylised form of water-buffalo swimming in calm or stormy water shown with plain or wavy lines. The water having Soma represented with wavy lines or plain lines depict water of the river mixed with Soma as described in *Rigveda*.

परि प्रासिष्यदत्कविः सिन्धोरुर्मावधि श्रितः।
कारं बिभ्रत् पुरुस्पृहम् ।।9.14.1।।

Equating Soma with water-buffalo, it is recorded in the *Rigveda* as:

एष सुवानः परि सोमः पवित्रे सर्गो न सृष्टो अदधावदर्वा।
तिग्मे शिशानो महिषो न शृङ्गे गा गव्यन्नभि शूरो न सत्वा।।9.87.7।।

Further, it is also stated that Soma enters in a pot as the water-buffalo enters in water:

सोमः पुनानः कलशाँ अयासीत्सीदन्मृगो न महिषो वनेषु।।9.92.6।।

The pots with such depictions must have indicated their sacred nature and were reserved for the particular use of keeping Soma-juice. This early fourth to early third millennium BCE period represents the early vedic period when the word *asura* stood for divine lords as a synonym of *devas* unlike the next phase of early vedic period itself form when it has been used in connately demons.

The motif of horned deity disappeared in the mature Harappan times and the horned headgear or crown is attached with some deities (Fig. 7) particularly with that which is referred as Proto-Siva, the cultural phase showing the non-divinity of asuras who were continued to be thought as demons or enemy of the gods in the vedic pantheon. The horned headgear can be seen on various seals, tablets and also on one terracotta cake from Kalibangan which is similar to that of the traditional Tibetan hat, still used giving impression of the hours of water buffalo.

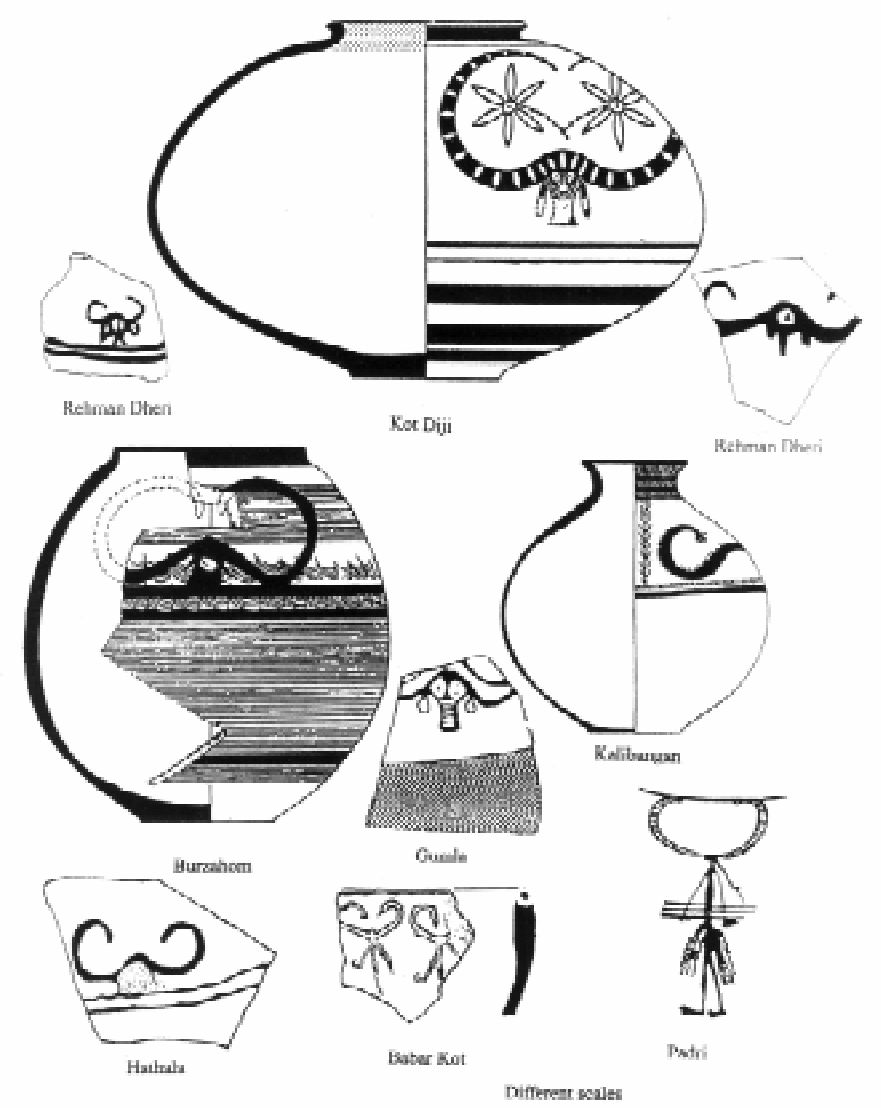
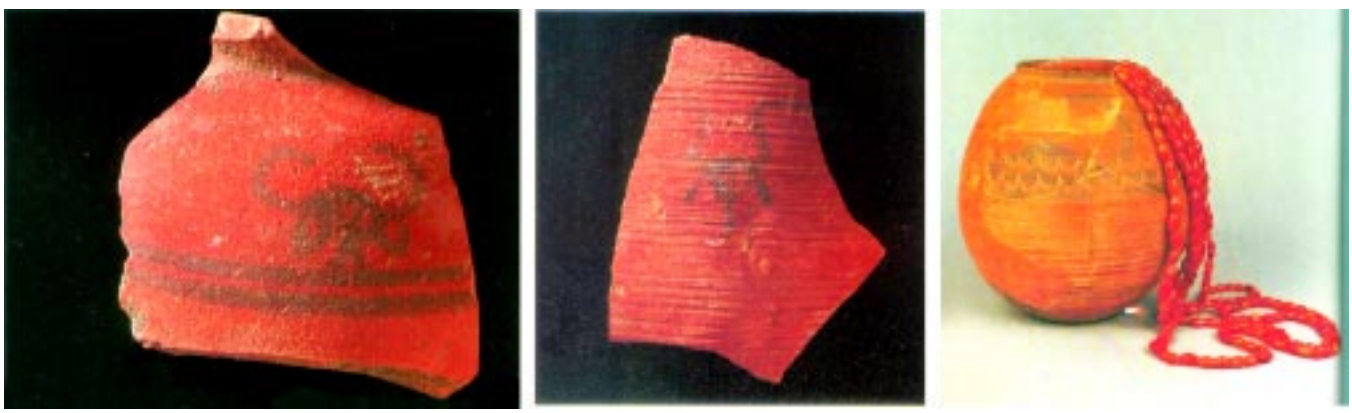


Fig. 3 : Some Depiction of Horned Deity on Pottery



Figs.4, 5 & 6.

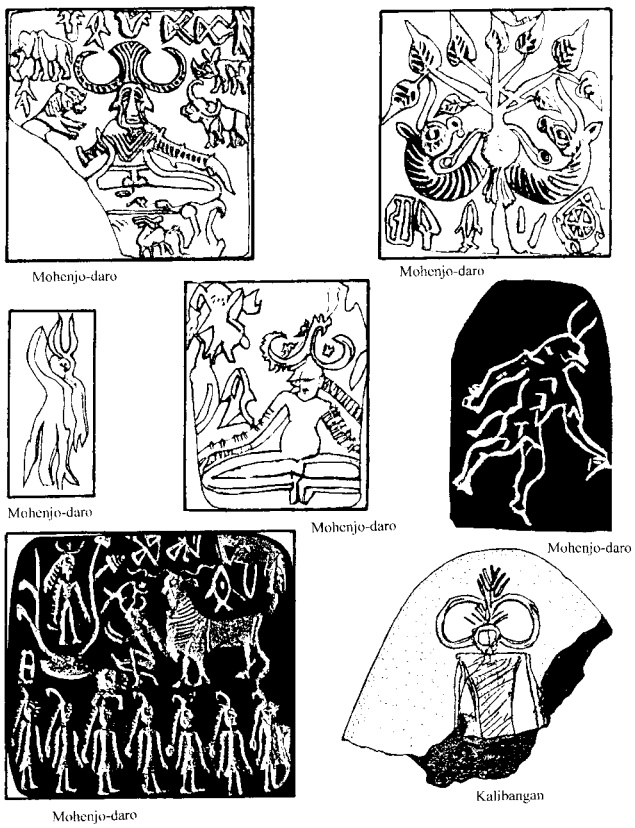


Fig. 7. Horned deities on Harappan Seals, Tablets and Terracotta Cake

The Soma plant and its juice prepared in the process of a holy sacrifice gave supernatural powers to the vedic sages and deities in gaining victory over enemies and demons. *Rigveda's* entire ninth mandala, comprising more than 1100 mantras, is devoted to Soma's praise besides its repeated references in other chapters making it one of the most prominent deities of the vedic pantheon. Its high antiquity is altered by its references in Iranian *Avesta*. Soma is considered the guardian of sacrifices and penance, asterism and healing herbs. In Indian tradition he has also been equated with moon.

The combination of sun and moon can be found in the vedic deity Agnishoma (agni + soma) as Agni is the sun on earth and Soma represents moon. The 19th Sukta of the 10th mandala of *Rigveda* is dedicated to Agnishoma for preservation of the cows. But the 93rd Sukta of the Ist mandala is dedicated to various aspects of Soma - protection, increase and making healthy not only cows but also horses, bestowing children, drinking happiness, power and long life to those who perform sacrifice, protected cows from panis and recovered obstacle from sun-shine, established stars in the sky and released rivers from forcible possession of vritra. Soma and Agni in their syncretic form become Agnishoma and jointly requested to appear at the sacrificial place in *Rigveda* :

अग्नीषोमा सवेदसा सहूती वनतं गिरः।
सं देवत्रा बभूवथुः।।1.93.9।।

and

अग्नीषोमाविमानि नो युवं हव्या जुजोषतम्।
आ मातमुप नः सचा।।1.93.11।।

A number of references contained in *Rigveda* describes mostly the pot containing Soma as either *Kalasa* or *Drona* :

एषदेवो अमर्त्यः पर्णवीरिव दीयति।
अभि द्रोणान्यासदम्।।9.3.1।।

or

पुनानः कलशेष्वा वस्त्राण्यरुषो हरिः।
परि गव्यान्यव्यत ।।9.8.6।।

Thus, the pre-Harappan pots with painting of horned deity were seemingly meant to contain Soma juice which was often mixed with either milk or curd with the help of a possible wooden mixer or *mathani* whose representation (Fig. 8) alongwith horned deity can be identified on one of the two pots representing the horned deity from Kunal (Figs. 9-10).

Figs. 8-10. The pre-Harappan pots with paintings, Kunal

The so-called 'fig-deity' seal (Fig. 11) from Mohenjo-daro (M-1186) has been attributed by Parpola to Durga[46] which does not seem to be correct. Besides inscription in Harappan script at top, it contains three prominent figures in its upper half and seven figures in a series in the lower half. The two human figures in the upper half wear horned headgear and thus have divine status. One is shown standing within an elongated jar with stand and leaves coming out of it. The jar is in the shape of the famous perforated Harappan jar from which leaves can protrude out easily. I tend to identify the figure with Agnishoma as ram the vehicle of Agni is shown standing behind kneeling figure in front of the jar with deity figure. The kneeling figure in between the jar and the ram has raised his hands in order to get something which should be none other than the soma-juice itself and the kneeling figure must be identified with Indra who is repeatedly mentioned in *Rigveda* for Soma which is prepared for him for destination of enemies and demons. Soma himself has been mentioned as assuming the form of Indra as destroyer of demons like Vritra :

Fig. 11. The so-called 'fig-deity' seal from Mohenjo-daro (M-1186)

बिभर्ति चार्विन्द्रस्य नाम येन विश्वानि वृत्रा जघान।।9.109.14।।

Both the deities look alike with common headgear and hand ornament. Some object is kept on a stool in front of the kneeling deity which seems to be a bowl with two spoons and not a chopped human head as believed by Parpola. Even if it is so it may be the head of the killed demon by Indra brought as an offering in the sacrifice. At the extreme end the squarish figure seems to be the sacrificial pit.

At one place the syncretic form of Soma and Vayu within the pot is mentioned in *Rigveda* :

पवमान धिया हितोइभि योनिं कनिकदत्।
धर्मणा वायुमा विश।।9.25.2।।

The lower part of the seal has seven figures in a series with long plaits of hair and common type of headgrear and wearing skirt like upper garment and full hand ornament.

These can be identified with *Rigvedic* seven enduring forces 'Saptadhitayah' which develop the Soma (9.8.2) or with seven rivers 'saptadhitibhirhito nadyo' whom the Soma makes happy (9.9.4 & 6) or with seven yajakas or 'hotarah' or 'saptaviprah' (sapta-rishis) who perform the sacrifice for purification of Soma (9.10.3, 7 and 9.92.2). but to identify the seven figures accurately as per iconographic details, it seems better to refer to *Rigveda* (9.111.1) where it is stated that the Soma also shines like the seven mouths (seven rays) of light :

विश्वा यद्रूपा परियात्यृक्वभिः सप्तास्येभिर्ऋक्वभिः।।

It is to be mentioned here that Agni has seven tongues through which it takes the *havisha* and the sun rides on the chain of seven horses which represent seven rays which make the entire world colourfully illuminated. Agnishoma should therefore sparkle the world through the seven personified rays as their syncretic form represents Surya and Chandra both :

सूर्य एवाग्नेयश्चन्द्रमाः सौम्यः
(Satapatha Brahmana 1.6.3.24).

Rigveda also provides an indication of its period in the second mantra of the 112th sukta of the ninth mandala where it is stated in connection with praise of Soma that the craftsmen used to make arrows with the help of old and dried wood, feather of birds and sharp stone pieces'' which were apparently microliths :

जरतीभिरोषधीभिः पर्णेभिः शकुनानाम्।
कर्मारो अश्मभिर्द्युभिर्हिरण्यन्तमिच्छतीन्द्रा मेन्द्रो परिस्रव।।

The horned headgear or crown in the historical period remained confined to *asuras* or in particular with Mahishasura as depicted in art, discontinued from the older tradition of early Vedic, pre- Harappan and Harappan where *asuras* were originally conceived to have been in possession of supernatural and divine powers.

References

1. Dupree, L. 1972. 'Prehistoric Research in Afghanistan 1959-66', *Transactions of American Philosophical Society* 62: 1-84;

Shaffer, J.G. 1978. 'The Later Prehistoric Periods', in F.R. Allchin and N. Hammond (eds.) *The Archeology of Afghanistan: From Earliest Times to Timurid Period*: pp. 71-187. London.

Lal, B.B. 1997. *The Earliest Civilization of South Asia (Rise, Maturity and Decline),* New Delhi.

2. Saxena, A.; V. Prasad; M. Sharma and I.B. Singh. 2004. 'Archaeological Studies in Lahuradewa Area, Ganga Plain: Phytoliths in Lahuradewa Lake Sediments as Indicator of Palaeovegetation and Rice Cultivation During Holocene', *Abstract of papers submitted in the Joint Annual Conference of IAS, ISPQS and IHS/National seminar on Archaeology of Ganga Plain, December 2004 (Hereafter JAC/AGP)*, pp. 47-48. Lucknow.

3. Prasad, Vandana; Mani Sharma; Anju Saxena and I.B. Singh. 2004. 'Archaeological Studies in Lahuradewa Area, Ganga Plain: Fossil Diatom assemblages from Lahuradewa lacustrine sediments as clues for Human activity', *JAC/AGP* (*Op.cit.*), p.45. Lucknow.

4. Saraswat, K.S. and Anil K. Pokharia. 2004. 'Archaeological Studies in Lahuradewa Area: Plant Economy at Lahuradewa : A Preliminary Contemplation', *JAC/AGP* (*Op. cit.*), p.46. Lucknow.

5. Saraswat, K.S. 2004. 'Plant Economy at Mesolithic Damdama, Pratapgarh District, U.P.', *JAC/AGP* (*Op. cit.)*, p. 47. Lucknow.

6. Pal, J.N. 2004. 'Jhusi: A Key-site for the Cultural Sequence of the Middle Gangetic Plain', *JAC/AGP*, (*Op. cit.*), p.44. Lucknow.

7. Acharya, Pt. Sriram Sharma and Bhagwati Devi Sharma (eds.). 1995. *Rigveda Samhita* , 4 Vols, pp. 50-51. Haridwar.

8. Chauhan, M.S.; Chhaya Sharma; I.B. Singh and S. Sharma. 2004. 'Proxy Records of Late Holocene Vegetation and Climate Changes from Basaha Jheel, Central Ganga Plain', *Journal of the Palaeontological Society* of *India* 49: 27-34.

9. Singh, P. 2004. 'The Chalcolithic Phase in the Middle Ganga Plain: Some Reflections', *JAC/AGP* (*Op. cit.*), p. 54. Lucknow.

10. Sahi 2004. 'Neolithic Syndrome of the Ganga Valley', *JAC/AGP* (*Op. cit.*), pp. 45-46. Lucknow.

11. Jarrige, J.-F. 1981. 'Economy and Society in the Early Chalcolithic/Bronze Age of Baluchistan : New Perspectives from Recent Excavations at Mehrgarh', in H. Haertel (ed.) *South Asian Archaeology* 1979, pp. 93-114. Behrin;

..... 1982. 'Excavations at Mehrgarh: Their Significance for Understanding the Background of the Harappan Civilization', in G.L. Possehl (ed.) *Harappan Civilization: A contemporary Perspective*, pp. 79-84. New Delhi;

..... 1984. 'Towns and Villages of Hill and Plain', in B.B. Lal, S.P. Gupta and S. Asthana (eds.) *Frontiers of the Indus Civilization*, pp. 289-300, New Delhi;

..... 1986. 'Excavations at Mehrgarh - Nausharo', *Pakistan Archaeology (1974-86)*, 10-22:63-131;

1988. 'Excavations at Nausharo', *Pakistan Archaeology,* 23:149-203;

1989. 'Excavations at Nausharo 1987-88', *Pakistan Archaeology*, 24:21-67.

Jarrige, J.-F. and M. Lechevallier. 1979. 'Excavations at Mehrgarh, Baluchistan: Their significance in the Prehistorical Context of the Indo-Pakistani Borderlands', in M. Taddei (ed.), *South Asian Archaeology 1977*, pp. 463-535. Naples.

Lal 1997. *Op. cit.* 34-48.

12. Saar, S.S. 1992. *Ancestors of Kashmir*, p. 37. New Delhi.

13. Lal 1997. *Op. cit.* 37-38.

14. Durrani, F.A. 1981a. 'Indus Civilization: Evidence West of the Indus', in A.H. Dani (ed.) *Indus Civilization: New Perspectives,* pp. 133-38. Islamabad.

..... 1981b. 'Rehman Dheri and the Birth of Civilization in Pakistan', *Bulletin of Institute of Archaeology*, 18: 191 - 207. London,

..... 1988. 'Excavations in the Gomal Valley, Rehman Dheri Excavations. Report No. 1', *Ancient Pakistan* 6:1-232.

Durrani, F.A.; I. Ali and G. Erdosy. 1991. 'Further Excavations at Rehman Dheri', *Ancient Pakistan* 7: 61-146.

15. Lal 1997. *Op. cit.* 56-57.

16. Halim, M.A. 1970-71. 'Excavations at Sarai Khola, Part I', *Pakistan Archaeology* 7: 23-89.

..... 1972. 'Excavations at Sarai Khola, Part II', *Pakistan Archaeology* 8:1-112.

17. Lal 1997. *Op. cit.* 59-60.

18. Lal 1997. *Op. cit.* 61.

19. Mughal, M.R. 1972. 'Excavation at Jalilpur'. *Pakistan Archaeology* 8:117-24;

..... 1974. 'New Evidence of the Early Harappan Culture from Jalilpur, Pakistan', *Archaeology* 27(2): 106-13.

20. Khan, F.A. 1965. 'Excavations at Kot Diji', *Pakistan Archaeology* 2: 11-85.

21. Majumdar, N.G. 1934. 'Explorations in Sind', *Memoirs of the Archaeological Survey of India,* No.48*;*

Casal, J.-M. 1964. *Fouilles d'Amri*, 2 Vols., Paris.

22. Lal 1997. *Op. cit.* 68.

23. Lal 1997. *Op. cit.* 91.

24. Kondo, Hideo; Yoshitaka Rojo; Akinori Uesngi; Atsushi Noguchi; Hiroshi Noguchi and Manabu Koiso. 2005. 'Kot Diji Phase reconstructed: A preliminary report', *Handbook of Papers and Panels - EASAA 2005*. London.

25. Mani, B.R. 2000. 'Excavations at Kanispur: 1998-99 (District Baramulla, Kashmir)', *Prāgdhārā* 10: 1-28.

26. Stein,M.A. (tr.) 1900/1979. *Kalhana's Rajatarangini* I: 166-70, pp.30-31. First edition London. Reprinted Delhi.

27. Mani 2000. *Op. cit.* 5;

Ghosh, A. (ed.). 1989. *An Encyclopaedia of Indian Archaeology*, Vol.2, p. 88. New Delhi;

IAR- *Indian Archaeology - A Review 1981-82: 23.* New Delhi.

28. IAR 1995-96: 24.

29. Saraswat, K.S. and Anil K. Pokharia. 2003. 'Palaeobotanical Investigations at early Harappan Kunal', *Prāgdhārā* 13:108, 109.

30. Mani, B.R. 2004. 'Further Evidence on Kashmir Neolithic in the Light of Recent Excavations at Kanishkapura', *Journal of Interdisciplinary Studies in History and Archaeology* 1 (1): 142.

31. Saraswat, K.S. and A.K. Pokharia. 2004a. 'Plant Resources in the Neolithic Economy at Kanishpur, Kashmir', *JAC/AGP (Op. cit.*), pp. 7-8. Lucknow.

32. Ghosh, A., A. Kar and Zahid Hussain.1979. 'The Lost Courses of the Saraswati River in the Great Indian Desert: New Evidence from Landsat Imagery', *The Geographical Journal*, 145(3): 446-51, London.

Yash Pal, B. Sahai, R.K. Sood, O.P. Agrawal. 1980. 'Remote Sensing of the 'Lost' Sarasvati River', *Proceedings of the Indian Academy of Sciences (Earth Plant Science)*, pp. 317-31.

33. Lal, B.B.; B.K. Thapar; J.P. Joshi and Madhu Bala. 2003. *Excavations at Kalibangan - The Early Harappans (1961-1969)*, pp. 23-26. New Delhi.

34. Mani, B.R. 2005. 'Pre-Harappan Village Settlements and Early Farming Communities in Northern South Asia (*c.* 9^{th}-4^{th} Millennia BC)', *Purātattva* 35: 7-20.

35. Rao, L.S.; N.B. Sahu; Prabash Sahu; U.A. Shastry and Samir Diwan. 2004. Unearthing Harappan Settlement at Bhirrana (2003-04)', *Purātattva* 34: 20-24.

36. Rao, *et al.* 2004. *Op. cit.*

37. Suraj Bhan. 1975. *Excavation at Mitathal (1968) and other Explorations in the Sutlej Yamuna Divide,* p.12 Kurukshetra.

38. *Indian Archaeology : A Review*, pp. 37-39. New Delhi : Archaeological Survey of India.1991-92: 37-39.

39. Rao, L.S.; Nandini B. Sahu; Prabash Sahu; Samir Dewan and U. A. Shastry. 2005. 'New Light on the Excavation of Harappan Settlement at Bhirrana', *Purātattva* 35: 60-68.

40. Tewari, R, R.K. Srivastava, K.K. Singh, K.S. Saraswat and I.B. Singh, M.S. Chauhan, B. Shekar, A.K. Pokharia, A. Saxena, V. Prasad, M. Sharma, P.P. Joglekar. 2004 b. 'Archaeological Studies in Lahuradewa Area, Ganga Plain : Epiloque :

Implications for the archaeological Studies in Ganga Plain', *JAC/AGP (Op. cit.*), pp. 59-60. Lucknow.

41. Tewari *et al.* 2004 b. *Op. cit.*
42. Bettany, G.T. 1890. *Encyclopedia of World Religions*. London.
43. Bettany 1890. *Op. cit.* 464-65.
44. Acharya 1995. *Op. cit.* 2:29; 3:112.
45. Parpola, Asko. 1994. *Deciphering the Indus Script*, p. 189. Cambridge.
46. *Ibid.* 256-262.

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