



INTERNATIONAL LAW
JOURNAL

**WHITE BLACK
LEGAL LAW
JOURNAL**
**ISSN: 2581-
8503**

Peer - Reviewed & Refereed Journal

The Law Journal strives to provide a platform for discussion of International as well as National Developments in the Field of Law.

WWW.WHITEBLACKLEGAL.CO.IN

DISCLAIMER

No part of this publication may be reproduced, stored, transmitted, translated, or distributed in any form or by any means—whether electronic, mechanical, photocopying, recording, scanning, or otherwise—without the prior written permission of the Editor-in-Chief of *White Black Legal – The Law Journal*.

All copyrights in the articles published in this journal vest with *White Black Legal – The Law Journal*, unless otherwise expressly stated. Authors are solely responsible for the originality, authenticity, accuracy, and legality of the content submitted and published.

The views, opinions, interpretations, and conclusions expressed in the articles are exclusively those of the respective authors. They do not represent or reflect the views of the Editorial Board, Editors, Reviewers, Advisors, Publisher, or Management of *White Black Legal*.

While reasonable efforts are made to ensure academic quality and accuracy through editorial and peer-review processes, *White Black Legal* makes no representations or warranties, express or implied, regarding the completeness, accuracy, reliability, or suitability of the content published. The journal shall not be liable for any errors, omissions, inaccuracies, or consequences arising from the use, interpretation, or reliance upon the information contained in this publication.

The content published in this journal is intended solely for academic and informational purposes and shall not be construed as legal advice, professional advice, or legal opinion. *White Black Legal* expressly disclaims all liability for any loss, damage, claim, or legal consequence arising directly or indirectly from the use of any material published herein.

ABOUT WHITE BLACK LEGAL

White Black Legal – The Law Journal is an open-access, peer-reviewed, and refereed legal journal established to provide a scholarly platform for the examination and discussion of contemporary legal issues. The journal is dedicated to encouraging rigorous legal research, critical analysis, and informed academic discourse across diverse fields of law.

The journal invites contributions from law students, researchers, academicians, legal practitioners, and policy scholars. By facilitating engagement between emerging scholars and experienced legal professionals, *White Black Legal* seeks to bridge theoretical legal research with practical, institutional, and societal perspectives.

In a rapidly evolving social, economic, and technological environment, the journal endeavours to examine the changing role of law and its impact on governance, justice systems, and society. *White Black Legal* remains committed to academic integrity, ethical research practices, and the dissemination of accessible legal scholarship to a global readership.

AIM & SCOPE

The aim of *White Black Legal – The Law Journal* is to promote excellence in legal research and to provide a credible academic forum for the analysis, discussion, and advancement of contemporary legal issues. The journal encourages original, analytical, and well-researched contributions that add substantive value to legal scholarship.

The journal publishes scholarly works examining doctrinal, theoretical, empirical, and interdisciplinary perspectives of law. Submissions are welcomed from academicians, legal professionals, researchers, scholars, and students who demonstrate intellectual rigour, analytical clarity, and relevance to current legal and policy developments.

The scope of the journal includes, but is not limited to:

- Constitutional and Administrative Law
- Criminal Law and Criminal Justice
- Corporate, Commercial, and Business Laws
- Intellectual Property and Technology Law
- International Law and Human Rights
- Environmental and Sustainable Development Law
- Cyber Law, Artificial Intelligence, and Emerging Technologies
- Family Law, Labour Law, and Social Justice Studies

The journal accepts original research articles, case comments, legislative and policy analyses, book reviews, and interdisciplinary studies addressing legal issues at national and international levels. All submissions are subject to a rigorous double-blind peer-review process to ensure academic quality, originality, and relevance.

Through its publications, *White Black Legal – The Law Journal* seeks to foster critical legal thinking and contribute to the development of law as an instrument of justice, governance, and social progress, while expressly disclaiming responsibility for the application or misuse of published content.

TRADE ROUTES AND MATERIAL EXCHANGE IN THE HARAPPAN CIVILIZATION: ARCHAEOLOGICAL PERSPECTIVES FROM HARYANA, RAJASTHAN, AND PUNJAB

AUTHORED BY - NARENDER SAINI

Ph.D. Scholar, Ancient Indian History Culture & Archaeology, Kurukshetra University,
Kurukshetra

Abstract

This paper examines the internal and external trade routes of the Harappan Civilization through an integrated analysis of archaeological evidence from Haryana, Rajasthan, and Punjab. By correlating settlement distribution, ceramic affinities, river systems, and resource zones, the study reconstructs complex networks of land, riverine, and maritime communication that facilitated large-scale exchange. Particular emphasis is placed on the Ghaggar-Hakra, Sarasvati, Sutlej, and Indus corridors, as well as links with Gujarat, Baluchistan, Afghanistan, and the Gangetic plains. The movement of metals, semi-precious stones, pottery, timber, and marine shells highlights the economic integration, technological specialization, and interregional connectivity of Harappan society.

Keywords: *Harappan Civilization; Trade Routes; Riverine Networks; Interregional Exchange; Sarasvati-Ghaggar System; Material Culture; Archaeological Evidence; Protohistoric Economy.*

Aim of the Study:

The primary aim of this study is to reconstruct and analyse the internal and external trade routes of the Harappan Civilization by examining archaeological evidence from settlements in Haryana, Rajasthan, and Punjab. It seeks to understand the role of riverine, overland, and maritime networks in facilitating the movement of raw materials, finished goods, and cultural influences, thereby highlighting the economic organization, regional integration, and long-distance interactions that sustained Harappan urbanism.

Methodological Aspects:

1. Systematic analysis of archaeological site distribution, settlement hierarchy, and material remains to reconstruct patterns of trade and communication.
2. Comparative study of ceramic typology, raw material sourcing, and artefact assemblages to identify interregional exchange networks.
3. Correlation of palaeochannels, river systems, and geographic corridors with archaeological data to understand the role of environmental factors in shaping Harappan trade routes.

The diffusion of diverse ceramic traditions and the resulting inter-regional stylistic and technological affinities, together with patterns of resource utilization and access across different sub-regions, provides a broad analytical framework for reconstructing potential networks of internal and external movement. Archaeological evidence indicates that during the Early Harappan period, the middle reaches of the Sarasvati and Driśadvatī river valleys, along with the Ganeshwar–Jodhpura copper belt, were densely occupied by clusters of small settlements. These clusters effectively segmented the region into distinct “economic pockets.” The existence of shared ceramic traits across these settlements suggests that they were interconnected through established land routes, facilitating regular interaction and exchange.

1. Internal Trade Routes

Regional explorations reveal that Harappan site distribution was predominantly concentrated along the Sarasvati and Driśadvatī river valleys. These fertile corridors supported several major urban centres, which were encircled by numerous rural settlements where the majority of the population resided. It is reasonable to assume that these villages were interlinked through local land routes traversing forested landscapes or following natural watercourses. However, internal exchange networks appear to have relied primarily on waterways, which offered more efficient and reliable modes of transportation.

1.1 Water Routes

The river system constituted the principal foundation of regional prosperity, not only enhancing agricultural productivity but also providing an extensive network of navigable waterways. Classical sources, notably Arrian, remark that many rivers of northern India were navigable, underscoring their importance for transport and communication. Most urban and commercial centres were strategically established along the water channels formed by the Ghaghara,

Sarasvati, and Driśadvatī rivers and their tributaries. In this context, it may be reasonably proposed that Harappan traders in the region followed three principal water-route axes to facilitate internal movement and exchange.

1.1.1 Ghaghara River Axis: - The Ghaghara River functioned as one of the most significant communication corridors linking Rajasthan, Punjab, and Haryana. The spatial concentration of Harappan sites clearly indicates that an established communication channel extended from the Hanumangarh region of Rajasthan through Bhatinda in Punjab to Hissar in Haryana (Nayanjot Lahiri 1992: p. 65). Within this network, Sirhind emerged as a crucial “economic pocket,” facilitating the mobilization of resources from the northern sub-Himalayan zone and their onward transportation to Bahawalpur via Kalibangan (Nayanjot Lahiri 1992: 61).

The Ghaghara riverine route also linked the urban and trading centres of Hissar (Haryana) with the Ropar district of Punjab (Y.D. Sharma 1982: p. 142). Important intermediary settlements such as Banawali, Bhirrana, and Kunal connected the urban centres of eastern Punjab including Ropar, Kotla Nihang, Dher Majra, and Bara-with the Sarasvati river axis, thereby integrating Punjab and Haryana with the wider Harappan regions of Sind and Baluchistan. From Bara, a further route followed the course of the Sutlej River to reach Katpalon and Nagar in Jalandhar district (Nayanjot Lahiri 1992: p. 123).

1.1.2 Sarasvati River Axis: - The Sarasvati River constituted another major route of communication, linking Kalibangan with prominent trading centres such as Banawali, Kunal, and other settlements of the Hissar district on one side, and Rakhigarhi on the other. This axis further connected a chain of Harappan settlements in the districts of Jind, Kaithal, Kurukshetra-where Joganakhera functioned as a prominent sub-urban trading centre Ambala, and Karnal. From the Ambala–Karnal region, routes appear to have extended toward Saharanpur, a zone notable for the presence of as many as twenty-nine Harappan sites (J.P. Joshi 1984: p. 513).

1.1.3. Haryana–Rajasthan–Punjab Axis: - A major route connected Haryana with the Hanumangarh region of Rajasthan, an important source area supplying copper, silver, and various semi-precious stones to the Harappan settlements of Haryana and to Kalibangan in particular. From Kalibangan, one of the most prominent Harappan centres, this route extended through Sothi, Siswal, Satrod Kalan, Rākhigarhi, Bālu, Jind, Barsānā, and Joganākhera in the Kurukshetra region (Suraj Bhan 1975: p. 118). The route eventually reached Rohtak, from where branches led toward Meerut on one side and Gurgaon on the other-both regions yielding evidence of Harappan occupation (Suraj Bhan 1975: p. 118). In addition, a route linked the Ganganagar Hanumangarh region of Rajasthan with the Bhatinda district of Punjab (Nayanjot Lahiri 1992: p. 61). These two areas represented major “economic pockets,” containing

approximately seventy-five and fifteen Harappan sites respectively. After crossing the Sarasvati, traders appear to have followed a central navigable channel to reach the Harappan settlements of Bhatinda (Y.D. Sharma 1982: pp.141–166). The Bhatinda settlement pattern included several large urban centres such as Dalewan, Gumi Khalan, Bagliaen-da-Theh, Lakhmir Wala, and Hasanpur (Nayanjot Lahiri 1992: 123). From this zone, a route extended toward Rohira in the Sangrur district and further up to Ludhiana (Y.D. Sharma 1982: pp.141–166). The Sutlej River provided an important riverine route connecting Nagar and Katpalon (Jalandhar district) with Bara and Ropar. A branch of this route followed the Upper Sutlej, extending up to the Himalayan foothills, where the site of Manda was located (Nayanjot Lahiri 1992: p. 122).

During the Late Harappan period, several new communication corridors appear to have emerged, linking the Sarasvati and Drisadvati river valleys with the Ganga–Yamuna Doab. These routes facilitated increased regional interaction and cultural exchange between the north-western Harappan zones and the central Gangetic plains.

- (i) A network of routes extended from the Ambala, Kurukshetra and Karnal region toward the Saharanpur and Muzaffarnagar districts (Nayanjot Lahiri 1992: p. 141), an area notable for the presence of approximately 107 Late Harappan sites. These settlements were further interconnected with the districts of Meerut and Bulandshahar through additional routes, forming an integrated communication system across the upper Doab (J.P. Joshi 1984: p. 511–530).
- (ii) By following the course of the Ganga River, these routes extended toward areas associated with Ochre Coloured Pottery (OCP) and Copper Hoard cultures. The occurrence of Late Harappan cultural traits up to Ahichchhatra, together with the spatial distribution of OCP sites and copper hoards, clearly indicates sustained interaction between Late Harappan communities and neighbouring cultural regions along this corridor (Makkahan Lal 1984: p. 33, 42).
- (iii) The Yamuna River itself functioned as a major communication axis, linking settlements between Mathura and Kanpur and facilitating movement, exchange, and cultural transmission along its course (Makkahan Lal 1984: p. 33, 42).
- (iv) In addition, the Ganga and Yamuna rivers, along with their tributaries, provided vital water routes connecting the Saharanpur and Bijnor districts with the Himalayan region of Uttar Pradesh. These riverine networks played a crucial role in channeling resources and commodities from the northern Himalayan zone into the Gangetic plains, thereby

contributing significantly to the economic integration of northern India (A.N. Bose 1961: p. 6).

2. External Trade Routes

2.1. External Trade Routes (Directly Utilized)

2.1.1. Rakhigarhi–Kalibangan–Kot Diji–Amri Axis

One of the most significant external trade routes to emerge during the Early Harappan period was aligned along the Ghaghara–Hakra river system. This corridor effectively linked the Indus plains with the Sarasvati–Drīśadvati divide, with the Cholistan tract (locally known as Rohi) of the Bahawalpur region serving as the crucial intermediary zone. The spatial distribution of Kot Dijian sites in the Bahawalpur area and the occurrence of Hakra ware extending as far as Rakhigarhi provide strong archaeological evidence for a well-established communication network by the fourth millennium BCE (Nayanjot Lahiri 1992: p. 38). Furthermore, the presence of Amri-related ceramic features at Mohenjo-daro and Kalibangan suggests that trade movements along the Ghaghara–Hakra axis were also connected with the Amri cultural sphere, indicating long-distance interaction across the north-western subcontinent (J.M. Casal 1979: 105; B.B. Lal 1979: p. 74).

2.1.2. Bahawalpur–Mitathal–Ganeshwar Axis

Archaeological evidence further suggests that Mitathal was connected to the Ganeshwar region either directly through land routes or indirectly via intermediary sites in the Bahawalpur State. The Bahawalpur settlements themselves were accessible through a major overland route originating from the Ganeshwar–Jodhpura copper complex and passing through Neem-ka-Thānā, Parbatsar–Kurada (Khurdi), Nagaur, Phalodi, Pokaran, Jaisalmer, Chotaru, Mithrau, Sanghar, Alor, Sukhar, Rohri, Kohri, and Khairpur (R.C. Agrawal & Vijay Kumar 1982: p. 125–134).

Another important land route connected Ganeshwar to Sothi–Bhadra via Neem-ka-Thana, Khetri, Chirawa, and Rajgarh (R.C. Agrawal & Vijay Kumar 1982: p. 129). From Sothi, this route extended to Kalibangan, while a subsidiary branch diverged toward the settlements of the Hissar and Bhiwani districts through Rajgarh. In addition, a further land route may have linked the Ganeshwar–Jodhpura complex with the Bahawalpur region via Kurada, Pugal, and Sobania.

2.1.3. Rakhigarhi–Ropar–Harappa Axis

Harappa was also accessible from Rakhigarhi through Banawali by following the Ghaghara

and Sutlej river valleys. From Ropar, the Sutlej River offered a viable riverine route connecting the Early Harappan centres of Haryana with the north-western core region of the Indus Civilization (Y.D. Sharma 1982: p. 142).

In addition to these major corridors, several rivers of southern Haryana-namely the Kantali, Dohan, Krishnavati (Kasaunti), and Sabi-provided natural communication routes linking Haryana with Rajasthan.

- The Kantali River originated in the Ganeshwar region and appears to have once merged with the ancient Driśadvati in the Śiwalik zone.
- The Dohan River originated north of the Baleshwar copper mines at Neem-ka-Thana (Sikar district). Along its dry riverbed, several Early Harappan sites such as Dadri, Manhairu, Chang, and Tigrana have been identified (R.C. Agrawal & Vijay Kumar 1982: p. 128). Through these settlements, Early Harappan communities likely reached Mitathal and other sites concentrated along the palaeochannels of the Yamuna.
- The rivers Kasaunti (Krishnavati) and Sota originated from the Baleshwar–Dariba and Ahirwala–Dariba copper-bearing hills respectively, both located near Ganeshwar. These rivers also appear to have been utilized as communication routes facilitating Early Harappan movement into different regions of Haryana (R.C. Agrawal & Vijay Kumar 1982: p. 128).
- The Sabi River similarly provided a route through Rewari, further strengthening interregional connectivity between Rajasthan and Haryana (R.C. Agrawal & Vijay Kumar 1982: p. 128).

During the Late Harappan period, additional lines of movement developed between Rajasthan and Gujarat. Shared cultural features-such as Lustrous Red Ware, etched carnelian beads, lapis lazuli, and marine shell artefacts-indicate sustained interaction between the Ahar culture of south-eastern Rajasthan and the Late Harappan tradition of Gujarat (S.R. Rao 1991: p. 112). Excavations at Surkotada, supported by archaeobotanical evidence, suggest the arrival of Aharian groups at the site (K.S. Saraswat, *Palaeobotanist*, Vol. 40: p. 514–545), thereby confirming the existence of a direct communication link between the two regions. In addition to these direct routes, interaction may also have occurred through corridors traversing the central Malwa Plateau (H.D. Sankalia 1958: p. 249).

2.2. External Trade Routes (Indirectly Utilized)

Harappan communities of Haryana appear to have maintained indirect yet well-integrated trade relations with the Harappan core regions in the north (Harappa complex), the west (Mohenjo-

daro complex), the south (Lothal–Dholavira complex), and with contemporary western regions beyond the subcontinent. These interactions were facilitated through a combination of land, riverine, and maritime routes.

2.2.1. Kalibangan–Ropar–Harappa Axis

It has been suggested that Kalibangan was connected with Harappa through Ropar. The route between Harappa and Ropar appears to have been partly terrestrial—extending from Harappa to the Sutlej and partly riverine, following the course of the Sutlej River (S.P. Gupta 1984: p. 417–424). This axis further connected Kalibangan with the settlements of the Bahawalpur State located along the dry beds of the Sarasvati and Drīśadvati rivers (Balram Srivastava 1968: p. 30). Continuing the established Early Harappan communication pattern, Late Harappan communities also utilized the major Ghaggar–Hakra river axis as a primary external route leading toward Harappa.

2.2.1. Mohenjo-daro–Lothal Maritime Axis

After the confluence of the Hakra/Ghaghara system with the Indus River system, merchants from settlements such as Rākhigarhi likely followed downstream riverine routes to reach the southern provinces of the Indus domain via Sukkur, Kot Diji, Chanhudaro, and Nuhoto. From there, maritime routes enabled Harappan traders to traverse the Arabian Sea and access major coastal ports (S.R. Rao 1991: p. 91). These routes extended to Novinal and Todio along the southern coast of Kutch, and further to Bet Dwarka, Dwarka, Prabhās, and Lothal along the western and southern coasts of Kathiawad (S.R. Rao 1991: p. 91–92).

Lothal functioned as a planned coastal township equipped with a well-engineered embankment suitable for harbouring ships, reflecting its importance as a major maritime hub. Bhagatrav is recognized as the last known Harappan port maintaining contacts with Harappan traders (IAR 1957–p. 58: 15).

2.2.3. Mohenjo-daro–Bannu Basin Axis

Based on strong ceramic affinities observed across regions, it may be inferred that major communication links extended from Kot Diji toward Amri, Mehrgarh, Quetta, Rana Ghundai, Periano Ghundai, Gumla, Lewan, Tarkai Qila, and the Bannu Basin. From the Bannu region, these routes further extended toward Afghanistan and Central Asia, indicating sustained long-distance interaction networks (Nayanjot Lahiri 1992: p. 54).

2.2.4. Quetta–Tappe Hissar Axis

Another important branch of communication was directed toward Quetta, Zhob, Mundigak, Shahr-i-Sokhta, Sialk, Tappe Hissar, and Namazga Tappe (Nayanjot Lahiri 1992: 54; p. 62). From Shahr-i-Sokhta, one route extended to Tappe Yahya via Bampur, while another branch

connected Sialk with Susa through Giyan, thereby integrating the Harappan interaction sphere with the cultural landscapes of Iran and Central Asia (Nayanjot Lahiri 1992: 54).

Archaeological evidence provides crucial insights into the trade contacts of the northern Harappan region with contemporary western countries. Commodities were exchanged through overland routes leading toward the Middle East as well as through riverine routes culminating at the Indus delta, from where maritime voyages transported goods into the open sea. Beginning from the Gulf of Cambay, Harappan traders utilized an extensive coastal route stretching from Lothal to Orangi. This maritime corridor connected Indian ports with those of Persia and beyond. Southern routes further linked the Indus delta and the Makran coast through northern Baluchistan, Kandahar, and regions of southern and central Iran (Shereen Ratnagar 1981: p. 217). Beyond the conventional north-western channels of movement, a distinct pattern of interaction also developed during this period, whereby the Swat–Dir region became integrated with Afghanistan and Central Asia on one hand, and connected with the Kashmir Valley on the other. This configuration reflects the expanding geographical scope and complexity of Late Harappan exchange networks (Shereen Ratnagar 1981: p. 38)

3. Commodities of Trade

Variations in agricultural productivity arising primarily from differences in soil composition and patterns of rainfall-created structural imbalances in subsistence output within the Early Harappan economy. These disparities generated a persistent need for the exchange of agricultural produce among different regions and communities, thereby encouraging the development of organized systems of trade and redistribution. Pottery manufacture constituted one of the principal craft industries of the Early Harappan society. A wide variety of ceramic forms were produced and circulated, and pottery functioned as an important commodity of exchange. In everyday transactions, agricultural produce, livestock, and other goods were frequently bartered for ceramic vessels, underscoring the economic significance of pottery within Harappan exchange networks.

The Khetri, Babai, and Singhana regions of Rajasthan were rich in copper ore deposits associated with evidence of ancient mining and smelting activities. Archaeological data clearly indicate that these locally available resources were systematically exploited during the Early Harappan period. Analogical and spectrometric analyses of copper artefacts from Mohenjodaro suggest that copper from this region constituted a major source for the western Harappan

areas of Baluchistan and Sind during this period (D.P. Agrawal 1971: p. 168–170). In addition to western regions, copper and copper artefacts were also exported to Gujarat and even to parts of the Deccan (S.R. Rao 1991: p. 103).

The Aravalli range further supplied a variety of semi-precious stones. The occurrence of agate and carnelian in north-western Rajasthan has been noted by Pascoe and Pareek (E. Pascoe, “Minerals and Metals,” in John Marshall (ed.), *Mohenjo-daro and the Indus Civilization*, Vol. II: pp. 674–691; H.S. Pareek, *MGSI*, Vol. 115: p. 71). In addition, chert, chalcedony, and jasper were widely used as raw materials for the manufacture of tools and ornaments. Recent excavations at Kunal have yielded a substantial assemblage of beads made of lapis lazuli, carnelian, and agate. Lapis lazuli, being a highly valued and expensive material in the ancient Orient, was procured by Early Harappan communities through long-distance trade networks, most likely from Persia or Badakhshan in Afghanistan, via intermediary trading centres (Allchin & Allchin 1968: 104).

3.1. IMPORTS

3.1.1. Agate: - Although agate was locally available from the offshoots of the Aravalli and Vindhyan hill ranges (E. Pascoe, “Minerals and Metals,” in John Marshall (ed.), *Mohenjo-daro and the Indus Civilization*, Vol. II: pp. 674–691), the finer varieties of agate appear to have been imported from the agate mines of Rajpipla in Gujarat through intermediary trade networks (S.R. Rao 1991: p. 182).

3.1.2. Chert: - At sites such as Bālu, Rākhigarhi, Banawali, and Mitāthal, fine-grained chert has been identified as originating primarily from the Sukkur–Rohri region of Sind (Nayanjot Lahiri 1992: p. 28). The discovery of chert cores at Banawali, Bālu, and Ropar indicates that this material was transported in raw form, after which artefacts were manufactured locally.

3.1.3. Lapis Lazuli: - Lapis lazuli beads have been reported from several sites across the region. This highly valued stone, considered extremely precious in the ancient Orient, was sourced exclusively from Afghanistan during the Harappan period (Dilip K. Chakrabarti, *Man and Environment*, Vol. II: p. 51–58). Significant quantities of lapis lazuli beads have been found at Banawali, Kunal, and Dher Majra. The material was most likely transported through Baluchistan and Bahawalpur, which constituted a major axis of long-distance communication (Dilip K. Chakrabarti, *Man and Environment*, Vol. II: pp. 51–58).

3.1.4 Gold: - Due to the absence of gold objects in the earliest Neolithic strata of southern India, the precise beginnings of gold-working in the subcontinent remain uncertain. However,

the earliest evidence of gold usage in southern India appears to be contemporary with the Late Harappan period (Shereen Ratnagar 1981: pp. 107–108). In the absence of definitive evidence for alternative sources, it is plausible that gold was acquired from southern Neolithic communities. Additionally, placer gold may have been collected from the alluvial deposits of river channels such as the Indus and the Soan. Gold ornaments recovered from Kunal, Rākhigarhi, and Banawali closely resemble those from Lothal and Mohenjo-Daro, suggesting a common source of gold for northern India, Mohenjo-Daro, and Lothal (Shereen Ratnagar 1981: pp. 107–108).

3.1.5. Silver Objects: - Silver is believed to have been imported either from Afghanistan or from the Mysore region (Shereen Ratnagar 1981: pp. 140–146), as there is no evidence for indigenous silver production in India during the Protohistoric period. Noteworthy silver objects from Kunal include two tiaras, each decorated with a fully opened flower motif whose petals are topped with ornaments resembling the Greek letter alpha. Two silver rings have also been discovered at Girawad. Substantial quantities of silver artefacts have similarly been reported from Mohenjo-daro (John Marshall, *Mohenjo-daro and the Indus Civilization*, Vol. I). These finished silver objects were likely imported into the region through the Ghaggar–Hākrā trade corridor.

3.1.6. Semi-Precious Stones: - Rākhigarhi, Kunal, Banawali, and Dher Majra functioned as major centres of bead manufacture. The semi-precious stones exploited at these sites included carnelian, jasper, agate, topaz, and emerald. Among these, carnelian, emerald, and topaz were primarily imported from Sind and Baluchistan (Nayanjot Lahiri 1992: pp. 140–146). In addition, chalcedony varieties originating from the Waziristan hills rich in boulder deposits—may have reached the region via Swat and Kashmir (Nayanjot Lahiri 1992: pp. 140–146).

3.1.7. Crystal: - Crystal beads and fragments have been reported from Banawali and Bhagwanpura (Balram Srivastava 1968: p. 269). These materials were likely sourced from the coastal regions of Dwarka, Kutch, and Kathiawad and appear to have been transported inland along the Ghaghara–Hākrā communication axis.

3.1.8. Chunk Shell

Lothal emerged as a major exporter of chunk shell to western urban centres as well as to the Indus heartland. Both raw chunk shell and finished products—such as bangles, wristlets, beads, gaming pieces, and diamond-shaped inlay fragments—were imported by Harappan communities of northern India. According to S.R. Rao, the Kathiawad coast and the Indus delta represented the nearest primary sources of chunk shell (S.R. Rao 1968: p. 186). Additionally, shell artefacts may have been imported from manufacturing centres in Sind (Shereen Ratnagar

1981: pp. 147–148). Chunk-shell bangles have been recovered from Rākhigarhi, Banawali, Bhirrana, and Mitāthal (R.S. Bisht, *Man and Environment*, Vol. II: pp. 86–88).

3.1.9. Cotton: - Most Chalcolithic cultures flourished in the black-soil zones, known for their high fertility and moisture-retention capacity. It is therefore likely that cotton was imported into the Sarasvati valley from the Malwa region and from the fertile river estuaries and narrow alluvial plains situated behind the saline marshes of the western coast, where cotton cultivation was practiced on a large scale (A. Ghosh, *Encyclopedia of Indian Archaeology*, and Vol. I: p. 182).

3.2. EXPORT

3.2.1. Copper: - Spectroscopic analyses of copper and bronze artefacts from Mohenjo-daro and other Harappan and Chalcolithic sites demonstrate that copper was procured from multiple geological sources, indicating a complex and wide-ranging supply network (D.P. Agrawal 1971: p. 168). Given the presence of rich copper deposits in Rajasthan—particularly those associated with the Ganeshwar–Jodhpura cultural complex, which was broadly contemporary with the Harappan Civilization—it is highly probable that both copper ore and finished copper artefacts were exported from Rajasthan to Harappan and Chalcolithic communities (D.P. Agrawal 1971: p. 175).

The discovery of substantial hoards of finished copper objects at various copper-bearing sites in Rajasthan further supports the view that these materials were produced in surplus and distributed to neighbouring regions (R.C. Agrawal & Vijay Kumar 1982: pp. 125–134). It has also been suggested that Mesopotamia may have received copper originating from this region through intermediary trade networks (D.P. Agrawal 1971: p. 133). Moreover, the recovery of finely finished copper objects from sites such as Mitāthal and Farmana, together with structural evidence for copper smelting at several Harappan settlements in the region, strengthens the argument that metal production was locally organized and that finished copper products were exported from this area to other parts of the Harappan world.

3.2.2. Semi-precious Stones and Minerals: - The fine-grained yellow stone used extensively by Harappan craftsmen at Mohenjo-daro and Harappa almost certainly originated from the Jaisalmer region of Rajasthan (Nayanjot Lahiri 1992: p. 84). In addition, slate used at Mohenjo-daro and Harappa appears to have been sourced from Rajputana, while lead from the Ajmer region was also exported, possibly reaching these centres via intermediary networks extending into Kashmir (Balram Srivastava 1968: p. 270).

3.2.3. Timber (Wood): - In addition to semi-precious stones and minerals, the Aravalli region

constituted a major source of hard timber, particularly suitable for shipbuilding. Timber from this region was exported to prominent shipbuilding centres such as Mohenjo-daro (Shereen Ratnagar 1981: pp. 102–103) and even to Ur in Mesopotamia (Leonard Woolley, *AJ*, Vol. X: pp. 331–389). Archaeobotanical and structural evidence indicates that deodar and rosewood were used in construction at Harappa (K.A. Chowdhury & S.S. Ghosh, *AI*, Vol. 7: pp. 3–19). These tree species grew in the hill forests of Gujarat and Rajasthan, and rosewood, in particular, appears to have been exported by Harappan communities inhabiting these regions (Nayanjot Lahiri 1992: p. 84).

Similarly, the Harappan site of Manda, situated in the Himalayan foothills, appears to have played a strategic role in regulating the inflow of Himalayan timber into the broader Harappan trade network (Shereen Ratnagar 1981: p. 99).

3.2.4. Beads: - The bead industries of India, Pakistan, Mesopotamia, and Egypt display notable similarities in terms of raw materials, shapes, and design features, suggesting shared technological traditions and exchange networks (Shashi Asthana 1979: pp. 56–57). It may therefore be inferred that beads made of agate, etched carnelian, jasper, chalcedony, quartz, black chert, gold, lapis lazuli, copper, shell, steatite, and faience were exported as valuable exchange commodities. The recovery of large numbers of beads from major trading centres such as Kunal, Banawali, Dher Majra, and Rakhigarhi provides strong evidence for the scale of bead production and export from this region.

Furthermore, steatite and semi-precious stone beads produced in the Harappan sphere were also exported to Chalcolithic sites such as Kayatha, indicating sustained interregional exchange beyond the core Harappan territories (H.D. Sankalia 1974: p. 421).

Conclusion

The Harappans had an efficient trading network. The rivers, roads, and seas were used for connection between various regions and for regular trading activities. According to the archaeological findings in Haryana, Rajasthan, and Punjab, the trade routes played a crucial part in developing the urban centers of the Harappan Civilization. Some important places like Rakhigarhi, Banawali, Kalibangan, Kunal, and Mitathal served as trading centers which connected the areas rich in resources with the important cities.

Harappan people had connections with distant places by the land and sea routes. Copper, beads, semi-precious stones, timber, shells, pottery, and many other things were exchanged with

distant places. This trade encouraged the specialization in crafts and led to economic success. It also helped in spreading thoughts and technologies in distant places.

According to the available archaeological evidence, trade became one of the strongest parts of the economy of the Harappan Civilization. It not only developed urbanization but also strengthened regional integration. Though some trade routes are already known to us, future discoveries of archaeologists will give more clear information about the trading networks of the Harappans.

References

- Agrawal, R. C., & Kumar, V. (1982). Ganeshwar-Jodhpura culture: New traits in archaeology. In G. L. Possehl (Ed.), *Harappan civilization: A contemporary perspective*, (pp. 125–134). Oxford & IBH Publishing Co.
- Allchin, B., & Allchin, R. (1968). *The birth of Indian civilization: India and Pakistan before 500 B.C.* Penguin Books.
- Bhan, Suraj, (1967). Protohistoric Archaeology of the Saraswati and the Drishdwati valley, Haryana, 2300-1500 B.C. (Unpublished Ph.D Thesis).
- Bose, A. N. (1961). *Social and rural economy of Northern India, cir. 600 B.C.—200 A.D.* Firma K.L. Mukhopadhyay.
- Casal, J. M. (1979). Amri: An introduction to the history of the Indus civilization. In D. P. Agrawal & D. K. Chakrabarti (Eds.), *Essays in Indian protohistory*, B.R. Publishing Corp.
- Chakrabarti, D. K. (1978). Lapis lazuli in early India. *Man and Environment*, 2, 51–58.
- Ghosh, A. (Ed.). (1989). *An encyclopaedia of Indian archaeology* (Vols. 1–2). Munshiram Manoharlal Publishers.
- Joshi, J.P., Bala, M. (1984). “The Indus Civilization: reconsideration on the basis of distribution maps” in B.B. Lal and S.P. Gupta (Eds.) FIC, Delhi.
- Lahiri, Nayanjot, (1992). *The Archaeology of Indian Trade Route*, New Delhi.
- Lal, B. B. (1979). Kalibangan and the Indus civilization. In D. P. Agrawal & D. K. Chakrabarti (Eds.), *Essays in Indian protohistory* (pp. [Page numbers for the chapter]). B.R. Publishing Corp.
- Lal, M. (1984). *Settlement history and the rise of civilization in the Ganga Yamuna doab, from 1500 B.C. to 300 A.D.* B.R. Publishing House.

- Pareek, H. S. (1984). *Pre-Quaternary geology and mineral resources of north-western Rajasthan* (Memoirs of the Geological Survey of India, Vol. 115). Geological Survey of India.
- Rao, S. R. (1991). *Dawn and devolution of the Indus civilization*, New Delhi.
- Ratnagar, S. (1981). *Encounters: The westerly trade of the Harappa civilization*. Oxford University Press.
- Sharma, Y. D. (1982). Harappan complex on the Sutlej (India). In G. L. Possehl (Ed.), *Harappan civilization: A contemporary perspective* (pp. 141–166). Oxford & IBH Publishing Co.

