

RESEARCH PAPER

Trade Connectivity Among Indus and Abroad: Script, Standardised Measurements and Weights.

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ABSTRACT

The streams originating in the Great Himalayas merge to form the mighty Indus River, which flows southwest and empties into the Arabian Sea. These Himalayan waters carried fertile mineral-rich soil that supported agriculture throughout the Indus catchment area. During the third millennium BCE, climatic conditions were different from those of today, allowing the Indus Civilization to expand across a vast region, including Turkmenistan, Kashmir, northwestern India, northeastern Afghanistan, and parts of Iran. This civilization covered nearly 500,000 square kilometers and included hundreds of pre-urban and post-urban settlements along the Indus and Ghaggar-Hakra rivers. Early Indus sites initially developed as regional centers and later became part of a unified urban settlement system under Indus influence. This research highlights the archaeological importance of these sites, often viewed only as heritage locations. Each site played a significant role in trade networks and economic development. Evidence shows that the Indus Civilization maintained extensive trade relations with Iran, Afghanistan, Oman, Mesopotamia, Egypt, and Central Asia.

KEYWORDS Trade, Cities and Towns, Indus Script, Urbanization, Indusian
Introduction

Archaeologically to establish the trade or cultural relations it is necessary the presence of cultural material at both sites, internal and external trade is proven with the abundance availability of cultural material in the raw or finished form, internal cultural material evidences are plenty and uniform throughout the Indus civilization. Internationally pottery objects are found at Mesopotamia and Indus Civilization, pottery objects of Indus are abundant in Oman, presence of "Blue" seal at Egypt are indispensable material evidences to establish Indus trade relations to rest of the world. Indus script still hasn't been deciphered hence it traveled for trading and communication locally and internationally, linguistics are working to decipher but it will take some longer time to real decipherment, Indus decipherment claims are made but for scientific and logical acceptance it requires some time. The presence of Indus standardised weights and measurements infused impetus to world expanded trade, measuring areas, buildings, principle of architecture, ratio of bricks, sophisticated uniformly implemented weights made Indus trader and merchant more prominent and more reliable.

Literature Review

The Indus civilization is one with a larger expansion of 500,000 square km in area with major urban influenced urban centers like of Kot Diji and Mohenjo Daro who played very important role in the integration of Indus civilization. Ancient Indus Civilization "that the Indus and Ghaggar-Hakra were the main source and cause of Indus cultural diversity with hundreds of towns and cities, and the repercussion and impact of drought of Ghaggar-Hakra to Indus and Indian region Indus sites were fatal. The Ancient World" writer says in his book that the peoples of Indus civilization were basically agrarians with multiple crop varieties like Barley, Melons, wheat, cotton and dates. Indus peoples had trade with within South Asia as well as to West Asia in the Mesopotamian regions, precious stones were

imported from Persia, gold from within southern Indian region of India. Seals and pottery discovered from Mesopotamia strengthen the idea of having trade relationship with Mesopotamian. The Indus Civilization"2001 that after Harappa the major discovery of Mohen Jo Daro was fabulous, detailed and informative in findings to reveal the entire aspects and expansions through the availability of complex variety of artifacts which had been used and exported by the Indus peoples. MacKay further elaborated that the major findings like architecture, Jewelry, art and craft which made this Civilization more worth finding. Asko Parpola is of opinion that exuberance availability of Indus script on seals, tablets and on other surfaces is very much confusing to shape all 4200 symbols or characters in meaning full way he shared his findings in "Indus script: A challenging puzzle 1986.

Methodology

For the accomplishment of this research paper, author has used primary and secondary methods of data collection, for primary data collection, visited the site and Museum of Mohen jo Daro, Lakhn Jo Daro, Kot Diji and had informal discussions with experts and researchers, for secondary source of data collection author has referred variety of related text through libraries and internet.

Results and Discussion

Brief introduction of Major trading towns and cities of Mohen jo Daro.

The one of major urbanized city on Indus River was **Mohen jo Daro**, the main Indus city which is mostly known as the center of the Indus civilization, the lost city of Mohen jo Daro was noticed by E.J Mackey, where he was searching the Buddhist structures in Sindh. The city of Mohen jo Daro is consisting on two portions, Citadel and lower city. The architecture and Town planning of Mohen jo Daro is recognized as world's unique and exemplary during proto historic era. **Amri** Amri having its own culture on the basis of artifacts availability the evidences suggest the Amri has earliest levels up to 6000 to 4000 BC. The area of this site is about more than 9 hectares on the bank of river Indus, N.C Majumdar excavated this site for 3 years, excavation results revealed that top layers produced the Muslim period pottery and beneath layers revealed the mature Harappan.



Fig No. 01 Moen jo Daro, Center of Indus Civilization During 2400-1700 BC Source: www.google.image

Amri had influence and relationship with sites of Baluchistan (Indus Period) as same were with Rehman Dheri.

Loham jo Daro This site is located near Piaro Railway station in-between of District Dadu and Larkana. This site is mound site which almost covers an area of 23500 square meters with mature Indus and Jhukar period, site was excavated by Majamdar. **Nindowari** this site has pre Indus cultures of Baluchistan, Nindowari covers an area of more than 125 acres with high mounds of 74 feet. The site has been excavated on different times initially in 1957 by Beatrice De Cardi then after by a team Headed by Jean Marie Casal with Pakistani Archaeologists from 1962-1965, culturally very rich site. **Balakot** Balakot site is located in district of Lasbela, Balochistan. Preliminary excavation report was prepared by George F. Dales of California University during 1974. Balakot is coastal site in Soan Miani. upper cultural layers consist of mature Indus period material with early Indus in lower levels, **Nuhato, Chanhudaro** Chanhudaro is mature and Jhukar period cultures (4000-1600 BC) located in the district of Shaheed Benazeer Abad in the village of Jamal Kerio. Site extends for more than six hectors and, N.G Majamdar was the first excavator during 1930-36. Norman Brown, E.J.H Mackay and Muhammad Rafiq Mughal worked on this site and recently French Archeologist Arora had made small excavation during the year 2016, 17 and to some extent in 2019. **Kot Diji** this is very much important Archaeological site located 25 km south of district Khair Pur Mirs. The site belongs early to mature Indus 3500-1750 BC, the site was excavated during 1955 and 1957. , **Harappa** Harappa is the major town site of Indus civilization after Mohen jo Daro, located in the district of Sahiwal, Punjab near old course of Ravi River. Harappa has early to mature Indus Period.

- 3300-2800 BC Ravi Hakra
- 2800-2600 BC Kot Dijian
- 2600-1900 BC Harappa Phase
- 1900-1800 BC Transitional Phase
- 1800-1300 BC Late Harappan.

And Indus urban sites located in Indian region on Ghagar Hakra and Ganges Yamuna were like Kalimantan, Banavali, Rupar, Surkotada, Lothal, Rangpur, Rojidi and Shortughai in Afghanistan.

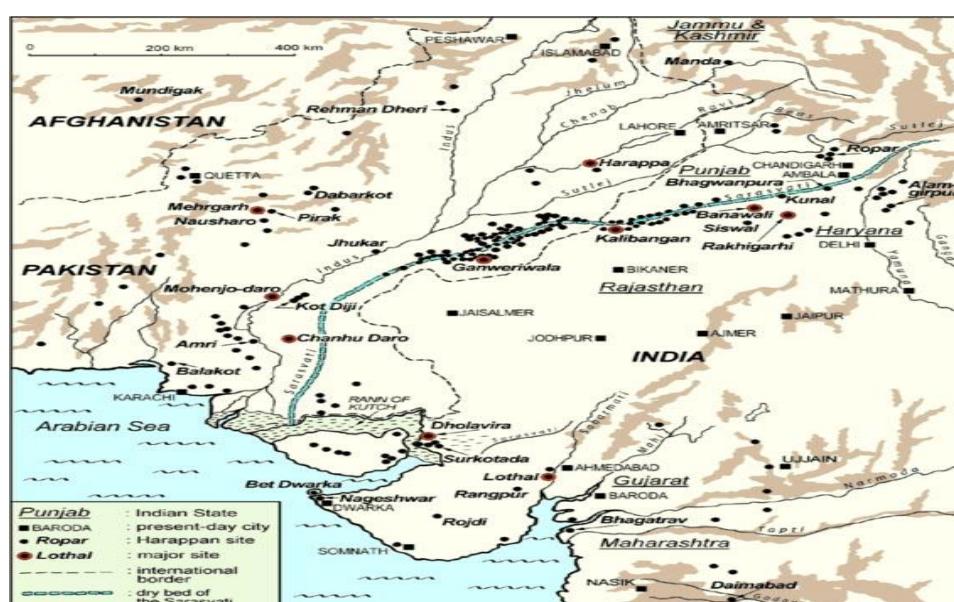


Fig No. 02: Map Of Mature Indus Urban Sites Indus Sites With Their Sea Routes *Source: www.google.image.com.pk*

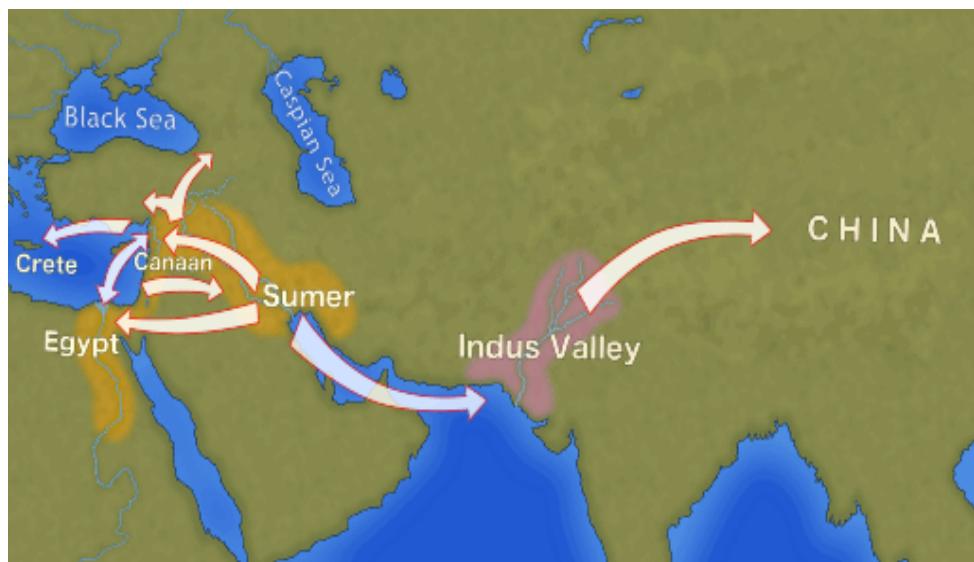


Fig No. 03, Ancient Indus Trade Routes To Other Civilization Source: www.google.map.com

Trade as important element of Indus Urbanization

Trade: Indus urbanization was consolidated through complex economical and trade activities which were checked and measured by accurate measuring and weighting system. The trade was both internally and externally carried out, the major southern regions like Lothal, Surkotada, Eastern region like Banawali, Kalibangan and Mitathal carried out the goods to central regions like Kot Diji, Balakot, Mohen jo Daro and Amri for suitable price and to market their goods in Indus civilization during 3100 - 1900 BC. The southern regions of Indus Civilization expanded culturally and economically which were more advanced and culturally dominant to regions of suburb during 3000 BC resulted in complex to simple trade activities which were mostly taken place at Mohen jo Daro.

Many regions were under the umbrella of Mohen jo Daro to strengthen their culture and trade with rest of Indus regions. This entire process of joining and connecting their territories brought uplift in their Economy and Architecture, smaller settlements arose to towns and cities which later on became part of centralized unit of Indus urbanization. Proliferate availability of raw materials at Indus civilization encouraged the trade activities to surrounding and faraway areas. Timber of various types was available to make wooden objects, unfortunately the wood being perishable material could not survive to investigate the past woodwork. The Rohri hills were the source area for limestone, shells of various types were attained from the costal and sea shores for manufacturing multi-purpose shell objects, metals specially the copper ores were obtained from western regions in Baluchistan.

The barter trade encouraged the free trade economy of multifarious commodities with suitable presentation and participation in economical process which resulted in faraway trade routes like to Afghanistan were Shortughai and Indus period site situated in the area of two rivers Marghab and Amun Darya, through Afghan borders the trade of Indus was getting stronger with central Asian regions where Indus art and craft experts exported the sophisticated cultural objects, cereals, pots of various usage and size, cotton, metal objects made of Bronze, copper and shell objects which were sold against gold and silver. Evidences suggests that trade links with north western Iranian regions with Indus traders Iranians exchanged the semi-precious stones and gold in exchange with ornaments and cotton goods.

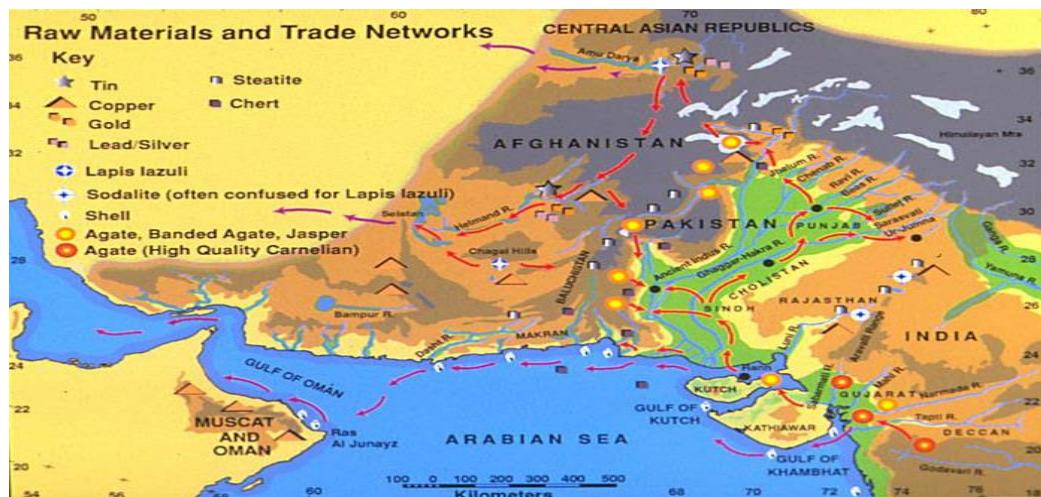


Fig No 04, Indus Export And Import Of Raw Materials Through Sea RoutesSource: www.google.com.pk

Goods: The goods were manufactured and consumed in Indus civilization were and were being traded within and to abroad through land and sea trade routes to central Asian regions of Turkestan, Khorasan, Iran and to the sites of Baluchistan through Bolan with Afghanistan and via Mundigak, the trade was being carried out to Bampur and other regions of Iranian regions. Mundigak proved as very much important gateway for making lucrative trade goods with rest of world, another trade route to Oman was via Iranian Makran. The detailed knowledge may be acquired regarding the list or availability of objects through the discovery of ornaments, toys, figurines of all type and through other artifacts. The ornamental discoveries could only become possible through the hordes discovered at Mohen jo Daro.

Stone objects: a variety of semi-precious stones have been remained the matter of great significance at Mohen jo Daro like, Steatite, Carnelian, jadeite, Ribband Jasper, agate, amazon, lapislazuli, heliotrope, plasma, techilite, chalcedony and many more used in making ornamental goods.



Trade plays important role in shaping the demographic conditions localization, regionalization and to Internationalism along with other salient socio-cultural elements.

Measurement and Weight statistics.

Weights Indus had broad trade activities within and abroad with different civilizations like Mesopotamia, Central Asian regions, Oman and others, the trade and

measurement process was being carried out through seals used as trade mark for the identification of owner or as trader and various commodities were measured and weighted through cubical well finished stones, cubes as primary weighing system. During excavation at Mohen jo Daro John Marshall discovered 357 various size and types of weighting stones during 1934. A careful analysis resulted to have six variations in Indus weights which might have been occurred due to weight erosion and other reasons. Indus weight system had ratio of 3000:1600 300: 200: 150: 60: 32: 16: 8: 4: 2: 1 this mean ration have been concluded on the basis of 0.89 gram basic ratio.*. this ratio suggests the presence of tola system, tola a basic weight system used in Indus up to 1960s, this indigenous weight system was simultaneously used in Indian and Pakistani regions since Indus era. From heavily weight unit of Mand to light weight ratti and masha were the accurate units of Indus weight system.

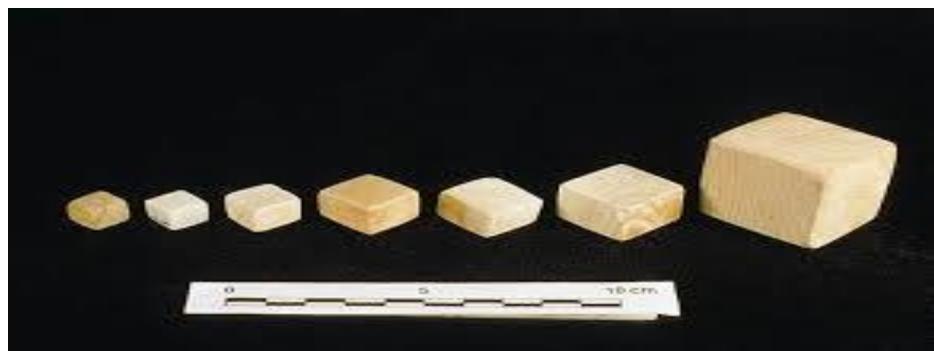


Fig No 05, Semi-Precious Well Finished Indus Weights www.google.image.com

Measurements: The peoples of Indus valley civilization followed the method of linear measurement system which was equally adopted through entire Indus sites, the Ulna was the mostly exercised method of measurements which approximately equal to 18 inches or length of forearm between the elbow to hand's fingertip. The ulna was being used to measure the buildings and in other measurable area, the discovery of shell scale found from Mohen jo Daro suggests the length unit of 13.5 inches.**

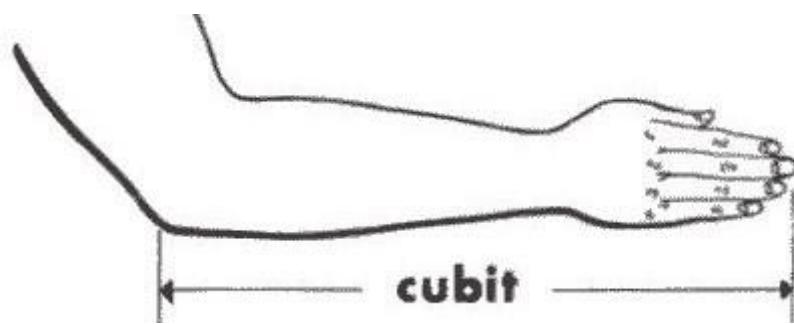


Fig No 06, Cubit system [Socuress : www.google.com](http://www.google.com)

Cubit system is also one of other measuring method in an ancient worlds which also had been used in Indus Civilization, which almost measuring the length about to 1.5 feet.

Transportations and Routes: Indus civilization was extensively enlarged and broader in area its alloy regions may have been linked through different mode of transportation to carry on the trade and cultural activities, peoples had imported the lead, from Mundigak, Afghanistan, silver from Oman, Gold from Karnataka India, Semi precious stones from Rohri and precious stones were manufactured and polished than were sent to Mohen jo Daro. All the economic and cultural activities would only have been possible through effective mode of transportation. Possible inland sources were bull cart, animal back and boats through river to sea then to various destinations.



Figure 7: A, B And C: Indus Bullock Cart Used For Transporting The Goods Soures: www.google.image.com .

Fig Nos A, B and C)A. Indus Bullock cart used for transporting the goods ,B .imaginary photo of Lothal, a Indus Port site at Lothal, transporting goods through boats and other means can be seen, C . An Indus Seal depicting model of Indus boat. (Fig No's A, B, and C Source: The evidence of boating in Indus is very clear through seals and tablet depiction long flat boats along with crew cabin; the idea of boating is further strengthened through the presence of dock at Lothal from where the boats of Indus moved to rest of world through Arabian Sea.

Language The language of Indus Civilization was early appeared in depiction of animals and with some lines and symbols. Later on the writing appeared on the seals found from Mohen jo Daro and Harappa. The script through seal depiction was being promulgated and communicated for trade and for other purpose to surrounding contemporary civilizations like west Asian region Mesopotamian civilization during the Sargon ,the presence of seals reveals the trade links in-between these two major civilizations. For the proper decipherment of Indus script the availability and presence of the seals matter a lot. Current research has been made on almost 4200 Indus seals collected from 60 Indus period sites. Many seals contains representation of same symbols and others have geometrical

designs difficult to characterize and some seals have pictorial depiction obviously which may indicate to some cult practices.

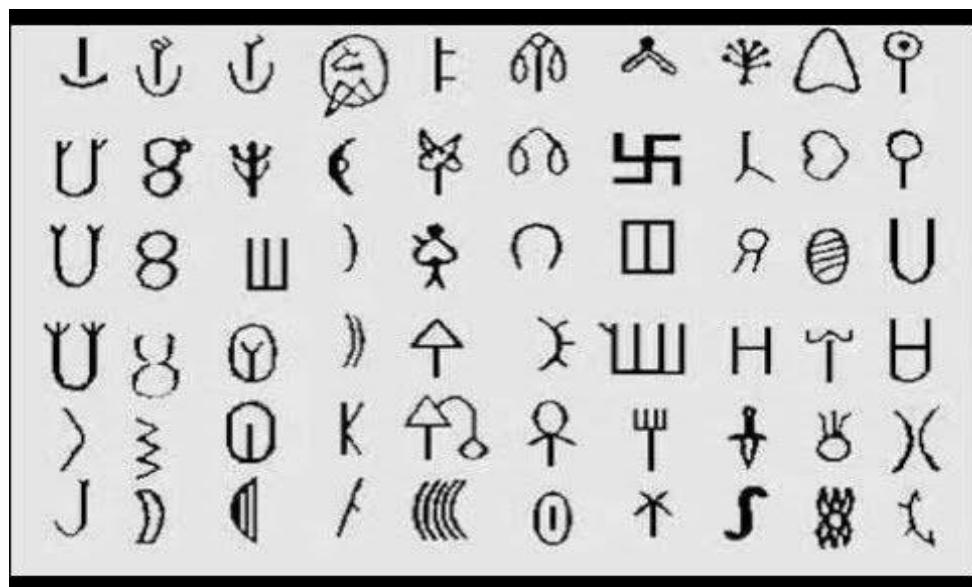


Fig No 8: Indus Script Mostly Used The Symbols/Alphabets Found On Seals In Indus Civilization



Fig No 9, Indus script on Indus seals Source: www.google.com

Results extracted through this research are the presence of simple to complex methods, technologies and systems, discovery of tola weight system equal to 12 grams , accurate measurement, a revolution in architecture and land management , brick ratio of 1:2:4, trade of surplus commodities, discovery of ancient land and water routes, complex indus writing, exemplary urbanised federation system uniform laws and placy, and modern techniques used by Indus craftsmen .

Conclusion

Indus civilization has long history regarding his special mechanism for the uniform development through spatial demographic and democratic promulgation of shared and equally centralized socio-political mechanism of administration and resources. which offered all possible shared opportunities to their local and regional territorial centers and masses particularly the craftsmen .Trade made the Indus peoples expert in navigation while

traveling to other civilizations through boats, peoples of Indus were called as Master of waters and the internal trade was mostly carried over through boats and bullock carts . All this can be understood through the economical, architectural and cultural tangible evidences of minor to major sites briefly mentioned above, these local, regional and urbanized regions are carefully investigated through reliable artifactual evidences and techniques to reveal the role of local production, trade and adapting the prevailing statistics of weights and measurements of at that time for example the world recognize ratio of Indus brick is 1:2:4 which is recognized and adopted standard ratio for brick making all over the world, recent research suggests that Indus had standardised weight system of Tola, masha, ratti, and mand, one tola is equal to 12 grams, a traditional weighing system was used till the implementation of MKS system, sophisticated weight system encouraged and made Indus merchant more confident to sell its surplus production of cereals, seeds, metallurgy, precious and semi-precious stone and pottery production. This understanding of integration which could become possible through involving modern principals of science of economy, trade and architectural development through Archaeological investigations which relied on Artifactual evidence by world renown Archaeologists and proven socio cultural relations of Indus with Egypt, Mesopotamia, Afghanistan, Iran, Oman and central Asian regions .The early Indus period sites highly contributed in form of raw material sources, manufacturing areas/local bazaars a sheer portion in exchequer of Indus Civilization ,expertise of all types in all aspects ,organization in the integration . through the analysis of ethno archaeological trade it is proven for viable and sustainable economy should have trade mechanism, such sustainable mechanism of trade and commerce was one of its greatest stake for making it mighty Indus Civilization.

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