

METHODOLOGY FOR RESEARCH INTO HISTORY OF SINDH

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History is no longer considered a story of political events. It has turned into a social science which projects life and way of living of people, social, cultural and spiritual institutions, economy and means of living, day to day life, food, dressing and dwellings, internal and external trade, level of technological and scientific developments, mass media and communications, health of the humans, and domesticated animals, crops, fauna and flora, environment and ecology and in brief every thing connected with man from birth to death. For writing such a history almost all sciences hither to develop are applied to reach the conclusions, not recorded by contemporary historians or reports. One can start with an example:-

If I am asked to write a very brief history of Sindh from 10,000 years ago to the rise of Mature Indus Civilization or Harappa Culture, i.e., 4350 years ago, I will start in the following manner:-

i) Middle Stone Age man 500,000 to 35,000 years ago.

There is an evidence of Middle Paleolithic (Middle Stone Age) from 500,000 years ago to 35,000 years ago in Sindh as per information from the three Middle Stone Age flint tool factories at Rohri (near Associated Cement Industries), Ubhan Shah (near Kot Dijji) and Unar-farms (also near Kot Dijji). The first of these three, the largest Stone Age factory in the whole Asia, occupying 32 acres, is so vast, that it may have supplied tools for big animal hunt for thousands of years. Continuous occupation of these sites for four and half-lac years is doubtful. In view of sea level changes and advance of four Ice-Ages to Potwar and Siwalik hills during the period, these factors may have changed environments at the Rohri Kot Dijji hills and the surroundings, causing abandonment of factory sites intermittently.

ii) Late Stone Age man, 35,000 – 10,000 years ago.

Between 9,500 years to 4,000 years ago, these sites were permanently occupied and microlithic tools with very fine points. Stone knives, arrow points, stone axes and scythes, fishing hooks etc were made and these tools were supplied to hunter food gatherers of not only Sindh, but as far as Marwar in south-west Rajasthan and northern Gujarat.

iv) Rainfall during 9,500 – 4,000 years ago.

Between 9,500 to 4,000 years ago rainfall was about 2A to 3 times the present rainfall in whole of Sindh being about 10 inches in the Upposhah , 30 inches in Thatta, Thar area of Tharparkar district and Badin and 35-40 inches in Nagarparkar. There was more pasture available. The Western Sindh, Sibi-Kachhi Plains and Thar were occupied by hunting population who as per evidence from Kachhi started the process of domestication of cattle around good years ago. The leftover of bones of animals they ate 9,500 years ago, show gradual switch over from wild animal meat as food, to that from domesticated

animal i.e., from deer and wild sheep and wild cattle to domesticated sheep, goat and cattle, by about 8,000 years ago.

v) Start of Neolithic revolution in Sindh 9,000 years ago.

Archaeological evidence at Mehrgarh shows that cultivation have already been started in Kachhi Plains more than 9,000 years ago (early 7th Millennium BC) starting with 6 row barleys wild barley einkorn, emmer and durum-bread wheat, followed by sphaerococcoid naked barley in next millennium. Karachi was less suited for raising three crops and it is apparent that these two were grown in Sindh on a large scale, but due to inadequate archaeological explorations there is lack of evidence. Straw mixed with mud was used to mould sun dried bricks, used for housing. The settlement at Mehrgarh occupied on area of 25 acres. Circular fire places for cooking were introduced. This culture and its economy continued to expand, from 8000 years ago to 6000 years ago, with increase in number of settlements their size and population. A large number of settlements along the Bolan river areas in adjoining Sindh too.

Domestication process was as under:

Animals.

- Cattle (*Bos indicus*) from feral humped type animal similar to that found in Sindh and Gujarat (India).
- Sheep (*Ovis vignette*) form local variety.
- Goat and Canid.
- Dog and Cat.
- Fowl.
- Camel (*Camelus dromedrius*) existed in Sindh and Rajasthan (India) in feral State and may have been domesticated much before Mature Indus Culture Times. Two himped camels were introduced at Mohenjo Daro around 4000 B.C.
- Onager (*Equus hemionus*) or half horse or wild ass was introduced in Mature Indus Times at Mohenjo Daro.
- Pig at Mohenjo Daro (4350 years ago) or Harappa, was a version of Indian wild pig *sus Cristatus*.
- Elephant at Mohenjo Daro (4350 years ago) was a domesticated anima;.
- Horse was introduced at Pirokh from the Central Asia after fall of Mohenjo Daro (around 1700 BC).
- Two humped camel was introduced from Bactria at close of third millennium BC or around 4000 years ago.

Cultivated plants.

- As said before it was wild, wheat (*Triticum compactum*) which was domesticated soon after 6 row barley variety (*Hordeum Vulgare*), followed by sub species of barley (*Hordeum Vulgare Varinudum*). This was followed by naked barley and wheat varieties (*spharococcum*).
- Among leguminous plants, pea (*Pisum orvonse*) is known from Chanhudaro, but it was already grown at Mehrgarh.
- Of oil seeds sesamum is known from Harappa and mustard from Chanhundaro but they too were domesticated at Mehrgarh.
- Among fruits Ber (*zyzhyphus vulgaris*), was known.
- Cotton was domesticated at Mehrgarh long before it was known at Mohenjo Daro.
- Madder (*Rubi atinctorum*) used for dyeing of cotton is known form Mohenjo Daro.

vi) Irrigated crops 6,000 years ago.

By beginning of 6,000 years ago, naked and (specially sphaerococ-coid) wheat played an important economic item of production at this time cattle which had been domesticated before sheep and goat, became less important than sheep and goat in Kachhi, probably due to deterioration of pasture land. The situation may not have reversed itself in Sindh. Wild hunting was still practiced, specially of hemi ones and wild boar.

vii) Establishment of large village and settlements 5500-4500 years ago.

By about 4500 years ago the number of small villages inhabited by farmers, herdsmen and craftsmen occupying from 3 to 25 acres had spread to Sindh, the Punjab, parts of Baluchistan, Kutch, Kathiawar, Gujarat, Cholistan, Bikanir and the East Punjab. This whole area is now called Early Indus Culture, and conditions had become ripe for emergence of very large settlements like Mohenjo Daro, Naru-Waro-Daro (Sindh), Harappa (Punjab), Judeiro-Daro (Kachhi district), Kalibangan (Bikanir), Ganwala (Cholistan) and Lothal (Gujarat).

viii) Large Scale farming, pastoralism and fishing.

This lead to large scale farming and pastoralism in whole of Early Indus Culture area, but fishing was also an important hunting occupation in the lower Sindh, in the river Indus and many marsh lands and lakes formed by it and also along the sea cost. Tools for fishing came mostly from another Stone Age factory on a hill-top, near mile 101, of National Highway, opposite Uqili Farms, 25 miles from Hyderabad. Fishing was combined with farming and pastoralism and was not predominant in the beginning and pastoralism and was not predominant in the beginning, but became very important occupation after 2000 BC, or 4000 years ago.

ix) Foreign trade and trade routes.

There was some exchange of goods from Mesopotamia, Hissar-III (Iran) and Badkhsan in Afghanistan, mainly through nomadic population, who carried articles for exchange or brought ideas from one area to the other. Introduction of potters wheel was such an innovation brought most probably from Iran.

There were no trade routes in real sense and these were only migratory routes of pastoral nomads, who moved seasonally to Sindh area. Iran, Afghanistan and parts of Baluchistan which get winter rains in January to March and pasture comes up only after March. Pastorals of these areas therefore moved to Sindh for grazing each fall and spent 4-5 months in Sindh.

x) Expansion of Copper and Bronze working.

Copper, which seems to have been known in Mesopotamia about 6500 years ago, had reached Sindh, 1000 years later and was fully exploited for all kinds of tools and ornaments at the beginning of Early Indus Culture 5500 years ago. Bronze spread much after copper but during Mature Indus Culture 2350-2000 BC, it had spread to the whole of Indus Cultural areas.

xi) Causes of desertification and decline of rainfall 4000 years ago.

Cause of decline of the Indus valley is now being attributed to the destruction of inundation system of Sindh due to shift of the river Indus from its central course near Mohenjo Daro, Chanhu-Daro and Naru-Waro-Daro, either too far to the east or too far to the west, but much more destructive force was decline and reduction in rainfall about 4000 years ago, to almost the present pattern i.e., about 60% or more reduction in rainfall to that, as existed between 9500 to 400 years ago. This reduced the amount of pasture for nomadic cattle grazers and with decline of the water management system. Mohenjo-Darians, foolishly, put more population to grazing of waste lands. Over grazing reduced vegetation caused loosening of soil, wind, rain water erosion and the cloud of dust which blew year after year in the atmosphere.

xii) 4000 years old dust cloud and its impact on ecology.

The dust cloud in the air had multiple effects, which further reduced rainfall by lowering day time temperatures and increasing night temperatures by blocking nightly radiation from the earth and not allowing full penetration of sun light during day. It is well known that, Hyderabad Sindh (25N), gets its highest temperature in early May, when sun is at 10N, while Jacobabad (28N) gets highest temperature usually in early June when sun is at about 21N. When sun is at 23N Jacobabad is hotter than Hyderabad during the day but cooler at night, because dust cloud which is much thicker above Hyderabad, lowers its temperature during day but reduces nightly radiation from earth, making nights hotter than at Jacobabad, which has thinner dust cloud above it. The dust cloud inhibits rainfall and this is how the Mohenjo Darians promoted desertification in Kohistan and Thar or the Great Indian Desert (Sindh included).

A recent analysis of ground water from Barmer district in India adjoining Nagar Parker area of Pakistan for Radio-Carbon dating showed the samples of ground water to be 5000 years old, proving that dust cloud and desertification is about of that age.

xiii) Ancient Agricultural species and domesticated animals.

Agriculture in the Mature Indus Culture (Mohenjo-Daro times) was dependent upon winter crops, wheat and barley, both of which were raised on preserved moisture left by the receding river Indus, which flooded the river in plains in summer. Summer crops were cotton and probably rice but no findings hither to have shown any presence of any rice. However present of rice cultivation by about the end of Mohenjo Daro at Pirokh in Kachhi, proves that rice was known and may have been cultivated in Sindh in the Declining Mohenjo Daro times 4000-3650 years ago). Rice has also been known from Lothal, another Indus Culture site, which flourished in Gujarat 4000 years ago. Animal husbandry was based on cattle, sheep and goat. Wild pig was hunted but pig does not seem to have been domesticated, as it competes with humans for its food, of grain, vegetables and fruit, which cattle do not in spite of cattle converting only 7% of total feed into protein, fats and carbohydrates and pig more than 20% on choice food. Under similar circumstances pig was not domesticated in Mesopotamia and Egypt, long before injunction of old Testament (3300 years ago). However pig may have been domesticated during period of plenty in the Mohenjo Daro times.

Summer crops of sorghum and millet were grown. Rice was grown at Pirokh in Baluchistan around 1700 BC, just proving that rice may have been grown during the Mature Indus Culture. Horse and donkey were domesticated after 1700 BC, but single humped camel existed and was probably domesticated during the Harappan times. Bactrian two humped camel was however introduced or after 1700 BC, probably via Pirokh. Single hump camel (camelus dromedaries) existed in Sindh and Rajasthan in feral state. That camel was first domesticated in Arabia around 12,000 BC, may be doubtful.

xiv) Ancient Crafts.

7000 years ago specialized crafts existed at Mehrgah. Bins for storage of grain were just additional rectangular or square rooms in the house but by 3rd millennium BC (5000 to 4000 years ago), circular soils as are being constructed and used in rural Sindh today, were being used.

From 9000 years ago to 5000 years ago, the fire place consisted of a circular pit, containing stone pebbles. Charcoal or wood heated pebbles, which in turn heated food in the cooking vessels, by immersion of hot stones. Cooking pots with spherical or circular bottom were not common. By Kot Dijian times (3000 BC – 2500 BC) circular terracotta piece were used to act as stands for semi-spherical bottom cooking pots and it was fired between the terracotta pieces, instead of pebbles for immersion heating, of cooking vessels.

Direct firing of spherical bottomed vessels for cooking came only around 3000 BC.

Pottery was hand made up to 6000 BC, when potters wheel was introduced and wheel thrown pottery became common. After 2000 BC, almost 100% of pottery was wheel thrown.

Bones and ivory were being worked for ornaments since around 8500 years ago, although antlers and bones were also used for fabrication of tools.

xv) Agriculture at end of 3rd millennium and second millennium BC (4000 years to 3000 years ago).

In coastal areas of Sindh and adjoining Baluchistan coasts, winter wheat and raising cattle was replaced by fishing and sheep and goat, as due to lowering of rainfall, neither good pastures were available, nor wheat could be raised on scanty rains, but poor pasture could still sustain goat, sheep and camel. During this millennium sorghum was introduced from Africa via Oman peninsula. Millet had not reached the Mature Indus, sites in the 4th millennium, although it had reached eastern Bacteria and Central Asia.

Introduction of Sorghum and millet, specially the first in 3rd millennium BC, shows exploitation of poorer lands not suitable for wheat and barley and also raising of crops on lower quantum of rain water, as a consequence of reduced rainfall and start of desertification around 4000 BC.

Religious customs included burying of sacrificed young goats between age of 3 and 6 months in the grave of the dead in Mehrgharh IA i.e., 6000 to 5000 BC.

The above short history of Ancient Sindh is based on information collected by archaeologist, who in turn have been helped by zoologists, botanists, microbiologists, agronomists, soil scientists, climatologists, physicists, (for Radio Carbon Dating), ecologists, ground water engineers, civil engineers, geographers, geologists, bio-geographers, irrigation specialists, geo-morphologists and others. In brief today archaeology does not mean digging but collecting and removing material in debris, with fine brushes and analyzing each particle for pollen grain, and bits of other materials for chemical or physical analysis. Thus history today is a social science supported by a number of other sciences, which help to reveal the past. To write a history of Sindh, we have to depend on scientific information from numerous fields. Below are a few examples and applications:-

Climate.

- Over exploitation of Thar and Kohistan caused destruction of flora, wind and water erosion and reduction of rainfall around 2000 BC, leading to fall of the Indus Culture, decline of civilization and change from urban to pastoral economy.

Drought around 800 to 525 BC, in the Central Asia caused large scale migration of ancient Scythians to Sindh and Punjab.
- Drought in 12th and 13th Centuries in the Central Asia, caused migration of Mongol nomads, first to Central Asia, and from thence they attacked the South Asia.
- Arghoon, Tarkhan and Mongol conquests of Sindh in the Punjab and Delhi, were connected with drought in 16th century, which compelled them to conquest and occupy some Territories in the South Asia.
- Periodic drought in Thar, has compelled the residents to have a reliable shelter in irrigated valley of Sindh at the time of need.

- Sindh's Soda Hindus therefore, did not hesitate to get their daughters married to powerful Muslim land-owners of Sindh.
- Drought has compelled Sindh desert's Hindu population to eat meat, rather than to remain on vegetarian diet.
- Drought and uncertainty of weather has made Sindh's population superstitious.
- Climate has compelled Sindh's population to have siesta or mid day nap and thus has caused laziness.
- Drought caused periodic immigration and people of Sindh became hospitable, so that in time of need, they too are helped.

Environments.

- Fertile soil and the availability of the Indus water mainly for summer crop, has made people work only 4-6 months a year and there by remain lazy for at least 6 months a year.
- Growing of rice crop in most of the area of Sindh, for nearly 4000 years and eating this carbohydrate rich food, with inadequate supply of proteins and vitamins for centuries has made people less taller than adjoining areas of Pakistan. The British rule making 5' -8" height compulsory for recruitment in police and army deprived Sindh's of jobs in these two categories.
- Camel as riding animal or beast of burden, as compared to horse, is also an out-come of desert conditions.
- Its geographical location between two deserts on the east and west, sea to the south and also Cholistan and extension of Baluchistan deserts right up to Kashmore to the north, had made Sindh an isolated area, and as a result, Sindh enjoyed independence throughout history, yielding to submission of foreign rule only when empires to the east (Delhi) and to the west (Iran-Iraq) were very powerful.
- Due to isolation Sindh developed its own language and literature, culture, arts and way of life.
- The Indus River when in spate, filled many depressions, lakes and abandoned riverine channels. They abounded in fish and lake water flora. Each winter ducks, swans, geese and fowls migrated from Siberia, to Sindh lakes, which thus, became centers of sport and hunting since Mesolithic times. The number of migratory, straggler and resident birds in Sindh today is 1500. In the past they contributed considerably to protein supply, in addition to sport, but today due to lack of water, this source of food supply has deteriorated.

River and its changing courses.

- Economy of Sindh is mainly based on irrigated agriculture on the Indus waters. When ever the river changed its courses, the irrigation net work was destroyed, and an internal revolt followed, leading to, changes in the government. Continuous mis-management of irrigation system leads virtually to prolonged civil wars as had happened from 700-854 AD and again from 1524-1700 AD.

1. ARCHAEOLOGY.

- (a) There ought to be more dependence on archaeology, which is a science, rather than on folk-lore, on questionable history texts, some of which are mere on literary works of doubtful merit.
- (b) Study of archaeology of adjoining States for the periods contemporary to those of Sindh, would be a great help. Remoter the past period under study, the archaeological accounts of more distant places may have to be consulted. For the recent-past, archaeological 'finds' on case to case basis are to be viewed on their own merits. Archaeology, architecture and literature of imperial capitals have invariably affected the 'provinces' or small independent states within imperial influence.

Ancient Empires and Sindh.

It ought to be kept in mind that 'big powers' have always existed and they have invariably swallowed small nations; for example:

- (a) 560 BC saw rise of Median Empire, which at first swallowed the Babylonian Empire, and by 480 BC, this Empire, expanded to include Egypt and 'Pakistan' and many other areas. This Achaemenian Empire, hereafter called the Central Empire, has persisted in different names and shapes for the past 2500 years, with headquarters usually in the same vicinity and almost including the same peripheries.
- (b) Alexander's Empire, the successor of Achaemenian Empire covered the same area as the latter, plus Greece and Cyprus, but minus Armenia, and small areas between the Caspian and the Black Seas. To a general observer, the maps of the two Empires i.e., Achaemenian and Alexander would look almost similar.
- (c) On Alexander's death, his Empire broke but Hellenistic Empires under his successors continued to rule most of the area of his Empire, with the exception of present Pakistan which formed part of Mauryan Empire in India up to the beginning of second century BC. During his successor's time also rose the Roman Empire embracing countries bordering northern Mediterranean Sea with the exception of Greece. The Central Empire under Seleucids occupied most of the old Achaemenian Empire, with the exception of Egypt and the present Pakistan. Egypt became Ptolemy's Kingdom and Greek States were divided among his generals. Present Pakistan was merged into the Eastern or Indian Empire of Mauryans.
- (d) By the beginning of second century BC, again there were three Empires, the third being the Indian and, in between, the Western Asian or the Central Empire as mentioned in © above, and in the subsequent centuries they persisted in one or other form. The relative strength or power of these three empires determined as to who was to control the three lands of the rivers i.e., the Indus and its tributaries, and the Nile

both of which formed the extreme boundaries of Achaemenian Empire, and the land of two rivers the Tigris and Euphrates, which was to remain under the control of the Central Empire or who-so-ever held power within its vicinity.

(e) The Roman Empire kept expanding and occupying more and more territories in Europe and also gaining some areas in the Central Empire, which encountered partial disintegration due to the switchover from Hellenistic Greeks to Asian Greeks and Parthian in the second century BC. This continued from 192 BC to 128 AD. The Eastern Empire (Mauryans) broke up in 187 BC and was succeeded by Empires of Bactrian Greeks, Scythians, Parthian and Kushans, with some overlaps in the boundaries of the old Empires. Fights between Roman and Parthian Empires were to lead to the downfall of both, the Roman Empire becoming Byzantine Roman Empire (ruled from 'Istanbul') and Parthian being replaced by Sassanians, while Guptas were to assert for Indian Empire. Weakening of the three Empires gave some relief to many National States including Sindh, in the form of local principalities although both the Sassanians and Guptas made serious attempts to subdue Sindh – the former occupied it for some 73 years, between 283 – 336 AD, whose short hold this time on Sindh, was possible only when the Central power in India was too weak due to the virtual breakup of the Indian Empire.

(f) Europe had seen no organized territorial governments before the Roman empire. Although weak, the Byzantine Empire easily kept Europe under control for many centuries by cooperating with the Christian Church, which exploited and kept the masses subdued under joint masters, the Papal power and the Byzantine Emperor.

The Byzantine Empire, even though in its weakest form continued dragging along, until liquidated by rise of the Central Empire under Islam in the 16th century.

(g) Islam gave rise to the Islamic Empire, by absorption of the Sassanian Empire between 634 and 651 AD, Ptolemaic part of the Empire (Egypt) from the Byzantine Romans and Sindh Baluchistan from Charch's independent Dynasty; thus completely coinciding the boundaries of Achaemenian Empire of 480 BC. They also conquered Northern Africa and most of Spain which were part of the Roman Empire in Northern Africa and the Western tip of Europe. But this appeared an unnatural expansion of Central Empire, and soon after 750 AD, the northern African and Spanish territories gained independence from Abbasids, leaving the Central Empire within almost its old boundaries of Achaemenian Empire.

(h) The story is incomplete if the developments in Roman Empire are not fully understood, as these affected developments in the Central Empire, and Sindh too was ultimately affected.

i) Under Julian (362 AD), this Empire was still intact. The Sassanian Empire too was almost at the climax of its power then, though Sindh was lost to them around 356 AD.

ii) By 406 AD Hun attacks had already weakened the Byzantine Empire and by entering in Bulgaria and Yugoslavia, on way to Swiss mountains, the Huns had virtually divided the Roman Empire into the Eastern and Western sections.

- iii) By 420 AD the Huns had already menaced Italy, France and Spain, and the Western Roman Empire was involved in local uprisings. This stopped Roman Empire from usurping the Central Empire which in itself being weak, could not avail of the Hun menace overtaking the Roman Empire and gain any contiguous territory from the Roman Empires or even gamble for power in Sindh, not yet occupied by the then expanding Gupta Empire.
- iv) By 450 AD Huns had in hand a well established Empire extending over the whole of the Central Europe, the Eastern Europe and Western Russia. Europe of this day was completely paralyzed under the Huns.
- v) By 476 AD, the Western part of Byzantine Empire broke away from it and came under small independent principalities.
- vi) The Sassanians also could not take advantage of the weakening portion of the Byzantine Empire, as they had to face attacks of nomadic white Huns of the Central Asia, year after year, in which the Persian King lost his life in 484 AD. The Huns also liquidated Kushans in Afghanistan and Guptas in the North-Western parts of South-Asia. The situation then helped Ral Dynasty to occupy Sindh independently. A pr-requisite for an independent principality in Sindh has always been a weaker empire to the West in Persia and Transoxania i.e., the Central Empire and also a divided South-Asia or a weak Indian Empire.
- vii) In 562 AD, Byzantines succeeded in reoccupying Italy, Southern Spain and North Africa under Justinian.
- viii) In 607 – 615 AD, King Khusru of Persia in an attempt to conquer the Byzantine territories occupied Mesopotamia, Armenia and, in 616 AD, conquered Egypt. He almost had extended his boundaries to those of the Achaemenian Empire – temporarily occupying Multan – but could not be extended his sway over Sindh.
- ix) In 626 Herraclius, the Roman Emperor, defeated Khusru the Sassanian King, who was murdered by his nobles and a state of anarchy, prevailed in Iran and its dependencies including Mesopotamia, Syria, Palestine and Egypt.
- x) Thus it became the most opportunate time for Arab armies to reduce without much resistance the whole of Persian Empire between 634 and 650 AD. Had Islam not risen at a time when it did, probably the Byzantines would have swallowed the Sassanian Empire, and even the Rais of Sindh would have expanded westwards as they had already annexed Baluchistan around the same time. Arabs occupied Syria (36-38 AD), Egypt (640-42 AD), Mesopotamia (639-40 AD) and Tripolitinia (642 AD).
- xi) The aristocratic family of Umayyads had a temporary setback at the murder of Usman the third Kalif, but finally gained ascendancy in 661

AD. They were to be credited with further conquests by Arab Armies to the East and the West of Arabia.

- (i) Thus by 737 AD, the Umayyad were able to occupy most of Spain, parts of France and all of the Northern African territories of the old Roman Empire. They forced the Roman Empire to confine itself to Turkey, Greece, Southern Yugoslavia and Southern Bulgaria. On the Eastern front, they annexed Baluchistan, Sindh and Afghanistan.
- (j) This expansion of Umayyad was no longer natural to boundaries of the original three Empires; the Western. The Central and the Indian and thus breakup of the new Empire started directly. By about 800 AD it came to be already confined to the limits of the old Achaemenian Empire, and its further break-up and contraction was awaited.
- (k) In 854 AD Sindh got away from the 'Central' Empire (under Abbasids since 751 AD), when the Central Empire weakened, and by 888 AD. Abbasid Caliphate was confined mostly to Mesopotamia and some parts of Arabian Desert.
- (l) With powerful Central Empire eliminated, Sindh also remained independent under Habaris and Soomras (until the end of 13th century, a period of five and half centuries, during which there also arose no power in the South-Asia, or the Eastern Empire, to subdue Sindh.
- (m) Mangols under Chengiz Khan sacked most of the Central Empire and time and again they kept sacking and weakening it between 1220 and 1258 AD, instead of consolidating their victim under their over lordship, they divided their spoilation into a number of Khanates (Golden Horde, White Horde, Turkestan, Persian, Temurids of Heart, Temurids of Samarkand, Cheibanid, Black Sheep, White Sheep, Kazan, Astrakhan and etc.) between 1230 – 1478 AD. Thus they could not exert the holding pressures and field to create impact reflected traditionally by a unified Central Empire.
- (n) On the Indian side there were three other important developments, namely:-
 - i) Asoka's Empire (250 BC), curiously to see, occupied the same area as that of Allauddin (1315 AD) and Aurangzeb (1907 AD). Only on these three occasions the whole of South-Asia formed one unified Empire for a short time and the disintegration of this Empire, started each time on the death of its founding Emperor. On all these three occasions, Sindh formed part of the Indian Empire, and yet again Sindh was always the first to regain independence, only because it was at the extreme end of the Indian as well as the Central Empire. Riches of its valley could support a large population and the local government whenever opportunity came.
 - ii) The Empires of (a) Bindusara (Asoka's father), (b) Guptas (around 400 AD), (c) Harasha (640 AD), (d) Altatmish (1236 AD) and (e) Akbar (1605 AD), occupied almost the same area in the South-Asia except that Guptas and Harasha had not been able to occupy Sindh. In case of Guptas there probably was fear of having a border with Sassanians, and

Harasha had died before advancing on Sindh. In both these two cases, Sindh again had strong rulers of its own – the Vahlikas and the Rais, whose suzerainty also extended beyond the boundaries of Sindh, and could therefore easily have faced the intruders.

- iii) Around 100 AD Khushans had occupied parts of the Central Empire i.e., the Hindukush mountain areas of the Central Asia and parts of Indian Empire of Mauryans (North Western Gujarat etc.). Arsacid's Parthian Empire was weakened due to constant struggle with the Roman Empire and therefore he was not in a position to put pressure on the Khushans. Almost identical barring small adjustments, was the situation in 1605 with regard to the Ottoman, Safavid and Mughal Empires. If, however, Akbar had not annexed Sindh in 1591 AD, the Safavids would have occupied it before his death in 1605. These and such like international forces have been at work through the centuries in territorial arenas, with common or over-lapping boundaries and Sindh has been no exception to the over-whelming pressure and to the internal urges to get rid of the same and live an free and independent land.
 - iv) As a consequence, Sindh has witnessed long periods of independence with weak Empires on its Eastern and Western fronts, and also has accepted subjugation by these two Empires periodically once they became very strong.
- (o) Just as the Roman Empire as well as the Indian Empire was to break into small local powers, so was the Central or Persian Empire. It has witnessed a number of such episodes e.g.
- i) Seleucid Empire which occupied areas from Mesopotamia to the western borders of the present Pakistan saw Bactrian Greeks breaking away from it. These Bactrian Greeks occupied the same areas, which were later invaded though not annexed by Mehmood Gaznavi. Had his successors been capable, they could have annexed these areas, which had already weakened by the former's invasions. The Scythians, Parthian and Kushan too had almost occupied the same area.
 - ii) The Central Empire was divided among the Mangols around 1300 AD. They usually did not attack or oppose each other, but they also did not organize any joint expedition in India. Allauddin therefore had respite enough to unify the South-Asia a, after meeting and crushing initial attacks of Mangols settled across the Indus.
 - iii) The weakening of Central Asian Empire and its divisions in small Mangol States and Khanates gave rise to establishment of Ottoman Sultanate in part of turkey in 1333 AD, at the cost of Byzantine Empire, which already was in a state of decay since eighth century.
 - iv) As said earlier, the establishment of any power around the Byzantine centre of influence, often lead to expansion of this power. By 1401 AD, the Ottoman Empire included Turkey, Romania, Bulgaria, parts of Yugoslavia and Greece. Byzantine Empire survived only around

Constantinople. The Ottoman expansion took place around dates as show below:-

–	Serbia.	1439	AD.
–	Southern Greece.	1456-8	AD.
–	Bosnia.	1463	AD.
–	Wallachia.	1475	AD.
–	Trebizond.	1431	AD.
–	Kazan.	1445	AD.
–	Astarkhan.	1466	AD.
–	Cheibanid Khanate.	1471	AD.
–	Golden horde.	1502	AD.

- v) In 1404 AD, at the death of Timur his empire had reached its maximum expansion, and had it not gone under decay after his death, they and not the Safvids would have controlled the Central Empire and North-Western parts of South-Asia. But by 1430 AD, the Western Timurid Empire had already been occupied by Emirate of the Black Sheep Turks. Throughout the 15th Century the South-Asia remained divided into small independent principalities. At the end of the century, the Central Asian Mangols and Turks pressurized each other and some Timurid Chieftains finally made way for the South-Asia. Their conquest of the South-Asia was easy, firstly due to determined leadership of Akbar, secondly to the fact that small principalities had to fight Akbar individually, thirdly because he managed to get mercenaries from Central Asia, instead of recruiting local Muslims, and lastly because he joined hands with Rajput elite under honorable treaties, whereby the latter, on accepting Mughal paramouncy, were left undisturbed in their own territories, subject to military service to be offered by them to the Emperor, whenever asked for – a policy the British were to adopt in late eighteenth and first half of the nineteenth centuries. Simultaneously with the rise of the Mughal Empire in India, rose the Safvid Empire in the Central Zone. Safvid power extended to the Western boundaries of Sindh. The two Empires were to clash either in Sindh or South-Western Afghanistan. Akbar conquered Sindh before Safvids could do it and he too had Qandhar occupied. Qandhar changed hands in clashes between the two Empires repeatedly in the next century until both Empires weakened.
- vi) The Ottomans on their part expanded too, occupying both the Euphrates and the Tigris river valleys, the Nile valley and also the Northern African countries once under Romans, Byzantine and Arab rulers. They also occupied European countries which once formed the Eastern Byzantine Empire.
- vii) On death of Nadir Shah in 1747 AD, the Central Empire broke into two, the Eastern and the Western parts. The Eastern part of his Empire went to Ahmed Shah Abdali. Abdali's territories consisted of the same areas as those of Bactrian Greeks, Scythians, Parthian and Kushans. The division of Nadir's Empire paved way for slow decay of the Central Empire over the next 50 years, when the rulers of the area had to play a second fiddle

to two major European powers – the British who replaced Mughals in India and the Russians who rose in Central Asia at the cost of both Iran and Ottoman Empire. Sindh was under pressures both from the Central Afghan of Eastern Central Empire) as well as Eastern power British from 1739 to 1843, when the British finally annexed it.

Thus the study of history of Sindh has become a very complex subject, in view of its position between two major powers, the Indian and the Central Asian, from Achaemenian times to this day. The two powers invariably had an eye on Sindh and besides pressurizing it, have also influenced it in many ways – politically, culturally, economically, linguistically and even in matters of religious beliefs.

RELIGION AND CULTURE:

- (a) The establishment of Abbasid Empire in 751-56 AD within almost the same boundaries as the Achaemenian Empire in 480 BC, also indicated establishment of Islam on the previous Zoroastrian lands with only small non-overlaps.
- (b) In South Asia establishment of Buddhism over Mauryan Empire, replacing the old Vedic religion, in mid 3rd century BC, to mid third century AD, is another curious coincidence. Mauryan Empire collapsed at the beginning of second century BC, but Buddhism continued thriving in the whole South Asia until mid 3rd century AD, when challenge reemerged against it from Hinduism. There seems to be no apparent reason for Buddhism to survive after the fall of Mauryans, except that there were strong Buddhist Empires in the North Western parts of South Asia, namely Bactrian Greeks, Parthian, Scythians and Kushans, up to the mid third century AD, and these rulers had accepted Buddhism as their official religion. These Empires occupied north western India, Punjab, Sindh, Kutch, Gujarat and occasionally Rajasthan and western U.P., and were the mightiest Empire of the South Asia. They were strong supporters of Buddhism and it was under them that great Classical Buddhist art as well as religious documents were written. It was this impact of art and letters backed up by political power which kept Buddhism alive in the whole South Asia for five centuries after Mauryans.
- (c) Within the areas not under control of the Empires mentioned above the Aryan religion which had become dormant was undergoing some transformation and new Sanskrit Classics were being written since the fall of Mauryans. Four hundred fifty years of this passive movement awaited an aggressive Empire to rise and push Buddhism out. Guptas were such rulers and they changed the destiny of Buddhism. Hinduism started replacing it and by the beginning of 7th century AD, Buddhism was confined to North Western parts of the South-Asia. The militant Huns also did their worst to Buddhism in the early part of that century. When Arabs conquered Sindh in early 8th century, this was the only area of the South-Asia, which was practicing Buddhism. The rest of the South-Asia had already accepted the re-vitalized Hinduism. Involvement of Buddhist priests with Arabs and cooperation of the Buddhist Governors with the Arabs was the final suicidal attempt of the decaying religion.
- (d) Settlers in Sindh having loyalties with outside countries have periodically been instrumental in foreign invasions. Persian Jews settled in Debal, since 4th century A.D., extended invitations to Arabs and helped in conquest of Sindh.

- (e) Jatts of Meds of Sindh maltreated by Brahman Dynasty and living in Bahrain as immigrants were another force in guiding of Arab raids on Sindh.
- (f) The 10th century witnessed rivalry between the Persian-dominated Abbasid Empire and the Fatmid Caliphate, a purely Arab State. Under Umayyad, Persians had demonstrated preference and support for hereditary Khalif, a descendent of Prophet. Persian armies having defeated Umayyads, faced two alternatives; either to install a descendent of the Prophet Muhammad (May peace of God be upon him) and make him a religious spiritual and political head or to install another Arab chief as Khalif, accepting his political authority only which could be maneuvered. They preferred the second option and soon they had Abbasid Khalifs who were born of Persian mothers and had Persian wives. Having been frustrated by Persian moves and thwarted by their power, the Fatmids sponsored the religious cloak of the descendents of Prophet (May peace of good be upon him) and got support of many Arab states. Transoxanian states, Multan and Sindh owned their allegiance to Fatmids, Mahmud of Gazni, a Persian King under instruction of Abbasid Khalif considering these Muslim states as heretic, reduced all of them in his 23 expeditions in the first quarter of 11th century. In subsequent centuries the situation reversed. Transoxania turned Sunni, and Persia the homeland of Mahmud of Gazni turned Shiitte.
- (g) This only proves that, unless a state supported a religion, it could not survive. If a religion became powerful, the rulers must either accept that religion or else impose their own religion on the subjects. This appears to be a simple correlation between religion and State. Bactrian Greeks, Scythians, Parthian and Kushans were such converts, who had accepted the religion of their subjects and had also contributed to its face-lifting in form of classical Buddhist art, rewriting of Buddhist religious texts, with a view to be popular among the followers of that faith within their own territories and out –side.

CIVILIZATION AND CULTURE.

Civilization rose in a number of scattered centers in form of hunting and food-gathering tribes switching over domestication of cattle and ultimately to discovery and practice of agriculture. The latter known as Neolithic revolution, had definite beginnings in 7000 – 6000 BC. Four major centers had already developed due to such a revolution in Egypt on the Nile, in summer on the Tigris and the Euphrates, on the Indus and its tributaries, and finally in Shang on the Hwang Ho river. Some authorities also include Minoans on the Greek and Crete Islands as the fifth primary centre of such a culture. Based on the above, we have secondary civilizations developing out of these five centers between 1500 BC to 500 BC. These civilizations are:-

- i) Syriac in Syria, Israel, Jordon and Lebanon.
- ii) Hittite and Hellenic in Turkey and Greece.
- iii) Bybylonic in Mesopotamia.
- iv) Indic or the 16 Mahapajandas of Aryans around 600-500 BC.
- v) Sinc in the Hwang Ho Valley.

Consequent with these arose five territory civilizations in these very areas each with a political umbrella of some sort in the form of empires:-

- (a) The Orthodox Eastern Christian civilization of Greece and Turkey.
- (b) The Judaic civilization embracing Egypt, Syria, Jordan and North Western Arabia.
- (c) The Iranic civilization as a consequence of Achaemenian Empire and subsequent empires under Bactrian Greeks, Scythians, Parthian, Kushans and Sassanians.
- (d) The Indic culture under Mauryans.
- (e) The Chinese, the Japanese and Korean culture.

Further transformation in these multi-cultural phenomena took place in recent historical times, as follows:-

- i) The areas of Iranian influence (Central Empire) became a centre of Persian Muslim culture since about 1000 AD, resulting in Delhi Sultanate and a number of Central Asian and Iranian National States.
- ii) The Indic culture became Hindu culture after about 750 AD.
- iii) Egypt and Mesopotamia became Arab-Muslim cultural centers.
- iv) The Roman Empire became Orthodox Christian since about 675 AD, and was joined by Russia around 1000 AD.
- v) Curiously enough, the Bactrian Greek, Scythian, Parthian and Kushan influence of the remnants of Hellenistic civilization manifested itself in the latter part of the fifth century and the sixth century, in the form of Buddhist religion in the area an almost one third of the North Western section of the South-Asia of the older Indus Civilization of 2000 BC. Subjugated Sindh. These were also the last areas to be occupied by the British, who saw the same inhabited by Muslim majority. It only shows that the same area had seen and overwhelmingly accepted three major religions: the Indus religion (2000 BC), Buddhism (3rd century BC to 7th century AD) and Islam (to-date) while the rest of India practiced other religions.
- vi) The Roman Empire became Centre of the Orthodox Church in 732 AD when Arab expansion was halted in France. The Central Empire as of Darius-I (519 BC) plus North Africa and Spain accepted Islamic faith by 732 AD, and the Buddhist Indian Empire of Asoka (231 BC) had also turned Hindu by 8th century AD. The former two were of Judaic religions group, and the latter was an indigenous religion, evolved out of the Indus Culture religion (2350-1650 BC) in the 6th century BC, described in the Upanishads.
- vii) This situation had not reversed up to early 11th century i.e., Mahmud of Gazni's invasions or even on the eve of Ghoris invasion and Mangol eruption in 1186 AD, except Sindh and Baluchistan, which always were bound to change hands and also the religion, whenever the Central Empire became too strong and Indian Empire broke into small principalities. Buddhism started slowly being replaced by Islam since conquest of these areas by Arab armies in the late seventh and early eight centuries. Buddhism survived up to 13th century and was gradually absorbed by Ismailis.

- viii) The Mongol eruption was to cause continuous pressures and uneasiness in the South-Asia soon after the establishment of the Delhi Empire, and by 1310 AD, the Indic Muslim Empire occupied the same area as Asoka's Buddhist Empire, leaving the Central Empire of Abbasids (Sassanid empire of earlier time) to the infidel beliefs in the same religion diversified with small variants in the social environs, for example:-
- (a) The North Africa, Egypt, Transoxania and Sindh were already of Shiite faith by the beginning of 11th century AD, whereas Mesopotamia and areas around it were Sunnis. By the 16th century Mesopotamia and Iran, which were Sunnis in the 10th century, became Shiite. The Ottoman and Mughal Empires became Sunnis, a complete reversal of the 10th century position. Ottomans occupied most of the area which were Shiites under influence of Fatmids of northern Africa in the 10th century.
- ix) British were no exception. The ruler must introduce his religion and force populace to accept it or should accept the religion of the ruled. From the time of establishment of their Empire British introduced a new faith the South Asia, 'Secularism' i.e., State had to treat all conquered people of different religions as equals before the laws of state. In the later half of 19th century, British evolved a new theory. The British are the most superior nation on the earth, they have been chosen to rule and civilize the backward people. The backward people are also human. Humanitarianism as secured a place as religion of state in form of laws, secular education and secular State. At no time did the British made any effort to introduce religion of 'Church of England' or their own version of Christianity in the South-Asia and this was the cause of their success.

TRADE AS MEANS OF SOCIO-CULTURE EXCHANGE.

- i) Working of copper was known at Mehrgarh in the Indus Cultural area around 4000 BC. In other areas of Asia its knowledge was known in Mesopotamia, Egypt as well as in Northern Turkey, Greece, Crete, Bulgaria, Romania and the Southern Yugoslavia by about 3000 BC. By 2250 BC it had spread to the whole area occupied by the Indus Culture in the South Asia. By this time, contacts between Mesopotamia and the Indus Culture were well established by sea via Bahrain. Timber was an important object of Sindh's export to Mesopotamia and copper may also have been imported at this stage.
- ii) In the course of the next few centuries knowledge of bronze working reached the Indus Valley, again from Turkey, Mesopotamia or Egypt.
- iii) From 1650 BC – 1000 BC, contacts of Sindh with the Western civilizations of Hittites in Turkey, Amorites in Mesopotamia and Elamites in South West Iran, could not be established and so the trade too could not flourish among them, probably due to process of disintegration overtaking the Indus civilization during the period.
- iv) Iron making process, which had been developed by Hittites in the thirteenth century BC and was maintained as a secret for long time, reached the borders of the South-Asia by about 1000 BC.

- v) By about 825 BC at the latest, contacts between Sindh and Mesopotamia i.e., Babylon, Nimrud and Nimeveah were reestablished in the form of export of ivory and spices.
- vi) Darius-I reestablished contacts among the conquered lands and trade articles which included ivory, spices etc., began to be exchanged. Direct contact with Egypt too was established.
- vii) Under Bactrian Greeks, Scythians and Parthian Sindh's contact with Roman Empire was revived and trade flourished as shown by the trade route through Barbarican (Banbhore or Debal).
- viii) Under Sassanians the Persian Jews were active in carrying out trade by sea with Rome, Antioch, Alexandria, Mesopotamia, Seleucia.
- ix) The down-fall of Sassanian Empire had one important effect on trade of Sindh. The Persian Jews settled at Debal served as intermediaries on a scale larger than before, between Indian traders and the Arab World. They were also instrumental in the final conquest of Sindh by Arabs after fourteen unfruitful invasions. By mid 8th century, with rise of Abbasid Empire, the Persian Jews of Debal (Barbaricon) had better opportunities of trade with the Arab Empire. Articles of trade were gold, spices, slaves, etc. The relations between Indian kings and the Arab world were strained up to last two decades of 8th century and therefore Sindh's port Debal played an important role in this trade. Sindh's trade in the mediaeval centuries under Sammas and Soomras with the Arab world was limited to indigo, rice, textiles, etc., and this got a set-back with establishment of Portuguese factory with or without permission, at Lahri Bander in early 16th century.

SIGNIFICANCE OF HOLY PLACES OF SINDH.

In all the arid zones of the world as Sindh, the places of permanent sources of water supply have become important due to this factor alone. Such points also connected the ancient routes of migration as early as 4000 BC, or even earlier, and in case of Sindh probably immediately after the rise of Mehrgarh around 6000 BC.

Subsequently when the governments were formed, these settlements became centers of various State Functionaries. Around this time, the priests raised symbolic buildings of different religious orders. The early religions which were invariably sponsored jointly by the government and priests, decayed in time, but places did not lose the symbolic importance once gained. During this period arose the natural religion of water worship, a religion befitting the environments of the arid zones, wherein by some mysterious process, which they did not understand, the places were provided with water by nature. Water worshipping may have been the chief religion before the rise of Indus Culture (3500 BC) and after decay of Sindh's irrigation system caused by the change in the course of the river Indus around 1650 BC. This religion continued to thrive up to the coming in of Aryan religion in Sindh, around 825 BC, when two religions one of the Aryan gods and the other of the lingering deities of the Indus Culture, started interacting, and in the seventh century BC, came up a refined religion of the Aryan people, in the form of Upanishads. The gods like Shiva, goddess Kali Devi and Yoga postures of meditation are considered the contributions of the Indus religion to the Aryan religion. In the sixth century BC, the population increased due to extension of irrigation and more areas came under plough at the cost of pasture lands causing shortage of meat. The priests (Brahmans) elevated cow to the level of a holy animal, to increase

number of bullocks for ploughing and banned use of meat of all kinds of animals for every body except themselves. But these injunctions were not workable in non-irrigated arid zones of low rainfall, where crops could not be raised, and animal husbandry was possible even on scanty shrubs, produced by small quantity of rain water.

The founder of Buddhism not being from arid zone, banned meat to every body and pronounced killing of animals a vice. Similar teachings came from Maharashtra's Mahavira in form of preaching of Jainism around the same time. Buddhism spread wherever Asoka's armies (273-232 BC) reached, causing a great set-back to the religion of Brahmans. In his forty years rule 80,000 stupas were built all over the South Asia. The Mauryan rule was however not the period of glory of Buddhism: The full impact of its religious doctrines came later under Bactrian Greeks, Sythians, Parthian and earlier Kushans (187-180 BC, 80 BC – 46 AD, 46-78 AD and 78-145 AD, respectively). In the meantime the Brahmans adopted some doctrines from Buddhism, accepted eating of meat of some animals and transformed their religion into what is now known as Hinduism. This reformation gained such momentum that the Kushan King Vasudeva (145-176 AD), volunteered conversion to Hinduism in 145 AD. However it was not the later Kushan but the Guptas (270-500 AD), under whom Hinduism started pushing Buddhism out of the South-Asia. They were responsible for revival of the old Upanishad religion, into what was hereafter termed as Hinduism, a word coined by about the same time. Around 640 AD, Buddhism was limited to Baluchistan, Sindh, Kutch, Kathiawar and Gujarat. In earlier part of this century the militant Huns who had accepted Hindu faith, wiped Buddhism out of Kashmir, the northern Punjab and N.W.F.P. The Buddhists of Baluchistan and Sindh were not devoted to their faith. They ate meat, indulged into fights, massacres and murders, as Hiewan Tswang was to report in 641 AD, the year in which Chach the Brahman, became the ruler of Sindh. Chach maintained religious statuesque in Sindh.

Majority of Buddhist officials were left undisturbed and no conversions to Hinduism were practiced. His brother Chandur who succeeded him and ruled for seven years became Buddhist and appointed many Buddhist priests in the State administration. This may have been done to win over the masses, in response to the general rule that the rulers either must convert subjects to their own faith or adopt the religion of the ruled. His successors, Dahrsia and Dahar, both followed the policy of complete tolerance towards Buddhists and the Arabs under Mohammad Bin Qasim found many forts being ruled by them, Debal and Nerun being two such important forts, which had Buddhist governors.

It is alleged that the Buddhist were responsible for extending invitation to the Arabs and helping them in the conquest of Sindh, by acting as guides, and after the initial success of Arabs in the south-west Sindh, they actively participated in the Arab conquest of Sindh. This statement is mostly true, except that the invitation was extended by the Persian Jews settled in Debal. The move on their part must have been selfishly motivated, hoping that on Sindh's becoming part of the Arab empire, they would benefit by expanding trade. The earlier Arab expeditions on Sindh specially the naval ones, may have been guided by Jatts settled in Bahrain.

The conquest of Sindh by Arabs did not result into large scale conversions to Islam. After dismissal and departure of Muhammad Bin Qasim, Sindh witnessed nine Umayyad governors in thirty years and twenty eight Abbasid governors in hundred and three years. It was a period of unrest, local uprisings, civil wars and general chaos, during which not many conversions may have taken place, as the very roots of Islamic administration in Sindh were very shaky. Conversions may have taken place under Habaris (854-1011 AD) but serious attempts to convert were initiated by Ismaili preachers and Fatmid Dawai, who after amalgamating some Hindu teachings in Islam, presented Islam to a common man in their local languages. Such an

amalgamated Islamic religion was not antagonistic to the local people own faiths and they were sucked in. These preachers were at work in Multan around the beginning of tenth century and in Sindh in the last quarter of the same century. By the end of twelfth century, Ismailis formed a major religious group in Sindh. Soomras (1011-1351 AD) had become Ismailis in the early eleventh century the latest, and were converted to Orthodox Islam probably by Bahauddin Zakariya at the end of twelfth century. In the thirteenth century Buddhism disappeared from Sindh: until then Islam, Hinduism and Buddhism flourished in Sindh, side by side and co-existed peacefully.

Sufis who came to Sindh in the 12th century were not bigots and could therefore create an atmosphere of complete tolerance to other faiths. Sammas (1351-1524 AD) were disciples of Makhdoom Jehania of Uch. This saint cheated these disciples, three times, in terms of persuading them to accept paramouncy of Delhi Sultanate, at conditions most unfavorable to them. Many Sufis, off and on, acted as government agents, although there were a few genuine ones too.

At the beginning of 10th century, Mahdi of Jaunpur visited Sindh with purpose of uniting the Muslim rulers of a number of independent sovereign states of the whole South-Asia, under a centralized Muslim ruler. At that time India was divided into a number of states and Muslims ruled the most of them.

He was expelled from Sindh and as he intended to go to Khurasan, probably with the intention of meeting Muslim Mangol ruler of that area to help him carry through his project, his boats were sunk near Sann by Hyder Shah at instructions from Makhdoom Bilawal. His was a Pan-Islamist message, to impose the rule of a Delhi or other U.P emperor upon a number of small Muslim principalities, and this too was the first attempt by Sindh's rulers to expose such a move on ideological grounds. As already stated, powerful empires in India or in Persia and Transxonia, went forward almost always to usurp Sindh, and this did also happen after the failure of this project of Mahdi Jaunpuri. It was a unique move to achieve the same object on religious basis. Jaunpuri, having failed in the South-Asia wanted the central power in Eastern Persia (Khurasan) to achieve for him, his pan-Islamic objective. Jamaluddin Afghani too was to make a similar attempt in the 19th century, followed by Ubedullah Sindhi in the 20th century.

On the conquest of Sindh in 1524 AD, Arghoons and Tarkhans ousted out from the urban areas the Sindhi Sufis and scholars, who migrated to Gujarat, Burhanpur and Mecca, and planted in their place, their own Sufis, Ulmas and Mullas from Central Asia. The local population on their own either followed old saints or created new ones.

The Kalhoras were such native Sufi-Fakirs who ultimately snatched Sindh from foreign hands and unified it. By the, the immigrant religious and spiritual divines of Arghoon – Tarkhan period had already been absorbed into Sindhi culture and they too were the ones who in due course contributed to the culture of Sindh. During the Kalhora period the ritualistic religion already stood exposed and spiritual religion taught by Sindh's Sufis was the only form of religion acceptable to all the communities of Sindh, although some bigotry was also to survive among both Hindus and Muslims.

The Sindhis mostly have been fatalists, believing in pre-determined good and evil. They claimed there was nothing within their own power to determine their future no matter what hard work they put forth for the same. This fatalist attitude to life got re-enforced in their mind due to vagaries of climate and unreliability of irrigation phenomenon prevalent in their land for 5000 long years, discussed under the present author's History of Irrigation in Sindh.

ANCIENT AND PRESENT WATER DEITIES.

In all arid or desert zones early religious centers were water deities. These centers remained holy in spite of conversion from one religion to the other. The Sindhi cults were based on male fertilizing element, the river or water, and female producing element, the vegetation. Thus Shaikh Tahir was called Uderolal by Hindus. The cult of river at Bakhar became Zindah Pir after Khawaja Khizr's burial there. Pir Patho the savior of Ferryman was also venerated by the Hindus. Cult of crocodile turned Majabari into shrine of Mangho Pir. Even before Oalandar Shahbaz Sehwan was a centre of water worshippers of Buddhist and Shivite Hindus. The latter called him Raja Bartari. To Khojas Lal Shahbaz was an Ismaili preacher. Opening of Sukkur Barrage in 1932 gave the people in Sindh control over the vagaries of nature and an assured supply of water was made available to their lands. Until then water flowed in inundation canals only in summer for 50-120 days. There was no water during the rest of the year. Thus Sindh was a true desert in which for miles and miles not even crow would fly in no inundation period, except near lakes holding water accumulated artificially. Water thus was a supreme need and blessing. It was the creator and sustainer of all life in the area. It was a good and was worshipped as such. Before 1932 when water came in the canals, Muslims went upstream a mile or two and walked along with it in the bed of canals and channels until it passed their village. The well-come was in form of processions in which the musicians played on their instruments. Mullas and Hafizs recited the Holy Quran and Hindus threw sweets before its path while reading their Holy Scriptures and moving down-stream with faces towards the advancing stream. On recollecting a few such scenes of my childhood days, when I was carried on shoulder to witness such jubilant crowds, I have concluded that this truly was water-worship and there must have been a long period before the modern religion evolved, when every one in Sindh had worshipped water. Such periods prevailed before development the river water management in Sindh around 3500 BC, and after on set of aridity in Indus culture in 1650 BC. Although the Indus culture Priest-Kings and Aryans imposed new religions up on people but water worshipping remained a dominant religion up to the very recent times. The river Indus was a powerful god, but the other permanent pools of water too were small local gods of Sindhians. These permanent water spots became connected by permanent land routes, and the permanent settlements around water springs, streams and pools turned into holy towns or villages. So important were they that one after the other, various religions occupied them in a spirit of competition and even treated the same as political conquest. Attempts were then made to convert entire people of surrounding areas to their faith and erect new buildings, symbolism manifesting of their respective faiths. Settlement either enlarged into townships and various massive religious structures were raised to the glory of new religions introduced from time to time Visitors from rural areas never missed feelings of helplessness, when they visited these massive religious structures, intentionally built but for the very purpose.

Investigating routes of migration, trade and conquests, these original water worshipping centers are seen as centers falling on the following routes:-

- 1) Sibi-Ganda Va-Wahi-Pandhi-Shah Hasan-Bubak-Sehwan.
- 2) Sehwan-Naing.
- 3) Sehwan-Pokran, Ghaibi Pir-Mangho Pir (Manjabari) – Hingloj.
- 4) Mangho Pir-Landhi.
- 5) Bodesar-Nagar Parkar-Virawah-Ghori-Umerkot.

There were a number of permanent places on the river Indus and also along the coast from eighth to thirteenth centuries. The following are a few:

- 1) Vinjrot-Mathelo-Alore (Bukhar, Sukkur, Rohri, Zinda Pir and Sadhebelo after 10th century AD), Darbelo, Thul Mir Rukan, Depar Ghangro, Brhamanka (Brahmanabad-Mansura) – Dhaliya (Baiza).
- 2) Mansura-Nerun-Budh jo Takar-Sudheran Daro – Pir Patho – Kotri Allah Rakhia.
- 3) Thari-Muhammad Tur.
- 4) Jhimpir-Thatta-Pir Patho.
- 5) Coastal towns like Pari Nagar were also connected to Sindh towns via Gulf of Kutch and the river Indus.

New places of water worshipping rose between 14th century to 18th century almost all along the new courses of river Indus. These were Larkana, Shah Godrio, Garhi, Mian Nasir, Kandiaro, Pat, Baghbon, Talti, Rel, Samtiani, Turith Laki, Hala-Kandi; Jun, Gulri and Samoi

Further examination of these townships clearly categorizes them into Water worshipping centers, Hindu shrines, Buddhist stupas, Jain temples, Muslim Tombs, commercial towns, capitals of sarkars. These are tabulated in the statement showing the process of take-over by one religion from the other. At a few places, the various religions have agreed to co-exist by paying tribute to the same saint by two or more religions groups, each maintaining its own rituals to a certain degree.

SINDH BATTLES.

The history of human species is a story of water, rebellion, conquest, trade for financial gains, colonization of lands of promise, tyranny, treachery, liberation, struggle and those for building of empires. History has continuous repetitions of these tales. For past nine thousand years, man in Sindh, has constantly experimented with his environments to make better living, inventing tools, domesticating animals, agriculture, building villages and cities, evolving industry, religion and government and endlessly improving each of the above. Achievements of each nation are the records of such experiments. History has been a long progression of changing ways of life and changing population, the one always chasing the other; wars, trade and empires, are the results.

This discussion is an analysis of man's achievements in Sindh in terms of changing ecology Mesolithic life, Neolithic revolution, shift from stone age of metallic age, rise of kingdom and empires, building of cities to improve living conditions in harsh environments, wars against one incoming wave of people after the other, for occupying the fertile lands, superiority of weapons of war, development of communications and international trade contacts, relations between government and governed, evolution of religions to meet needs of society existing in peculiar ecology, growing culture, and evolving literature and thought. Life and prosperity of Sindh like all other nations has often hinged on chance; on career of an out-standing figure, code of mortality prevalent form time to time; on a happy instant or otherwise in battles based more comparative superiority of weapons of war and less on bravery of individual soldier. In history, Sindh lost many battles mainly – due to superiority of arms of the invader.

Earliest recorded defeat of Sindhians was at the hands of Alexander the Great. His predecessors the Achaemenians who had also conquered Sindh in 519 BC, had used similar arms for their conquest as those they used, to fight Alexander at Arbela in Turkey in 333 BC. The arms used by Sindhians were similar to the South Asian arms used by Porous, and other Kings described by Alexander's historians. These arms and fighting methods of South Asia were inferior to those of Achaemenians and Greeks. This decided fate of nations involved.

At Arbela the Achaemenians had maintained a wall of men and cavalry from nomadic horsemen, who wore iron armour and carried best weapons and formed a square at the center of which was Darius, with his infantry. There were war chariot to sweep into enemy lines, which the cavalry was to dash in. total numbers were around 450,000 – 500,000 men against Alexander's 47,000 or perhaps one tenth.

Alexander's soldiers wore helmets, breast plates, steel ribbed skirts and greaves to protect lower legs. Each soldier had a solid round shield bossed with metal and they huddled together so that their shield overlapped. Nothing of a man was visible except armour. Each of the line of soldiers formed a gray edge of a slab of steel, massive and dreadful. In sixteen lines which formed each division, each man was placed so that he covered the gap between his fellows, his helmet, breast plate and shield, a portion of communal armour plate. Each man held a spear sixteen to twenty feet long with a brutal iron point for a remote killing. This was famous Greek Phalanx an invention of Alexander's father Philip. The men were drilled and trained to plunge the iron point into the bellies of approaching opponents.

The fate of Persian army was decided when Darius sent his chariots to break into the line of Phalanx, but the latter having allowed the chariots to pass through the row gaps created by quick movement stabbed the riders into their backs. With chariots lost, the Greek phalanx of steel butchered the Persian infantry, from a comparative safe distance. Darius having fled Alexander marched across Western Asia to South Persia. The success was the outcome of proper use of phalanx, a new technology, superior technique of fighting and the long spear.

The Greeks were not braver than people they thrust down on the ground. The opponents were definitely brave, as we understand from the fights Darius's Porous, Oxydraki of Bahawalpur, Mallians of the Central Punjab and Musicanus, Oxycanus, Sambus and others of Sindh, who fought for three years from 327-325 AD.

As against Greeks, the South Asian kings used elephants, light bows, arrows, chariots. Their cities had forts, which were scaled by Greeks with help of wall scalars, stone throwers, missiles and machines never heard of in South Asia. The soldiers of the South Asia were mercenaries, rather irregulars, un-drilled, poorly clad and unskilled.

The conquests of Sindh by various people at various times were similar to that of Alexander in a way that these invaders came with similar circumstances, and events of history. The great conquests were preceded by decades of strife at home by sign of turbulent expansionist society, by adventurous commerce or temptation to loot. This strife brought them better skill in living and better technology, which was applied equally in war and peace.

During the well documented historical period we know of such successful aggressions of Mahmud of Gazni, Chengis Khan, Temur, Babar, Arghoons and Tarkhans. Each of these empire builders had risen at home after long periods of chaos and anarchy and after establishing themselves well, had marched upon South Asia, Pakistan or Sindh, but with firm determination to defeat, sack, plunder and settle if circumstances at home were unfavorable. Fifteen continuous

expeditions of Arabs against Sindh were out come of similar circumstances and fourteen times they lost as they were ill-equipped for the occasions or Sindhians had better arms. The final bid under Muhammad Bin Qasim was difficult to repeal as like Alexander before him, he had superior weaponry, which included Syrian soldiers trained on Roman War machines of latest type, stone throwers (Manjaniques), machines for scaling walls and flame throwers, for harassing elephants. The Arab had easy victory over Sindhians whose kings' elephant went out of control, under spray of flame throwers and having been burnt by the flames, plunged into water with Dahar still riding him. His soldiers, considering him dead, fled and having been isolated, his head was easily chopped off. The weapons of war in South Asia had improved a little better the 6th century BC, to 16th century AD, a period of about 2000 years.

The people of Sindh fought against the succession invaders right up to the battles at Maini and Dubbi against the British. Arms could be described in terms exactly corresponding to those used above relating to the decisive battle they fought and lost against the Arabs at Alore. And the people of Sindh are not the lone example of these phenomena in history. Victory and defeat, defeat and victory remains the lot of people so long the urge of survive and spirit to defy death submits in their hearts – in the dauntless breasts of their sons and daughters, their unborn generations, bound to keep tryst with the FUTURE.

A HISTORY OF THE 5000 YEARS OF IRRIGATION IN SINDH.

In order to understanding impact of Sukkur Barrage built in 1932, on the life of people in Sindh and that of the two later barrages namely, Gudu and Kotri, we have to understand the history of irrigation in Sindh. The Indus valley civilization was an outcome of water management which had started in its rudimentary, form at the beginning of Amrian times (3500 BC). With inundation water accumulating in depressions and its drainage in autumn covering more and more area, the civilization reached its climax between 2300 to 1650 BC, and is presently known as Mohenjo Daro or Harrappa Culture in Sindh.

EVERY TIME THE INDUS CHANGED ITS COURSE, IRRIGATION SYSTEM WAS DESTROYED, RESULTING IN POLITICAL UPHEAVAL AND CHANGE OF DYNASTY.

The Mohenjo Daro Culture abruptly declined as the river Indus changed its course, deserting the central alluvial plains of Sindh and swinging too far, either to the east or to the west of the plains, where from water could not reach the cultivated tracts as those were at higher level than the new bed of the river. The civilization as a consequence declined and Sindh turned almost to a desert between 1650 to 900 BC. Archaeologically this period is called Jhukar and Jhangar culture and lately has been assigned the names of the Declining Indus Culture. Rough estimate of population of Sindh is 250,000 souls from 3000 to 2700 BC, i.e., “Mid Kot Dijjian Times”. It must have reached at least 500,000 to 600,000 by the time Mohenjo-Daro reached its maturity in about 2200 to 2000 BC.

EVERY SUCCESSFUL DYNASTY CONCENTRATED ON UPKEEP OF IRRIGATION SYSTEM.

Information on Sindh's history, so far collected, reveals that the famed prosperity of Sindh during times of Indus Civilization, and of Rai, Brahman, Habari, Soomra and Samma dynasties must

have been a consequence of better management of irrigation and agriculture. Likewise, the fall of these dynasties most probably was on account of changes in the course of river Indus. The short-lived prosperous rule of Kalhoras was also an outcome of well managed irrigational system and in fact could only be equaled by the British efforts after 50 years of their long struggle with the Indus and its uncertain behavior. Kalhora dynasty declined immediately after the change of course of the river Indus in 1758, the consequences of which were drastic.

ALEXANDER'S HISTORIANS WITNESS RECENT DESTRUCTION OF IRRIGATION SYSTEM BY RIVER INDUS.

It appears that between 900 and 519 BC, irrigational system was again revived in Sindh. The river Indus then was flowing many miles east of its present course and both of its banks were under cultivation. The western limit of its irrigated area was probably the same as the present course of Indus indicates. The area below Rohri and down to the present Hyderabad, on the left was known as Brahmanka and its main town was also named as such.

In time, it changed to Brahmanabad. Between 519 BC, and 400 BC, Sindh was ruled by Achaemenian Persians. The irrigation system had been so well managed that Sindh (below Multan) paid 3.6 million tankas in gold as tax to the Persian Emperor. Just before Alexander the Great's invasion of Sindh (325 BC), the river Indus had changed its course to the east with the result that his historians saw the country of Oxycanus (Nawabshah and Khairpur districts) in ruins. The river had swung too far east in a depression, where from water could not reach the irrigated land. There are different estimates as to the population and area under cultivation in Sindh then. The figure according to different estimates varies between half to one million people and possibly four to seven hundred thousand acres were under irrigated agriculture.

IMPROVEMENTS IN IRRIGATION RESPONSIBLE FOR FLOURISHING TRADE WITH ROMAN EMPIRE 100 BC TO 100 AD.

Mauryans ruled Sindh between 323 and 148 BC. The agriculture and irrigation system suffered heavily under later Mauryans on account of high burden of taxes and possibly mismanagement of irrigational works. Mauryans were replaced by Bactrian Greeks (184 to 70 BC) and the latter were replaced by Scythians (70 BC to 46 AD) and Parthians (46 to 78 AD). The irrigation system seems to have improved during that period as Sindh was exporting lac-dye, spices, red paper, sugar, indigo, cotton linen, wood, rice and sorghum to the Roman Empire through its port of Barbaricon (Banbhore). Nothing is known about irrigation during Kushans (78 to 175 AD) and Sassanians (283 to 356 AD) period, but irrigation system seems to be stable and well-managed by Vahlukas (356 to 415 AD).

CHANGES IN THE COURSE OF THE RIVER INDUS AND DECLINE IN IRRIGATION SYSTEM MAKES CONQUEST OF SINDH EASY BY MUHAMMAD BIN QASIM.

The stability and improvement in the irrigation system lasted from the time of Vahlukas and under Rais (499 to 641 AD), and Brahmanas (641 to 712 AD). The river Indus then seems to have changed its course towards the end of 700 AD, causing a migration of the Kathia tribes of Sindh to new area south of Kutch, to which they gave their name Kathiawar. The whole irrigated structure of lower Sindh seems to have been destroyed and the area depopulated, as Arab troops under Muhammad Bin Qasim had to march through the area without any oppositions; the forts

either lying unmanned or opening their gates without any resistance. Under Umayyad and Abbasid governors of Sindh (711 to 749 AD and 751 AD to 865 AD respectively), irrigation system could not be normalized and the destruction caused by change of course of the river around 700 BC was not fully recouped resulting in continuous uprisings and lawlessness. It was Habarians (854 to 1011 AD), the local Arab dynasty who managed to restore irrigation system in Sindh to a workable state. The population consequently increased and trade flourished. The cultivated area under Habarians as worked out from investigation of various courses of river Indus prevalent during the period may have been 1.6 million acres and the population too may have approximately reached 2.5 millions.

SOOMRAS, SAMMAS AND KALHORAS THE MASTER CANAL BUILDERS.

Under Soomras, who ruled from 1011 to 1351 AD, the river Indus seems to have changed its course at least three times, causing destruction of irrigation system and necessitating change of their capital, but they seem each time to have quickly re-established the canal system as the dynasty did not change for 340 years. Soomras were replaced by Sammas who ruled from 1351 to 1525 AD. Some of the canals built by Sammas too survived for more than three hundred years up to the British times. Sixteen canals of early British period in back to Samma times. The area under cultivation under Sammas may have reached 1.6 to 1.7 million acres and the population may have remained stable at about 2.5 millions. Overthrow of Sammas and their replacement by Arghoons and Turkans, gave rise to a civil war between new rulers and the rural cultivator community. Even the Mughal Governors were not able to rectify the situation, thus the population was dissipated and reduced to 1.5 millions in 175 years period, when Kalhoras rose in 1700 AD.

SINDH'S POPULATION REDUCED TO 45% BY CHANGE OF COURSE OF RIVER AND ABANDONING MILLIONS OF ACRES OF IRRIGATED LAND.

Kalhoras were master canal builders matched in history only by the British. They improved irrigation system and increased the area under cultivation from 0.9 to 1.0 million acres in 1700 AD and to about 2.2 million acres in 1758. The population too rose from about 1.5 million to three millions, but this glory was also short-lived. The river changed its course in 1758 deserting its old bed near Hala and adopted the present course. The old course passed from Hala, Oderolal, Nasarpur, Shaikh Bhirkio, Tando Mohammad Khan, Matli, Talhar and Badin to Kotri creek. This situation gave rise to dissatisfaction among populace and taking advantage of instability and insecure conditions Balouchi chiefs rose up and overthrow Kalhoras and within 25 years, established their own dynasty. From 1772 to 1783 AD, there was some sort of a civil war for power between Kalhoras and their Balouchi chieftains and tribes, who having own placed the Talpurs at the helm of affairs.

BRITISH MAKE IMPROVEMENTS TO REDUCE LABOR ON CANAL MAINTENANCE.

Talpurs were not able to repair the loss caused by change of course of the river Indus. The irrigation system was mismanaged and the rural population busy in clearance of canals and cultivation was more than 1.6 persons per acre of land as compared to less than one person in 1930.

THE BRITISH PERIOD 1843-1947.

The British did following fundamental changes in irrigation system:

- i) They applied engineering skill in designing of canals, reducing the amount of annual silt clearance and thereby reducing the ratio of rural population per each acre of land irrigated, which as a consequence increased to three million acres for a population of three millions 1931.
- ii) They reduced the length of canals per unit of land brought, under canal command.

FATALIST ATTITUDE OF SINDHIS DUE TO THE INDUS.

The above brief history shows unreliability of irrigation system over the past 5000 years. There was one thing more; the canals took off from the river Indus for the purpose of irrigation. The level of water in the canals fluctuated with the level of water in the river. This was beyond any boy's control. Canals usually were flowing from mid June onwards and stopped flowing by mid-October, when level in the river fell below the level of surrounding lands. Some areas were lucky to have water for 120 days although most of the areas in Sindh were getting water only for 90 days. Lower Sindh with the exception of lands on Phuleli Canal was even more unfortunate where the water was available for 75 days a year. The only crop that could be grown in the short period was rice. Varieties of it and yields per acre depended upon the number of days water could be available. Even during this short period, there were years when water would come in the canal either too late or recede too early. There would be even fluctuation in canals during the peak of inundation season, and out of every 3 years crop would fail during one year, or it would be much below average. Thus the farmers became fatalist, leaving everything to luck and chance, as the river was too mighty and beyond their control. The earlier dynasties neither had the means nor the know-how and organization to overcome the fluctuation in the level of water in the canals.

TRAVELERS ACCOUNTS AS MEANS TO WRITE AND INTERPRET HISTORY OF SINDH.

Travelers accounts are better means on understanding history than the works written by historians as the latter are usually politically motivated and many times written for a sponsor or financial supporter. For the Sindh's past, we have such travel accounts of Skylax (512 BC), Nearchus (324 BC), Ptolemy-I Soter, (half brother and friend of Alexander, 324 BC and Appollonius of Tyana, a Greek philosopher.

Among the works of note giving information on Sindh are written in Greece or Latin, we have 23 writers including 'Periplus of Erythraean Sea' a guide book for sea merchants. Following are the 23 Greek and Roman classical writers who wrote about Sindh. Hecataeus (550-476 BC); Scylax (514-512 BC); Ctesias (6th century BC); Herodotus (489-420 BC); Xenophon (430-354 BC); Alexander the Great (356-323 BC). He had taken with himself, historians, botanists, scientist physicians to investigate various aspects of conquered lands); Nearchus (325-323 BC); Megasthenes (4th and 3rd Century BC); Aristobolus (Engineer in Alexanders army); Cleitarchus (Third Century BC); Eratosthenes (276-194 BC); Eudoxus (Second Century BC); Hippalus (Second and first century BC); Diodorus sciculus (first century BC); Curtius Rufus Quintus (First Century AD); Plutarch (b. 46 AD); Periplus of Erythraean Sea's author (First Century AD); Pliny

the Elder (23-79 AD); Claudius Ptolemy (75-151 AD); Justinus (Third Century AD); Flavius Arrianus (Second Century AD).

Chinese traveler Heun Tswang visited Sindh during the rule of Rai Sehasi-II in 641 AD and has left most indispensable accounts about Sindh.

Persian travelers (wrongly called Arab geographers with exception of Masaudi) have left accounts of Sindh. Some Arab and Persian writers who had never visited Sindh, have also recorded information received from others. This scanty material is also helpful in developing history of Sindh, of that period. Such travelers and writers are:

Tabri (815 AD); Ibn Khurdabda (844-448 AD); Abu Dulf Musar Bin Muhlubilu Yonhui (846-852 AD); Suleman Tajir (851 AD); Yaqoob bin Ishaque Kandi (863-64 AD); Haijique (869 AD); Ahmed Ibn Ali Yaqoob (Yaqoobi) (875 AD); Ibn Faqih Hamadani (941 AD); Biladhuri (d.892 AD); Abul Al Faraq (b. 897 AD); Ibn Rusta (903 AD); Burzring bin Shaharyar (912-913 AD); Abul Hasan Ali Massaudi (915-16 AD); Abu Zaid Hasan of Siref (951 AD); Ibn Hisham (d. 925/26 AD); Firdausi (935-1020 AD); Ibn Haukal (951 AD); Musadi (943-44 AD); Istakhri (951 AD); Abu Al Faraj (967 AD); Bashari Muqaddisi (901/62 AD); Ibn Nadeem (985/86 AD); Al-Beruni (d. 1048 AD); Abul Hassan Ali (1026 AD; Farrukh (d. 1037/38 AD); Gardazi (1048/49 AD); Qazi Rashid Bin Zubari (1070 AD); Hafiz Abi Bakar Ahmed (1071 AD); Behaqi (1077-78 AD); Idrisi (1154 AD); Ibn Asir (1230-31 AD); Yaqoot Hamavi (1224/25 AD); Zakariya Kazwini (1275 AD); Rashiduddin Fazullah Hamdani (1310 AD); Qawini Hamidullah (1329 AD) and Ibn Batuta (1333 AD). These writers were poor geographers and cartographers and much inferior to Greek geographers who preceded them by a thousands years, but informative material left by them is indispensable for Sindh's history.

The years mentioned under Greek or Arab and Persian writers are year of their visit, if they were in Sindh or years of publishing their books, if they had not visited Sindh. If this information was not available, years indicate, birth, death or span office.

The Portuguese seem to have established a factory at Laribander before 1510 AD, with or without permission of Samma rulers. Their records remain untapped for history of Sindh, economy of the period and articles and routes of trade. Luckily the Dutch factory records have been tapped and a preliminary monogram on it, is published by Dr. Raizul Islam.

The British opened factory in Sindh, in 1635 AD, and closed it in 1662 AD. They opened factory again in 1758 and closed it in 1776 AD. Selection from English factory records for Sindh factories, have been published but in absence of study of all 16 volumes of records, one cannot get a good and comparative picture of period.

Some European travelers like Nicholas Worthington (1613-14), Sebastin Manrique (1641), Nicolai Manucci (1659), Mandelso and Hamilton (1699), have left their own records of travels in Sindh. Many others, who did not visit Sindh, but had visited the South Asia, received information on Sindh, through trade contacts, have given some useful details. This also includes history of the South Asia written from Dutch and Portuguese sources. Some well known writers, in his group are Tavenier, Bernier, Thevenot, Barbosa, Terry, Fryer, Ovington and Mundy.

Most indispensable of British accounts on Sindh in the early 19th century are 39 reports of British officials, who visited Sindh between 1808 and 1843 and besides, mapping and spying, they have left indispensable accounts of Talpur rule, economic conditions, social customs and way of life.

Their names and routes have been discussed under articles '473 Maps of Sindh' enclosed as separate chapter.

Greek travelers accounts have not been utilized at all and so is case with Kutch French and Portuguese records. British records are very well known, but they have not been fully integrated in historical writing. Arab and Persian travelers records have been translated and utilized.

PERSIAN AND ARAB HISTORIANS OF SINDH.

About 102 Persian and Arabic medieval histories which have material on Sindh have been listed in the author's book "Source Material on Sindh". But there are bound to be many more, which also need to be tapped and translated by Persian and Arabic scholars. Letters, correspondence, sanads untapped or collected and assembled, translated and interpreted for knowing the past in Sindh.

Some poetical and literary works and also official court judgments have material of historical importance.

HISTORY IN INSCRIPTIONS.

Ancient inscriptions, like on graves, monuments and in decorative art and archaeology have helped in development and understanding of History, Although Khan Khudadad Khan's 'Biaz' listed all inscriptions at Makli, these have not been translated in the last 90 years. Some scattered inscriptions have been reported by archaeologists in different works, but a concise work on inscriptions at Sukkur, Rohri, Sehwan, Mian Nasir Nasarpur, Hyderabad and other places all over Sindh awaits to be done, translated and analyzed for advancing our historical knowledge.

Same is true about inscriptions on coins.

An interesting part of inscriptions is also European grave yards at Sukkur, Hyderabad, and Karachi. Graves of some British officers, who died in Sindh, carry interesting information on their lives.

ECONOMIC CONDITIONS IN SINDH.

The economy of Sindh since Mohenjo Daro times was based on agriculture, the area under cultivation depended upon the course of the river at a particular time and the population varied according to area available for cultivation. The cultivated area came down, each time the river Indus changed its course. The population displaced resorted to pastoral economy in Thar and Kohistan. The animal population became more than pasture available, causing desertification, and thereby reduction in animal population. The reduction of means of lively-hood caused reduction in human population due to death, disease, starvation or hard life. This aspect is discussed under irrigation. Another aspect that affected the economy was the prevalent laws of the period.

With evolution of caste system by Aryans about 2700 years ago, fundamental laws were introduced, which later on were compiled in form of Arthashastra, based primarily on landed wealth. With rise of Guptas around 250 AD laws of Manu in the form of Dharmashastra were introduced. Under the latter laws, no Brahman was to be charged interest and Brahman had full monopoly of lending money. The rates of interest were 6%, 12%, 18%, 24%, 30%, in the first, second third, fourth and fifth years, respectively and 30% during subsequent years. This made

Brahmans rich and they governed country's economy. Under Arthashastra laws, rate of interest was the same but at no stage was the interest allowed to exceed the capital. This was a primary check, before Gupta Era.

For agriculture land there was the principle of crop sharing. With advent of Islam it was expected that taxes as prevalent in Syria or Baghdad (The Persia) would be introduced, but such taxes as Ushar at 1/10th of gross yield and 1/10 of new born animals, were highly uneconomical as this would mean major changes in the system i.e., allotment of land directly to the tiller and removal of Jagirdar or Zamindar evolved in the pre-Islamic South-Asia. It does appear that old system was continued, which in Sindh had been in force since earliest times, and was inherited by the British from Talpurs. It consisted of:-

- Buttaee (rent in kind $\frac{1}{4}$ to $\frac{1}{2}$ of produce).
- Kassagee (about $\frac{1}{4}$ th of produce).
- Cashrent (at Rs.3 to 5 per acre in 1843 as compared to Rs.2 to 3 in 1939).
- Eree rukab (commutation of Kassagee into cash).
- Taxes also varied according to type of irrigation i.e., Boosee, Sailabee, Khoos Kdhakah, Mok, Charkhee and Combination of these.
- In general burden of taxes on cultivator was too high through out history.

It is possible to build economic history of Sindh by using population, cultivated area and rates of taxation at various times. That more than 90% population lived in rural areas and in towns not even worth the name shows lack of prosperity in rural areas. Mass appeal for Buddhist, Bhagti and Sufi doctrines, abandoning pleasures of life, depicts general poverty among majority of populace. There is enough material in Ain-i-Akbari, Mazhar Shah Jehani and figures of tax collection from Sindh, during Mughal period, to reconstruct average rates of taxes, since cropping patterns and yields for the period are also known.

HISTORY IN LITERATURE.

Literature in general reflects directly on the social conditions i.e., type of government, relationship between government and governed, economy, religious beliefs, dogmas, superstitions, struggle of people, to free themselves from various type of social, economic and cultural yokes and etc. In brief a glance through literature of a period reflects, if the nation was happy or unhappy at the time. It also reflects people will, to struggle for economic improvements. Society which has turned stagnant will always produce literature, directly reflecting stagnancy of thought. Literature therefore is one of key elements, in the interpretation of past of a people. Sindh's literature needs to be studied visa-vis, political economic and social conditions, during a various periods of Sindh's history. Folk-lore in many cases written much after the alleged event, is confused with sober history. Most of such literature has to be rejected, unless corroborated by other sources.

HISTORY OF TECHNOLOGY.

Developments of Science and Technology have gone together with development of civilizations, trade and economy. Early civilization started in the major river valleys of arid zones i.e., the Nile in Egypt, the Tigris and the Euphrates in Mesopotamia, the Indus in its Lower Valley and the Hwang Ho in China between 4000 BC to 1500 BC. These civilizations were later on replaced by sub-tropical civilizations in Iran, Greece, northern India, between 800 BC to beginning of Christian Era. Still later on the Centers of civilization moved to about the northern limits of sub-tropical zones. Roman Empire, Islamic Empires, medieval Spanish, Portuguese and Turkish Empires, fall in the last category. Finally there arose the Western Culture centered in the temperate zones of the old world; this is the Modern European Civilization. Development of Science and the stage of technology in any country is a true reflection of its economy, which in turn has controlled type of government, thought and happiness of a nation. Under development of countries is reflected in terms of very thing under developed. Lack of new technological developments and innovations has resulted into economic stagnancy and moral, physical and mental decay of the people. Below is brief example of some important scientific and technological developments which had widened gap between nations since start of Mesolithic and Neolithic area and Sindh's role in it.

Beginning of Mesolithic Period Sindh, 9000 years ago.

Domestication of cattle, Sindh, 8500 years ago.

Neolithic Revolution Sindh, about 8500 years ago.

Domestication of sheep and goat Sindh, 9000-8000 years.

Mesolithic inventions in Sindh:

- Bow and arrow with microlithic flint tip.
- Flint socketed axe.
- Woven basket.
- Cooking pot of baked clay.
- Comb.
- Notched or barbed fish hook, harpoon.
- Domestication of cattle, goat, sheep and dog.

Invention of grown crops: Sindh, 8500 year ago. Europe, 8000 years ago. Turkey, 9000 years ago. North Mesopotamia, 8500 years ago.

Potters Wheel: Iran 6500 years ago, Sindh 6000 years ago.

Beginning of Chalcolithic Age: 5700 years ago, in Mesopotamian and 6000 years ago in Fertile Crescent valleys. It reached Sindh, about 5500 years ago years later. In China it was introduced, more than 1000 years later than in Sindh.

Fraction wheel in Carts: Sumeria, 5500 years ago, China 3900 years ago. They were solid. Bullock art introduced in Sindh, probably about 5000 years ago and was in general use 4500 years ago. It did not reach Egypt until 3650 years ago.

Boats for crossing Oceans and Navigation to Mesopotamia: 4250 years ago, boats of 50-200 tons already in use.

Art of writing introduced: Sindh, 4350 years ago, Egypt, 5000 years ago. Mesopotamia, earlier than Indus. In Sindh, use of writing probably was for tax collection and accounts.

Calculating 365 days calendar: Egypt, 5000 years ago. In Mohenjo Daro, some objects for astronomical measurement have been recorded.

Use of accurate weights and Measures: Sindh, 4350 years ago had accurate biennial, i.e., 1, 2, 4, 8, 16 etc., and decimal i.e., 1, 10 20 100 etc., weight system.

Human Sculpture: 4350 years ago, Harappa Civilization developed fine precision stone sculpture, with such exact body curves, that it was matched by Greeks only some 1600-1700 years later. There was no equal in the South Asia until 2200 years later under Bactrian Greek influence.

3700 year ago: Horse introduced in Sindh, from Central Asia by nomadic herdsman, simultaneously in Egypt by Hyksos and Kassites in Byblos, Mitanni and Hittites in Asia minor i.e., Turkey and Lebanon.

Sindh goes illiterate: 3650 years ago. About the same time cune-form script was introduced in Mesopotamia and Turkey.

Since the loss of literacy, Sindh lost its lead in science and technology, which now is virtually the Western monopoly.

HISTORY IN RELIGIOUS THOUGHT AND RELIGIOUS WRITINGS.

Recent addition to our knowledge of Mohenjo Daro or Harappa religion is that its doctrines lingered on and influenced the later Indian religions like that of Upanishads, Buddhism, Hinduism of Manu, and even quasi-religious movements like Bhagti. Islam as practiced in Sindh is a mixture of Islamic doctrines and many ancient beliefs, customs and ceremonies including superstitions.

The religious practices as observed in Sindh have varied from time to time and can help in development of social thought, during the various periods of history.

HISTORICAL GEOGRAPHY OF SINDH CHANGING COURSES OF THE INDUS AND HAKRA.

Research on this subject started with Alexander Burns in 1832 and is still in progress. The present authors book 'Ground Water in Sindh' (1969); and articles: 'Five thousands Years of History of Irrigation in Sindh' (1982); 'Failure of a Gate of Sukkur Barrage and Lesson for Future' (1983); 'Four Ancient Rivers of Sindh' (1985); and 'Hakra Controversy, Scientists, Historians and folklorists' (1986); are position papers on present stage of research on historical geography and all important known sources have been referred. A map of ancient courses of the river Indus based on aerial photographs, on a scale 1:250,000 and size 48"X96" is also ready. The future research on courses of the Indus and the Hakra will be done, by geographers, and soil scientists, who will lay guide-lines for archaeologists and historians of the future.

HISTORY IN MAPS.

Sir Thomas Roe the British ambassador of Gharles-I, to the court of Jehangir drew a map of Mughal Empire and presented it to the Emperor in 1619 AD. It was thankfully returned back after four days as Mughals had no use for it. Map making had never developed in the South-Asia. Sadiq Isphani had produced an Atlas at Jaunpur in 1647 AD, but it was never used in the South-Asia.

Advantage of an historical atlas is that it is photographic presentation of a country at different periods, which otherwise is too cumbersome to discuss, describe and grasp. Since such work on Sindh is lacking, present writer collected various historical maps and atlases was of the South-Asia, Iran, Islamic world, ancient empires cultures, ancient trade routes, ancient courses of the rivers of Sindh and the Punjab, maps drawn by Portuguese, Dutch, French and English from 16th to 18th centuries, old maps of Ptolemy, Persian travelers (wrongly called Arab geographers) maps and also maps draw by 39 British officials who traveled in Sindh between 1808 and 1842, British maps drawn between 1843-1947, Survey of Pakistan maps, aerial photographs of Sindh and finally satellite pictures drawn from a height of 125 miles above the earth. These maps number to more than 3000 and majority of them are in U>K libraries. All these maps have been used to produce 250 historical maps of Sindh, showing in details, Sindh of various periods. Of these 45 maps have been printed in 'Chronological Dictionary of Sindh', 28 maps in 'Sindh Kutch Relations', 12 maps in Ranikot fort and some in a different articles.

Historical maps play key-role in writing and understanding history and there is no end to the additions and improvements in historical maps of a country. They clearly reflects, the internal, external, and international forces at work, at a particular time. This aspect has been discussed under heading 'Ancient Empires and Sindh'.

HISTORY IN ARTS AND CRAFTS AND GEOMETRICAL ART.

Study of geometrical pattern on Jam Nizamuddin's tomb at Makli shows that its pattern formed the fountain head of most geometrical patterns of Arghoon, Tarkhan and Mughal period architecture in Sindh. Even Kalhora and Talpur patterns in stone of glazed tiles; seem to have been influenced by it. They all have also influenced each other. If geometrical patterns on Jam Nizamuddin's tomb are studied, developed and analyzed, it will open a new field for origin of Nizamuddin's patterns and borrowings from it.

Rural arts and crafts have some interesting geometrical patterns borrowed form each other or influencing each other.

HUNTING'S AND FOOD GATHERING TRIBES OF SINDH 12,000 TO 8500 YEARS AGO.

Life of hunter food-gathers of Sindh in general was:

- i) Source of supply of his flint tools was Rohri Uphan Shah and Uner farms four kilometers from Kot Dijji, mile 101 and hills of Mahal Kohistan Karachi Talukas.
- ii) His shelters consisted of tents form animals hides, hung from trees or supported on wooden poles; reed huts from tamarisk and in Thar and Kohistan circular mud houses with thatched roofs. Some caves and rock over hangs were also used.
- iii) Skins were used as mattresses by filling them with straw, feathers and fibers.

- iv) He spent not more than three hours a day, to collect his daily rations.
- v) The population had maximum concentration in the forests of Sindh's alluvial plains covering 25,000-20,000 square miles then. It must have supported some 80,000 hunters. The Thar could support no less than 20,000 people and western hills another 20,000. The total population of Sindh must have been more than 100,000 people, about double world's average of one person per square mile then.
- vi) Average life expectancy was 28-32 years, but since mortality among children was high many people reached 40-50 years age. Women produced 3-4 children at age of 18, 22, 26 and 30 years. This was mainly due to better food, rich in proteins and less of carbohydrates and besides as long as the women suckled their children, they rarely got pregnancy for which pre-requisite is, the accumulation of 20-25% of her total body weight, as fats.
- vii) He controlled population growth by neglect of girl causing infanticide.
- viii) A person needed one medium size animal a month to keep him alive, i.e., 12-13 animals during the year.
- ix) He fully understood the cycle of plant growth but due to adequate supply of proteins, never started growing the plant, yet he harvested a number of horticultural products and wild grains. He may have domesticated sheep and goat which voluntarily came to him, or may have been attracted by his intelligence to the field of concentrated food stuff.
- x) He trained animals like dog and falcon to help him in hunting.
- xi) He lived in bands of 30-40 people.
- xii) The hunting tribes had un-written-but mutually agreed extractor historical rights to exploit an area.
- xiii) They hunted gazelle, deer, pig, wild goat, wild sheep, small wild animals and jackals.
- xiv) They developed traps net, harpoon, hooks, etc for hunting animals and fishing and caught no less than 40-50 species of fresh water fishes and about the same marine fishes.
- xv) There were large number of island lakes, and besides the present Rann of Kutch was expense of fresh water. Manchar, Chotiari-Makhi and Kenjhar-Kalri were natural depressions of fresh water; they attracted fowls, ducks, geese and other kinds of birds particularly from Siberia, on whom Sindh hunter preyed. Delta area too had very large number of lakes. This information has been collected by more than 150 years anthropological studies of behavior of hunters in similar environment and it is possible it to expand and enlarge it by further studies in Sindh.

ROUTES OF CONQUEST OF SINDH.

The Khyber and Bolan along with Kurram, Tochi, Gomal, Mula Soanmiani or Makran and Tong Passes, are the routes of communication and connecting the Indus valley with Iran and the Central Asia. For Sindh the second and last five have remained the most important routes of migration and conquest over last 8000 years. From the beginning of pre-history the Central Asians raided China, almost once every ten years, except under Han and Tang dynasties and in comparison, their raids on the South-Asia have been much less, but whenever they have been, it is Lower Indus Valley that was the first target unlike vast-expanse of China and it suffered much more than the latter. The Achaemenian and Macedonian invasions were not isolated incidents but rather link in the chain of raids or migrations which began in pre-historical time. Even subsequent to Alexander, the Bactrian, Scythian, Parthian, Kushan, Sassanian, Arab and Mongol conquests were simply continuation of the Iranian (Arabs included) and the Central Asian invasions, which bore fruit for them. There were no raids subsequent to the Arab conquests of Sindh in 711 AD., because for at least next 290 years the Central Asians and Iranian having been converted to Islam, had lost their own independence and were not powerful enough to organize invasions and Arab themselves had to struggle hard to retain control over remote lands, even if it was just in name only. They were satisfied even if the rebel chiefs of remote province like Sindh agreed to read Khutba, in the Friday congregation in the name of Khalif. It was only after 1000 AD, that Sindh was invaded again, when Persians and Central Asians had become independent and used Khalif's name and blessing for the exploitation, of which Khalif was fully aware but helpless. Rulers of Mansura and Multan in the 9th, 10th and early 11th century read Khutba in the name of Abbasid Khalif or Fatimid Khalif of Egypt, and may even have received roles of honors from respective Khalifs, but striking on his coins, the name of Khalif, by Iltutmish, displayed the legal recognition of final sovereignty of Khalif, and Razi al-Din Hasan Saghani came to Delhi and Khalif Nasir-Li-Din-Allah's envoy. Even after fall of Khaliphate in 1258 AD, when new Abbasi Khaliphate rose in Egypt both Muhammad and Feroz Tuyghlaq showed pride and respect in getting sanads from the new Khalifs. This time in fact display was less out of respect for Khalifs, but more to convince the people that the Sultanate had been confirmed on them by authority vested with such powers or in other words they no longer needed the reorganization of local population. The Indian Central Asian raids once, resumed in the early eleventh century were to continue virtually up to British conquest of Sindh.

Chronologically, following are the dates of conquest of Sindh and route used.

Year	Conqueror	Route or Pass	Remarks
519 BC.	Darius-I	Khyber, Gomal and Bolan.	Gandhura was conquered via Khyber Pass, and Multan and Sindh via Gomal and Bolan Passes.
330-324 BC.	Alexander	Katgala and Karakar in Swat.	His troops under Craterus returned via Mula Pass to Persia via Archosia (Kandhar).
330 BC. 184 BC.	Hephaistion Menander and Dimetrius.	Gandava to Charsadda and Mulla	Mulla Pass was invariably used by Bactrian Greeks and Scythians.
90-80 BC.	Scythian.	Mulla	Mulla Pass was

			invariably used by Bactrian Greeks and Scythians.
46 AD.	Parthian.	Khyber	They first occupied Gandhaura and than annexed Sindh.
78 AD.	Kushan	Khyber	They first occupied Gandhaura and than annexed Sindh.
283 AD. 712-714 AD.	Sassanians Mohd Bin Qasim.	Bolan Makran & Arabian Sea.	
1027 AD.	Muhammad of Gazni	Gomal	He sacked Mansura via Thar desert, on return from Somanth in 1026 AD.
1027 AD	Muhammad Ghori	Gomal	The 1027 AD expedition was against Jats of Upper Sindh.
1517-24 AD. 1524-25 AD.	Shah Beg. Shah Hassan	Bolan Bolan	
1789 AD.	Nadir Shah	Pegu	Returned via Bolan.
1818 AD.	Madad Khan.	Bolan	

BRITISH PERIOD.

Prior to the British and probably since early historical times, the people of Sindh were governed by rulers, though intermediaries like Jagirdars, Mansabdars or local chiefs and governors, who had military powers, as well as, powers to tax and recover taxes, enforce law and import justice. They also distributed land, had canals cleared of silt, new canals built and irrigation water supplied. There were virtually no public service or utilities available. Thus the local chief was virtually a small king or viceroy with absolute powers and no responsibility to the governed.

The British separated army, police, justice, collection of taxes, allotment of lands, irrigation water supply and put them under different departments, each independent of the other and provided public services in form of education, health, roads, railways, posts, telegraph and telephones, shipping, animal health and modern methods of agric ulture based on local research.

This was an act of the British, never known before, in the whole history of the Orient. Its immediate effect was liberty of common man and it started changing course of history, by creating individuals of incentive, merit and respectability rather than despotic jagirdars of the post. The history of British rule has not been written because of enormous material, in the form of official correspondence, orders, reports, assembly debates, departmental reports, development plans, annual administrative reports of all departments, annual reports submitted to Parliament and etc. Rebuilding of the British period history, its analysis and impact on Sindh's society will take a number of scholars working for many years.

HISTORY OF POSITION OF DIFFERENT SEXES IN SINDH.

The basis of inferior position of woman in Sindh is discussed in this book article “Seven thousand years of Woman’s slavery”. In an earlier book (1946), was discussed position of woman under Hinduism, Buddhism and in the rural Sindh. Recent TV-serials have brought to surface the situation regarding Sindhi Woman’s social status, hitherto not, highlighted, Islam has given some concessions, to woman as compared to earlier religious, but in rural Sindh, her position has not changed since Neolithic Revolution, as no religious injunctions have been obeyed and no legal enactments have been allowed to work. Unless rural economy is changed, woman’s lot is not going to change.

RIVER AS MEANS OF COMMUNICATION, INTERNAL AND EXTERNAL TRADE.

Before 1200 AD Rann of Kutch was a shallow sea creek and island of Kutch acted as a bridge between Sindh and Kathiawar or northern Gujarat. In the Mature Indus times, small 50-200 ton vessels built from reeds grown in swampy delta of the Indus and Tigris, plied between Mesopotamian and the Indus cities. In 1512 BC Skylax navigated the Indus from Peshawar and reached Egypt via the Arabian and the Red seas. In 324 BC Nearchus navigated from Pattala on the Indus to the mouth of Tigris. During Ptolemaic rule of Egypt and subsequent period of Roman Empire, goods from the South-Asia reached Rome via Barbarican (Banbhore) Arabian and Red seas. Goods from South India came to Barbarican via sea coast and those from east India came via Ganges Jamuna and thence by 50 mile camel drive to the Sutlej, where from the boats to Barbarican. Even Goods from China came by land routes to Peshawar and Attock and thence by boat to Barbarican. Inland port of Brahmanika, Pattala and Demtrias were probably the same city as Brahmanabad and Mansura.

TRADE OF BARBARICAN.

Barbarican or Banbhore seems to have survived some 1400-1500 years, from being known as Alexander’s heaven in 4th century BC to Debal of Arabs, burnt in 1226 AD by Khawarizm Shah.

Sindh’s trade seems to have reached first climax around 50 AD and then under Vahlikas and Rais from 4th to 6th centuries. The rich merchant community contributed to building of massive Buddhist stupas during the period. Imports in 4th to 6th centuries were, clothing linen, aromatics, silver, gold, wine, glassware, and semi precious stones. Exports were cotton, silk, indigo, dyes, skins, furs, semi-precious stones, wheat and rice. The trade is discussed in details another article.