

A typescript copy of Burnes description of the Rann of Kachchh 1827/1828 with a note by R.D. Oldham (1924) in the Archive of the Geological Society of London LDGSL 767.

The typescript consists of four parts: an explanatory handwritten note (in italics below) from R.D. Oldham, a 28 page manuscript dated March 1827 with its 6 page preamble, a second manuscript completed in August 1828 (typed pages 29-65), a 5-page-postscript, and a map of the Rann of Kachchh dated Bombay April 1828. The March '27 and August '28 accounts give information on the Allah Bund, and changes in the Rann to its south not found in Burnes' *Travels into Bockara Part III*. **Highlighted items in red are references to the Allah Bund, Fort Sindri and to the nulla termed "Kaeera" which was a branch of the Puran (Phuraun) river just north of the entrance of the Allah Bund. The significance of this nulla and the old dam labelled across it SW of Vigakot, is that its existence implies minor topography near here prior to the 1819 earthquake.**

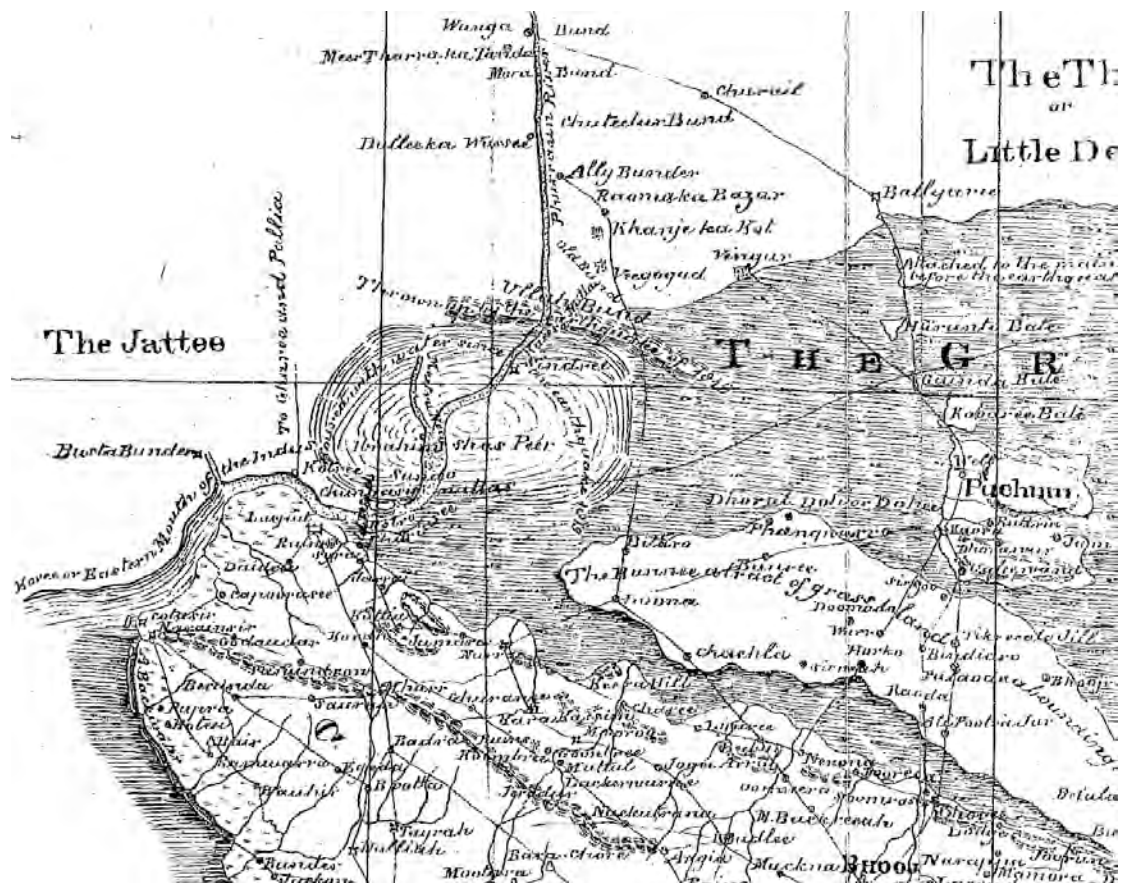
The simplified map redrawn by Oldham in his 1926 account is dated March 1827, whereas the map accompanying Oldham's 1924 transcript here is dated April 1828. A view of the NW corner this is shown below. Burnes quotes Horace.

This is a copy of the lithographed issue of Burnes' original reports on the Allah Bund, on foolscap paper mentioned in LaTouche's Bibliography. It differs materially in substance from the 4° size lithographed issue of which there is a copy in the library, and contains information not included in this later issue. The typescript was made for my use by the director of the Geological Survey of India, and as I have been unable to find any copy of this issue in England, is deposited, with his approval, with the Society. There were three separate issues of these reports, two lithographed and one printed, the history of which is fully discussed in a forthcoming Memoir of the Geological Survey of India, on the Cutch earthquake of 1819.
R.D. Oldham

A Memoir and Supplementary Memoir of a Map of the eastern Branch of the Indus giving an account of the alterations in it from the bursting of the dams in 1826, and the changes brought about thereby in the Runn of Cutch, with a theory of the Runn's formation, proofs of its having been once a navigable sea, etc. and some remarks on the route of Alexander the Great.

by
Lieutenant Burnes, Deputy Asst. Qr. Mr. General in Cutch
quae loca fabuloses
Lambit Hydaspes

Presented by Command of the Governor in Council
to the Literary Society of Bombay
Camp at Lucput
28 March 1827
13 August 1828
Gov. Lith. Press. Bombay



Memor

Cutch is a country so peculiarly situated with an inconstant stream like the Indus in the West, the Runn on the North and East, and a receding sea on the South that it is ever likely to undergo alterations and besides, it has lately become subject to earthquakes and been visited by famine; but the object I have in view in drawing up the present memoir has not been so much to explain the alterations throughout, as to point out the changes of the Eastern branch of the Indus, and the country bordering on it, from the bursting of one of the bunds of the Indus, or of one of the Punjab rivers, in last November, and which has already produced so great an alteration that the whole face of nature near Lucput may now be changed.

The disadvantages which Cutch labours under are not altogether natural but have originated from the jealousy of a neighbouring power which has been evinced in a most cruel degree by depriving it of the freshwater of the Indus and thereby destroying a large tract of irrigated land, and converting a productive rice country into a sandy desert.

The Raos of Cutch had at no distant period three tannas in the dominions of Sind viz., **Ballyaree, Raoma Ka Bazar and Budeena**, their right to which was indisputed. The year 1762 gave however a new era to both nations and it was the beginning of a calamitous one for Cutch. Ghoolam Shah Kalora, after bringing an army of eighty thousand men into Cutch, and meeting with a warm reception above the small village of Jarra, returned full of vengeance to Sind, and threw a bund across the Phurram River at Mora, which although it did not entirely prevent the water of the Indus passing to Lucput, so impeded the progress of the main stream that all agriculture depending on irrigation from it ceased. Since then the successors of the Kaloras, and even the reigning dynasty of Talpor, by name Ali Moradi, put a finishing blow by throwing up the bund of **Ali Bunder** about 25 years ago. Previous to this latter circumstance the water at Lucput became rather fresh for four months annually, that is during

the swell in the Indus, and there was even a "wand" or shepherds settlement, at **Chungasir near Syra**, but since the battle of Jharra all attempts at cultivating-rice in the lower part of this branch of the Indus have been fruitless, for the little fresh water which did come down was merely a scanty supply which either forced itself over, or through the different bunds.

Cutch having thus been deprived against all the laws of nations. of the advantages of a River which contributed so much towards the support of its people used no exertions to regain what nature had granted it, and while in this state of apathy and indifference the earthquake of 1819 threw up a natural mound five miles above **Sindree**, called by the natives "ullah bund" or the "bund of God" (in allusion to its not being the work of men) which actually dried up the channel between Ali Bunder and it, a distance of nearly fourteen miles, so that all communication between the Phurraam River and the sea was thus stopped.

The original injuries inflicted by the Kaloras had so completely destroyed this part of Cutch that such a wonderful event excited but little remark. This earthquake also overthrew the "*tanna*" of Sindree on the banks of the river and surrounded it by water, blocking up at the same time the road to Sind from Cutch which passed it, and rendered it a convenient place to collect customs. The Rao's Government made a feeble attempt to establish a collector of Revenue on the newly raised bund, but although it was within their own boundaries and the Amirs of Sind did not refuse permission, still Meer Tharra, or rather his son, a subordinate chieftain, opposed it as would have diminished his revenue. The loss of this Tanna was regarded as a misfortune from the loss of revenue to the state, but the people in 1819 were not aware that at so early period as 1826 the circumstances should prove more destructive than all the bunds both natural and artificial had ever been thrown up by their most bitter enemies.

The country about Sindree although it had lately yielded not a blade of vegetation was dry and hard for half the year, and the road to it was open for commercial purposes equally long. The shortness of the route made it the frequented one into Cutch, but the earthquake, while it raised the Ullah Bund, must have lowered it near Sindree which was immediately overflowed from the sea and continues so to this day, the water extending sixteen miles to each side of it. The place is now abandoned since then and it is only now marked by the ruins of a small brick fort. The earthquake, however, although it was the immediate, was certainly not the primary cause of this event as will be hereafter shewn.

Previous to the battle of Jharra in 1762 the Eastern branch of the Indus or Phurraun emptied itself into the sea by passing **Lucput and Kotasir**, and the country on its banks participated of the advantages which this River bestowed throughout its course. Its annual inundations watered the soil and afforded the Natives of Cutch a plentiful supply of rice to the whole country between Sindree and Lucput, then known by the name of "Sayra" being cultivated; and so fertile was it that it yielded an annual revenue to the Government of from seven to eight lacs of corries, upwards of two lacs of Rupees. The bunds thrown across deprived it of this advantage and the channel which had been before deep and navigable became now quite shallow and filled with mud there being no running stream to carry it off. So much indeed was this the case that before 1819 bullocks and even carts could cross at Lucput without much inconvenience, and the stream was so narrowed that a part of the bed became the beaten foot path of the inhabitants from Lucput to Sindri.

It is more than probable that if the water had been allowed to flow no alteration would have taken place at Sindree as the channel of the River near it would have been quite deep enough to contain any influx from the ocean. Not so after Ullah bund had been thrown up for the water thus excluded from its usual channel, and rushing with the greatest violence from the sea overwhelmed the neighbourhood of Sindree with salt water which has ever since continued. The inundation of November 1826 has burst every bund in this branch of the Indus, and cut through the Ullah Bund itself but although the cause of the original evil has

been thus removed, its effects have remained and there is little chance of their soon being obliterated.

The river from Lucput to Sindree become much deeper within these few months and with the exception of one place "Sundo", where it is two miles broad, varies from two to three fathoms deep. At Sindree is nearly three, and on Ullah Bund itself it is very little less. At the former place (Sindree) the water is drinkable and at the latter quite good while the beneficial effects are not felt so low as Lucput, except at the lowest tides, which would favour an inference that the column of water is not great enough to make any impression on a creek which is daily affected by the tides and had already overflowed its banks for many miles with salt water.

The conclusion then must be that until the Phurraun River disembogues a sufficient quantity of fresh water to dislodge the salt about Sindree, there can be little prospect of the people of Cutch regaining their fertile pergunna of "Sayra" but, even allowing such a circumstances to take place, and judging from the lowness of the country, I have very many doubts if much advantage would be derived from such an influx of fresh water, for water (when beyond a certain quantity) whether salt, or fresh, is hostile to the purposes of agriculture, and there is no reason to believe that, as the present tract continues flooded with salt, it should become dry, with fresh water. Further the banks of the Phurraun although they never, from the nature of the country, could have been very high, have once been overflowed and the strong southwesterly winds which blow so violently would mix a quantity of salt water with the fresh, for the velocity of the River (allowing it to run at all times) would be greatly diminished by the supply of water which it would require to impart to the immense sheet of water below Ullah bund. It is needless to urge that the floods in the Indus and the South Westerly winds prevail at the same time and that the one is equally strong as the other, for the wind is much more powerful; but surely it does not require much of it to impede the progress of a stream which has very low banks and which are in many places under water.

The floods in the Indus commence in April from the melting of the snow in the mountains of Himalaya, and an opportunity will be early afforded of discovering how far the above is correct. It must always be kept in recollection that the overflow of salt water near Sindree originated, not either from winds or rain, but from an earthquake, which I have every reason to believe rather lowered the tract than forced an influx of water from the sea.

While we discuss the chances against Cutch regaining its former wealth we must not omit to mention the probability of a very considerable change taking place. The many different mouths of the Indus would appear to be sufficient for the egress of its waters but the bursting of the bunds in the most paltry branch shows that they have a tendency to escape by Lucput, and this the more remarkable as this passage has been shut against them for a period of sixty five years, during a part of which there has actually been no water in its channel.

The period too at which this unexpected circumstance took place was unusual. and having thus regained its passage to the ocean it will have the full advantage of this ensuing swell to open the bunds and deepen its channel. **I am not aware of the breadth of the channel at Ullah bund previous to 1819 but it is at present only 120 feet, and this, with only a depth of 15 feet,** is not calculated to bring about any great alteration but its having been once opened gives hope of further change.

If the late influx could change the water from salt to fresh at Sindree and even make its effects felt so low as Lucput, every hope is to be entertained for the body of salt water which it passed through extended for a distance of fifty three miles. i.e. from Ullah bund to Lucput, and it had tides (certainly not strong ones) also to contend with. The result of one or two inundations for as many years is likely to bring about an increase of depth to the channel of the River, and were this secured, the sheet of water about Sindree could be drained and adapted

to its former purposes. I do not consider the late overflow as any proof to the contrary for it only points out that the quantity of salt so much predominated over the fresh that no material alteration has been produced, but is this at all remarkable when we consider the influence the sea has been allowed to have for years past over the tract?

The continued alterations of the Indus ought not to produce feelings of despair on the part of Cutch, and, as there is a distant hope of restoring the country to what it was in the Reign of Rao Lucput, no exertion should be wanting. **The Ameers of Sind acknowledge the right of the Cutch Government to a nulla called "Kaeera", which is above Ullah bund, and the place where they collected taxes to the very day of the earthquake in 1819 [Note: It is a singular fact that the boat belonging to the Tanna at Sindree was left dry in this nulla the day after the earthquake and, from their being no water to float it out, has been broken up and sold].** No delay therefore should be made in again possessing themselves of the place, as it may very materially contribute to the interest of their country and will give them full possession of the grand natural Bund, by far the most formidable in the river,

The various reports of the natives on the alterations which the earthquake had brought about in the northwest frontier of Cutch, both as regards the River and the Runn, first induced me to turn my attention to this part of the country, and

it may be of importance at a future period to know the state I found it in March 1827. and I shall therefore, for the sake of perspicacity, describe it under the different heads of 1st. "The Indus" and 2nd "The Runn".

The Indus

[Page 6 of the GSI London transcription]

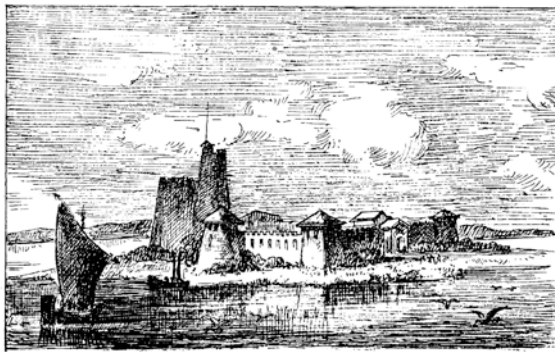
The rivers in a country subject to periodical rains, necessarily undergo many alterations, chiefly from the greater velocity and quantity of the waters at different seasons of the year. This has been the case in a most striking manner with regard to the delta of the Indus, so much so, that neither a harbour nor the course of any particular branch, can be depended on for a longer period than a season. The eastern mouth of it had been so much altered both by natural and artificial means that it had even lost the name of the parent stream, and was known, on one side of Ali Bunder by the designation of Koree, while it was called Phurraun on the other, but the Koree for 25 years past could no longer be termed a River, and was only a creek of the Sea affected by the tides. The bursting of the Alor bund has, however, changed the face of things, and the waters of the Indus once more wash the North West shores of Cutch.

The water at **Lucput** is not yet fresh except at the lowest tides, but a reference to the map will point out that there is nothing remarkable in such a circumstance, when the extent of salt water which it passes through is considered. Moreover, the tide affects the stream as high up as **Ibrahim Shah Peer**, though it does not rise many inches, and the country on both banks is a salt marshy desert likely to impart its predominating quality to the waters which pass over it. The classic name of Indus sounds pleasing to the ear, but no beauty whatever must be looked for on its eastern branch. The greater influx of fresh water will no doubt make considerable alterations, but at present there is not a single object on its banks to rest the eye on except a dreary desert.

It would be needless to enter into any proofs of the **Koree** having been previous to the battle of Jharra the most eastern channel of the Indus, as it is a notorious fact in the history of Cutch, has been remarked on by every writer concerning Sind, and the country, as it is at present opposes no obstacle to our belief of the fact but on the contrary favours it very materially. Ghoolam Shah's bund and those which were thrown up after it, were then the only cause of the change, and by 1819 previous to the earthquake almost all appearance of the channel of the Indus had disappeared, and, from having been a navigable stream, the smallest flat-

bottomed boats could with difficulty reach Sindree, and below Ali Bunder it had actually become dry. While things were in this state the earthquake of 1819 occurred and threw up **Ullah Bund** five miles above **Sindree** so that every chance of the channel between it and Ali Bunder being again filled with water was removed by an artificial barrier on the North and a natural one on the South. The impulse given to the waters in the Koree creek by this concussion of nature was great and as the water of the sea could not find entrance into the former channel of the river it spread on all sides near Sindree and brought the country to its present state, whereby commerce has been greatly impeded. This last bund tho' it appeared more formidable than all that had preceded it, has been like them overwhelmed by the late inundation and there is again an open passage between the Lucput River and the main stream of the Indus.

The distance from **Lucput to Ullah bund** is by water upwards of fifty miles, though it is much less in a straight line. **The river is, at the narrowest part about 100 yards wide and at the widest, which is Sundo about two miles; opposite Lucput it is not more than 250 yards and at Ullah Bund it is only 40 yards. Its depth varies from two to three fathoms of water in all places except Sundo where it is only two feet at low, and three, at high tide.** Its banks throughout are low and muddy and above the **Misree Peer** (which is about ten miles from Lucput) intersected by numerous nullahs some of which are from six to eight feet deep. The two principal ones are Kotro on the South side and Chungasir on the North, both within two miles of each other and remarkable as being close to what formerly was a ford across this branch of the Indus.



Sundo extends up and down the River for a distance of two miles and lies a little higher up than **Chungasir**. The River is here about two miles broad, that is the channel, for the water expands on both directions and the appearance is no longer that of a River, but of a sea and instead of nullas to impede the approach to the banks we have a sheet of water on both sides about half a foot deep, covering a clayey soil and extending many miles both to the East and West. The earthquake is also said to have made this alteration as it was before it equally deep and no wider than other parts of the River. Two miles farther up there is a celebrated Peers place on the West bank of the River called **Ibrahim Shah Peer**, and hold in much veneration by the Sailors. It consists merely of a few bricks and bamboos with flags, but it is particularly useful as it serves to point to the entrance to the **Meetra "nar"** a channel leading to a landing place called **Dingro**,

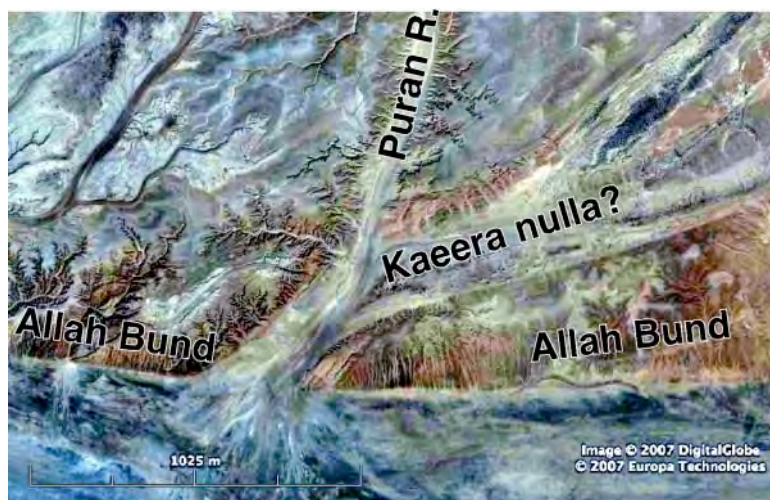
six coss from whence goods are conveyed to the small village of **Pallia** five coss off. This channel is navigable and I met five boats in one morning sailing up it. It is as deep as the main stream. Here it is quite impossible to imagine being in a river as there is nothing but a wide expanse of water on all sides. At a distance to the Eastward and elevated a little above the horizon the hills of the **Puchum Island** may be distinguished and those at **Nurra** in Cutch are distinctly visible. Lucput is also in sight. The ancient Tannah of the Raos of Sindree which is only 12 or 13 miles distant from the Peer is not visible from it though it comes into sight a few miles beyond.

The two figures of Fort Sindri are reproduced from the posthumous book by Montessus de Ballore

(1924) who redrafted them from earlier materials. The upper figure is from Grindlay's painting of Fort Sindri omitting foreground materials but including the fictitious skyline hills. It shows the square masted boats that were unable to tack on the river. The lower figure is from Wynne's memoir on Cutch. An elevated perspective is chosen to illustrate the distant Allah Bund.

Sindree is situated on the Eastern Bank of the river and is a ruined fort of 150 feet square with four towers and built of burnt bricks. Three of the towers had fallen down and the only one now standing (and it is in a precarious way) is the northwestern on which there is a flag staff. The walls have been two feet thick but this is impossible to say how now. The tower that stands is about 18 feet high and is near the gateway which was on the west side. There is not a vestige of a house remaining and the interior of the fort has become a tank and is filled with salt water, in which there are fish. The only dry spot near the place is where the walls actually stand and which is kept so by the bricks being piled on one another. The river runs close under its walls and it must have been a very valuable position for the government to collect its taxes when the road between it and Cutch, as well as Sind, was open.

A black speck on the horizon to the northeast at about a distance of 5 miles, points out the position of **Ullah Bund**, the embankment thrown up by nature in the earthquake of 1819, previous to which period there was not a single trace of it. It runs due East and West and is said to extend twelve miles eastward and about two westward. It is about 10 feet above the level of the River which is at present from 12-15 feet deep and; is composed of soft clay and covered all over with shells and has quite the appearance of having been broken through by some torrent. At present the opening is only from 30-40 yards wide but there are marks of the current having extended during the swell some 200-300 yards to the Westward, while the Eastern side now presents a bank of ten perpendicular feet and looks as if it had been cut by manual labour. The bed of the River is the same as the banks, clay, and the whole soil around appears to be a mixture of it and sand.



This 2007 GoogleEarth Image of the Allah Bund shows an abandoned nulla trending ENE from the 250-m-wide entrance of the Puran (Phurraun) river. Could this be the Kaeera Nulla where the custom's boat was left stranded in 1819? The Puran narrows to <40 m some 60 m from the southern edge of the Bund. The Puran channel is now choked with sediment and the western bank rises less than 2 m above the channel.

A short distance above bund is **Kaera nulla**, a position where the Cutch Government collected taxes before the earthquake and the extremity of their territory on the North. The merchandise was crossed over it in small boats and the beasts of burden that carried it to the nulla, swam across and, being again laden, proceeded to Sindree. At this (from the dry land on both sides of it) the stream again resumes the appearance of a river and though narrow is quite navigable even at this late season of the year (March).

I here met several boats coming down from **Wunga** so that there can be no doubt of the fact that all the bunds in this branch are broken down. There is no village at the place and the Sind government have their tanna at **Raoma Ka bazaar**, a small place five miles from the river, and twelve from the bund. I shall not venture to give further account of the River to the northward as it has not to come under my personal observation. Be it sufficient to remark

that the walls of **Omercote** are said to have been partially thrown down by the bursting of the Aror bund, and some reports have even gone so far to say that the water made its escape into the Runn near **Parkur**, by passing through the Nueyer country, but this, I hope to determine at no distant period.



A simplified version of Burnes April 1828 map showing the Allah Bund concave south, with a nulla named Kaera in which the customs officials docked their boat. The boat was left high and dry in the earthquake and had to be dismantled. Lake Sindri shown as yellow; rock as brown.

Having described the appearance above Lucput we shall now mention the part below it. At **Lucput** it runs

northwest for six miles to a place called **Kotree** where although there is no drinking water there is a halting place and it is the high road to and from Sind, for all merchandise (there being a good Camel road to **Garee** and Hyderabad) is now brought by this route and the horses which come from Khorasan and Candahar annually are crossed over from this place, indeed all the supplies, excepting those that pass by the Runn routes, are transported to and from Kotree. The reason is obvious viz. that it can be crossed at all times of the tide and boats of two hundred candies can be used instead of the flat bottomed ones of 15 and 20 that ply above Lucput. Eight miles farther to the westward, on the west of a small creek, lies **Busta Bunder** a small fort in ruins and celebrated as being the harbour at no distant period where all merchandise was landed. It, like Kotree, is ill-supplied with water and, being at a greater distance from Lucput than that place, and having become a subject of dispute between Cutch and Sind, and even of open warfare, it has been abandoned. The fort has been nearly thrown down and Kotree answers all the purposes of it. It had also the disadvantage of being up a creek while Kotree is on the bank of the river.

At a distance of about 15 miles south of Busta Bander on the Cutch side lies the bunder of **Kotasir** which boats of four hundred and even five hundred Candies can approach. They ship their cargoes into smaller boats and send them up to Lucput. The landing place at it is very much exposed but large boats can come close enough to be left dry at low water. The Korie is about five miles broad at Kotasir but a little below it loses all appearance of a River.

This state of things presents a very different aspect from the time in which Captain Wilson visited the Indus in 1820, but it becomes a duty in justice to the officer to state what appears to have brought about this change. At the time the earthquake happened the Korie, from four miles below Lucput to a short distance higher up than **Chungasir**, contained only one foot of water at low tides and varied from two to three at high. but since then the channel has continued to deepen annually and Captain Wilson's ford at Chungasir (to which I was directed by the very guide he himself had employed) I found to be covered by fifteen feet water at low tide, and, instead of being five hundred yards wide was only three hundred feet.

Had the Ullah bund never come into existence the alteration would likely never have taken place for the water in the Korie had ever since the erection of Ali Bunder bund begun to recede, though it had not entirely left the channel. The earthquake happening at the time the strong South West winds blew up the water towards Sindree. and as it met with a resistance from Ullah bund which it never before experienced, it would naturally deepen the channel

through which it passed and finding no egress, lodge some way near the bund which it did. The introduction of such a body of water as had logged at Sindree kept the communication between Lucput and Sindree open to the tide when the South Westerly winds had subsided for the North West winds have never since 1819. been able to dry up the Runn at Sindree and thus the present state of things has been gradually brought about.

It is, however necessary to state that this great alteration has not taken place from the late overflow of the Indus, as I have it from undoubted authority that the River was as deep at **Chungaseer** three years ago as it is now, and it is therefore to be looked on as the effect of the earthquake, though it occurred three years after.

I proceeded with a copy of Captain Wilson's reconnaissance to examine the ford at **Chungaseer**. I started from **Syra** at about 8A.M. and found the Runn to commence at one full mile from the village. I proceeded on expecting to fall in with the nulla of Kotro, but my progress was arrested four miles from the edge of the Runn before I reached it, by one formed about three years ago, ago. and called by the natives "**Chitriaree**". It is about twenty feet wide and three deep at low water with banks and bed of clay it but is affected by the tides. It runs into the Koree close to the Misree Peer. From this nulla, I could see **Kotro** which is about 500 yards farther on, but on encountering so formidable a barrier as this first nulla I deemed it useless to prosecute my enquiries any further by land more particularly since my guide (who is a fisherman and frequents the place daily) told me that Kotro had five feet of water in it at low tide. These difficulties are however not the only ones to be encountered on the approach to **Chungaseer** for at two miles from the edge of the Runn the tides overflow the road, and I was several times in danger and compelled to dismount and walk through the water and mud, so that the road which is only a footpath for fishermen could never be adapted to military purposes, were there *no river to cross*.

On reaching the **Misree Peer** by boat from Lucput, I found the breadth of the channel to be two 260 feet and that at Chungaseer as before mentioned 300 feet. At both places the depth varied from 12-15 feet. The nulla of **Kotro** I found to contain the (5 feet) depth which my guide had represented. I looked in vain for the bushes of Chungaseer, and found the name applied to two nullas deeper than Kotro running through a soil so clayey that it was with difficulty the boatmen could drag the boat along it. A reference to the map will point out that the existence of such a ford would now be of no use as the tract to the North is covered with water, but the nature of the country is such that, even were there no water, no advantage ever could be taken or it by an invading army for besides there being no pasture nor cattle there is no fresh water, and it is too near the delta of the Indus ever to be sufficiently consistent even to bear infantry. Myannas and fishermen, synonymous terms by the by, who are a sort of *Amphibious* beings, pass daily between Syra and Chungaseer, but it is quite a matter of indifference to them whether they swim the nullas of Chitriaree and Kotro or even the main stream. So little do they think of this mode of life that a fisherman's hut is actually built between the Koree and Kotro, and if the water overflows it (which it sometimes does) the native sits upon the roof till it subsides, or swims across it till he reaches dry land. and this life he leads both during the rains and dry season. There is another circumstance which, though trifling greatly deserves remark in this route. I mean that mosquitoes on the Runn which are so numerous that it is impossible almost to breathe without swallowing them and which although they do not bite, so torment the horses that it is with difficulty they can be forced on. These insects continue throughout the year and are numerous beyond all conception. They appear to live upon the salt encrusted on the sand and are always found where the soil is a little muddy.

The greatest proof of the wonderful alteration which the river had undergone is the difference of its breadth from the time when Captain Wilson visited it. He mentions its breadth at the fishing place of **Bitaree** to be only thirty yards, whereas it is now much wider than Chungaseer and its depth at four fathoms, when it is now only two.

That the river has been generally deepened is quite beyond doubt, for even after the earthquake, boats of more than fifty Candies could not reach Lucput Bunder and it is not unusual now to see two hundred Candy boats sailing up the River. The Natives even assert that it had become so shallow in 1818 that bullocks, carts and camels used to cross it at low tides, and that there was a road to Sind directly across from the bunder, nor did the earthquake immediately deepen it, and it was not till 2 or 3 years after that it was navigable for so large vessels.

The craft which is and always has been used up the River to Pallia, Sindree etc., consists of flat bottomed boats called *Doondee* which are square rigged, with one mast, and carry from twenty to thirty candies. They can only go before the wind, and so little idea have the people of tacking that the boat in which I went up was dragged down from Ullah bund to Lucput through the shallow water by manual labour and when the water became too deep it was impelled on by oars and bamboos. On getting so low as Ibrahim Shah Peer the boatmen went on shore and tracked the Doondee along the bank, but the operation was so tedious that we did not reach the bunder for fifty four hours, a strong southwesterly wind being against us.

By far the most frequented part of the River above Lucput is the Meetra *naar* leading to the landing place ten miles from **Pallia**, and were there any great alteration to take place in the depth of it, it would be more frequented than Kotree for there is not much more trouble in conveying goods once shipped thirty, as well as ten miles. w. The traffic between the Thurr [the tract of the country from the Indus eastward to **Ballyree** and towards Parkur is so called] and Lucput by the River has existed for so very few months that it is difficult to tell how it is likely to turn out. About twenty five boats have passed up and down, since the bunds have burst, laden with rice and ghee. All the exports however go to Kotree as I believe there is some objection on account of this being the place where the Rao collects his taxes, through the hands of the farmer who pays two lacs and thirty thousand carries, annually for the bunder.

I met several Natives who had sailed for a considerable distance up this river, and one who had been twenty four miles beyond **Wunga**, thus passing through several of the bunds but as there are only ten or twelve boats on the whole of this branch it is not likely under present circumstances to supersede Kotree.

The Koree produces abundance of fish, and of very different sorts, some of which are remarkably good. Since the late inundation fresh water fish have been caught in great abundance. Porpoises even are found above Lucput. The birds, however, that frequent it are beyond all description numerous. There are flamingos, cranes, ducks, gulls etc. with a long list of others the names of which I never heard and many of which I never saw before. The most singular of the whole is a bird something larger than a goose with an immense yellow coloured beak called by the Natives "*Paynee*", a Pelikan I believe, which is a favorite food with the Lohanns, the prevailing caste in Sind.

The Runn

In describing this tract of Runn near the Kotree, in elucidation of what has been advanced in the preceding pages, there is a wide field for remark, as it is beyond a doubt that this tract was, at no distant period, cultivated which must ever remain dubious with regard to the other parts at least as far as I have been able to discover.

The cultivated part of it was known by the name of "*Sayra*" which is indeed the modern title but it is no longer the productive pergunna which it was. It included the country between

Lucput, Syra and Moondan and extended a few miles North of Sindree, but did not cross the River in any place. The whole of it was a soil of the most productive description, and while it is said to have yielded a better sort of rice than is produced anywhere else on the banks of the Indus, it enriched the inhabitants of Cutch by three successive crops annually viz. rice, barley and chara (a sort of moong). But this was not the only advantage derivable from the river for although it did not admit of cultivation lower down than Lucput or as far East as Loona, still it fertilized the soil so much that the pasture all about the latter place and even as low down as **Narainseer** was very favourable for rearing cattle, and large herds were kept in the neighbourhood, on that account. Nor were the Outchees confined at this time within their own narrow limits, for they had also sway over part of the province of Jattee, on the western side of the River for a considerable way up. **There was even at a very late period ie. 20 years ago, the remains of an extensive "wand" at Chungaseer and the natives still point out the site of a village on Sundo which they pretend to know by the remains of some trees.**

These advantages perished through the revengeful disposition of Meea Ghoolam Shah Kalora after the battle of Jharra, and so dependent was the country on the River that its productiveness ceased the very year the first bund was thrown up, and there was never enough fresh water to raise the most trifling crop after 1762.

The state which the river was in previous to the earthquake of 1819 prepared the surrounding country for the change which it has since undergone. The water which overflowed the country at Sindree came immediately from the West, but a reference to the Map will shew that this is not impossible, though it must have come first from the South.

A very few hours brought it to its present depth. and thus the road, which, by its shortness served to expedite the arrival of grain into the country, and in a degree compensated for the loss of Sayra, was rendered useless and impassable for both men and animals, and in this state has it continued to the present date March 1827.

Nurra, the town first approached in Cutch by the Sindree route lies thirty two miles from it and the water now covers the twenty Northern miles leaving only a dry tract of twelve. This is, however, only the state to which it has relapsed for two months after the earthquake of 1819 it had attained such a height from the mass of water, that the guns of Sindree were conveyed by boat from that place to Nurra or rather within two miles of it. It was four or five [feet?] and the Natives had hoped that a free navigation would have assisted them when the road had been overflowed, but this only continued for a season and the late swell in the Indus has left it *in statu quo* without any increase whatsoever. Some pools of water have been left between Jarra and Moondar while the tract between Syra and the Indus has been left comparatively dry, but this will be easily accounted for as the river, instead of turning due north as in most of our maps, runs in some degree parallel with Cutch, and the water would overflow the river due opposite Nurra or Moonda sooner than opposite Syra, and it is, therefore, not a difficult matter to solve why the water between the Nurra and Sindree was so deep after the earthquake.

If, however, the different overflows to which the River is subject sooner flood the country about **Nurra and Jarra**, that between **Syra and Chungaseer** is subject to the tides which pass over it far 3 miles south of the river a circumstance which renders the road to what was formerly the ford both dangerous and difficult. Those alterations have now reduced the Cutch people to the necessity of following a more circuitous route by **Loona to Raoma Ka bazaar**. Loona is situated in the Bunnee, or grass lands, ten miles ENE of Nurra but the more usual road to it from Bhooj, is by **Nerona to Chachla**.

This road however has undergone some trifling alteration and has become more circuitous that it formerly was from the Sindree water extending so far to eastward. It like all roads

across the Runn, is shut up from April or May to October. The traffic across it is very considerable though the distance from **Raoma Ka Bazar** when at **Loona** even is forty eight miles across a Runn without a drop of fresh water.

The natives even say that the tide crosses this road but this is evidently a mistake as it is hardly felt at Ibrahim Shah Peer. They mistake the force of the southwesterly winds for tides as they really, by their force, impel the water up. Indeed a very intelligent man at Syra in describing to me the circumstances of the filling of the Runn said "the more wind the more water", which so completely corresponds with what I have seen that I hold it to be a fact.

It must not be imagined that, because the country about Sindree is under water, it is at all navigable, for it is in most places not a foot deep. Local rain, as may be supposed, has a very considerable effect on such a tract, as from its being already saturated with water, every drop that falls adds very considerably to its depth.

The Wand of Loona is very extensive as may be seen from the accompanying statement.

Loona on the Bunee

total 250 people, 80 cutcha wells, & 1 shop. The Rao is the named proprietor

Castes	Houses	M	F	boys	girls	Bullocks	cows	buffaloes	Horses	Asses	Camels	Goats
Lohannu	1	1										sheep
Megwar	2	5	3	2	2							
Jet	30	40	35	20	10	30	400	600	10			350
Loonye	16	16	16	10	7					4		80
Suma	28	28	28	10	5	40	450			8		
Hindoos	3	6	3	2	2							
Mussalman	74	96	79	40	22	70	850	680	12	12	10	430
Total	77	102	82	42	24	70	850	680	12	12	10	430

Remarks: the tank only contains rain water. Ten of the wells are drinkable but they are merely dug in the sand and fall in annually. The inhabitants evacuate the place during the monsoon. The produce of ghee varies from two to four maunds daily according to the season. The vicinity yields firewood though the forage is very indifferent. The road to **Nerona** is impassable from June to November for carts though foot passenger go all the year. There are 29 soldiers of the Rao's and ten of the Poona Auxiliary Horse stationed at this place it being the high road into Sind and a good lookout position.

It seems to be a matter of doubt whether the Ameers of Sind have it in contemplation to throw up the bunds in the Phurraun once more. Their feelings at present on the subject are said to be dread of a similar inundation, and when it is mentioned that the late overflow, so far from injuring them, has actually produced a crop in places where grain was never before cultivated, and thus quadrupled the crop of 1827 they may feel no immediate inducement, as there will be no object to gain. This fortunate occurrence was accidental for the column of water was so great that had it met with very great resistance from the bunds it must have been attended with consequences similar to those that sometimes happen in the low countries of Europe. But it is beyond a doubt that the irrigated lands which formerly produced so much will not now yield an equal quantity without these bunds, for, however much a river' running through a country may fertilize it, still it stands to reason that it must be more productive when that country is intersected by canals and dams are thrown up to extend the water.

While I am thus enlarging upon the advantages likely to accrue to Cutch in a commercial point of view from the late bursting of the dams, I beg distinctly to point out that the river in its present state, is but ill adapted for military operations and indeed the approach to the country of the Ameers from Cutch to be more difficult than ever, for we could formerly have transported our Artillery across the bunds, and thus saved the trouble and expense of a large pontoon train, for I never could believe judging from the character of the Sind nation that they would be enlightened enough, of their own accord, to throw down bunds which had been the

result of so many years' labour.

I only mean to impress on the mind the alteration to which the river is subject and which I have great hopes will at no distant period lead to its being particularly useful both in a military and commercial point of view.

The town of Lucput which has a bunder on the banks of the river is well known as a large



mercantile place. It lies upwards of a mile and a half from the Koriee from which it is separated by a low tract flooded in high tide. The **fort** was built not many years back by Futtih Mahommed who took eight years in completing it. It is the largest in Cutch being two and half miles in circumference. The position is its greatest advantage and the ruins of a very ancient city, called **Wagum Chaora Ka Gud**, about six miles east of it, proves that the former rulers of the country were not ignorant of this.



The town is built entirely within the walls and there is sufficient vacant space to admit of the population being doubled or even trebled, but this is not likely to occur as the only people who would take up their residence would be merchants (for there is no agriculture in the neighbourhood) and there is already a population of 5839 souls who are either of that description, or others who administer to their wants. The walls of the town are well built though in some places rather low. Both the gateways are unfinished and so is the ditch.

Although it could not stand against our system of warfare it would be a very formidable barrier to a native army.

The GoogleMap view of the 18th century fort and a view of its 3 m high northern gate in 2007. The village inside its walls was damaged slightly by the 2001 Bhuj earthquake, but the elegant stone carving on the Hatkeshwar temple survived.



I must not omit to mention the great difficulties which I have had to encounter in drawing up this short memoir from the singularly vague

and confused names which make their appearance in our maps. I have enquired in vain for the branch of the Indus called **Loonee** and have not even been able to fall in with a native who knew its name. The Goonnee alone is known to them and the Phurraun is said to be a branch of it, and the Loonee must either have crept into our maps from an idea that the river of that name which passes through the Jhoodpoor territory to the Parkur Runn, flowed into the sea at Lucput, or the Lucput creek, from its vicinity to the extensive wand of that name [**Loona?**] on the Bune, must have received the appellation of Loonee, from some of our travellers.

Signed: Alexander Burnes Dept. Asst. Qr. Mr. Genl. in Cutch.
Camp at Lucput 20th Mrch 1827

The supplement was written after recess in the winter of 1827/8 during which Burnes prepared several maps of Kachchh. His supplement is **dated Lucput 13 August 1828** (pages 29-65) and has a 5 page postscript with a quote from McMurdo..