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**COMMERCE BY RIVER IN THE  
PUNJAB.  
(1861-62 to 1871-72.)**

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**“ It is down the valley of the Indus, whether by land or water, that the surplus produce of the Punjab must find its vent.”**

*Punjab Government Administration Report for 1853-54  
and 1855-56.*

**“ It is essential for the development of the resources of the country that the Flotilla on the river Indus be kept up.”**

*Captain Reddie's Report on the River Indus (1864).*

**“ There is no question of greater importance to material interests of the Punjab, than the navigation of its rivers.”**

*Punjab Government Administration Report for 1860-61.*

### PREFATORY NOTE.

IN this interesting monograph the author gives a full account of the old Marine Department and its activities. The introductory chapter on early commerce in Northern India links up well with the story of the attempt of Government to make the navigation of the rivers of the Punjab a really paying concern. The scheme failed as it showed a steady loss which could not justify the continuance of the Department the overhead charges of which were very heavy.

The author has gone very fully into the question of the personnel of the Department, but perhaps one ought add a word or two more. The navigating officers were warrant or petty officers from the Royal navy and were efficient enough. The senior engineers, too, appear to have discharged their duties satisfactorily. But the junior engineers were whatever could be got and judging by frequent complaints about them appear to have been a drunken and insubordinate lot. There is an enquiry among the department papers into the death of one of them who fell overboard while drunk and was drowned. According to the inventory of his possessions his wordly goods appear to have consisted of "a cap and fifteen clay pipes."

The trade statistics, freight charges, etc., which are given in full in appendices may be found of interest to a student of the history of economic development in the province.

H. L. O. GARRETT,

*Keeper of the Records of the  
Government of the Punjab.*

LAHORE :  
October 1930.

## PREFACE.

“ In the history of past times, the exploits of conquerors who have desolated the earth, and the freaks of tyrants who have rendered nations unhappy, are recorded with minute and often disgusting accuracy, while the discovery of useful arts, and the progress of the most beneficial branches of commerce are, passed over in silence, and suffered to sink into oblivion.”<sup>1</sup> In fact the history of commerce above all other history has a claim upon the attention of mankind, as prosperity and plenty, civilization and culture, and other arts of peace follow in its train. The accompanying monograph, therefore, is devoted to the study of a portion of commerce of the Punjab, *viz.*, the Commerce by River.

An attempt has been made in the Introduction to give a brief account of the Punjab Commerce both by Road and River from times immemorial to the time of the Annexation of the Punjab. The first Chapter is a connecting link between the commerce of the pre-British and the British days. Chapter II gives a brief sketch of the navigation of the Lower Indus, which had existed long before the organisation of the Marine Department of the Punjab Government in 1861-62. Chapters III to VII collectively exhaust every aspect of the work of the Marine Department, which began to run its steamers on the Indus in 1862. Chapter VIII gives a brief description of the commerce by country boats in the Punjab. And the concluding remarks discuss the advisability of reviving the river navigation.

The sources of this monograph are mostly original. All the original records of the Marine Department and those bearing on river navigation in the proceedings of the General Department of the Punjab Government have been consulted. Some of them have been given in the shape of a Bibliography in the Appendices. The information contained in Chapter VIII has

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<sup>1</sup>Robertson History of India, page 69.

been gathered from personal enquiries at Jhang, Lahore, Multan, Ludhiana, and Ferozepore. The authorities for statements in the introduction and Chapter I have been quoted in the footnotes.

In the end I must thank Lieut.-Colonel H. L. O. Garrett, M.A., I.E.S., the Keeper of Government Records, Lahore, for the personal interest taken in this monograph. In fact it was due to his guidance that the author was saved from many a pitfall. I also owe a debt of gratitude to L. Sita Ram, Kohli M.A., Assistant Keeper of Government Records, Lahore, for timely suggestions and general guidance. To my Professors Rev. Ross Wilson M.A., and Rev. J. B. Weir, M.A., of F. C. College, Lahore, this monograph owes its present form. I am very thankful to them for corrections and useful suggestions.

I also feel obliged to F. F. Haigh, Esq., Under-Secretary, Irrigation Branch, and R. Trevor-Jones, Esq., Under-Secretary, Buildings and Roads Branch, Public Works Department, Punjab, for their very kindly lending me old Survey Maps from which the Maps of the river channels appended to this monograph have been prepared. S. C. Stubbs, Esq., Secretary, Provincial Communications Board, Punjab, and his Head Clerk Pt. Munshi Ram, deserve my thanks for supplying me with information regarding the roads in the Punjab and the scheme for reviving Inland Water Transport. Last but not least I acknowledge my debt of gratitude to Lala Lal Chand, Head Draftsman, Irrigation Branch, and Mehta Manohar Lal, Head Clerk, Executive Engineer, Lahore Division, Public Health Branch, Public Works Department, Punjab, for the help they gave me in the preparation of Maps and collecting information for Chapter VIII.

FAQIR CHAND, ARRORA,  
AND LALA MURRARI LAL,  
*of the Election Commissioner's office, Lahore.*

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## INTRODUCTION.

"THE subjects of Oriental traffic were splendid and trifling."

*Gibbon, II.*

THE geography of India points to her natural isolation. A glance at a map of Asia reveals her as a separately marked out unit. By giving her high mountains in the north and deep sea in the south as the guardians of her frontiers, Nature, it seems, meant her to remain isolated from other centres of human activity. But that splendid isolation was never maintained. There is ample evidence to show that from very ancient times, an intercourse of political as well as commercial nature has existed between India and other countries of the world. The importance of India in connection with this intercourse, particularly that of the commercial type, was and is really very great. At present she is merely a country which supplies raw material to the outer world, but there was a time when her manufactured articles were prized all over the civilized world. Though at present her commerce is carried on by the enterprize of others, yet for full thirty centuries, she stood out as the very heart of the old world, and maintained her position as one of the foremost maritime countries.<sup>1</sup>

Not was she merely the centre of maritime trade, but she was also connected with the commercial centres of the outer world. These routes, though they passed over dark and separated mountain ranges, glowing with heat and devoid of life; over barren tracts of land and stretches of burning sand, and though they were not infrequently infested with marauding bands of nomads, yet for many centuries have continued to be the busy highways of commerce. And it was through these channels of commerce that the specie which made India rich, flowed down to the plains of India for many a century.

The geographical isolation of India and commercial intercourse.

Intercourse both by land and sea.

<sup>1</sup> Mungerji, Radakumud, "A history of Indian Shipping and Maritime Activity from the earliest times," page 6.

**The Gate-  
way of India**

These routes connect the centre of India with the countries of the West. "It was precisely in that direction that the Indian desert presented a waterless void extending north-eastward from the mouth of the Indus to within two hundred miles of the Himalayas. It is only through this gap that there is an easy gateway into India, and this gap has played in Indian history the part that the plain of Palestine played in the history of Assyria and Egypt, and that the plain of Flanders has played in the history of Europe."<sup>1</sup> On its eastern extremity stretches the famous plain of Panipat—"a dreary yellow waste, the dead level of its surface sometimes heaving into slight undulation, sometimes broken up by tufts of coarse grass and scrubby bushes showing where a little moisture has struggled through the burning sand—but everywhere weighing upon the beholder with the same sense of desolation and flatness."<sup>2</sup> Occupying the angle where the Himalayas, which stand as a high wall on the northern frontiers of India, meet the Sulaiman which serves the same purpose on the west, and stretching between Hindustan proper and the passes, by which alone the access from the great Asiatic Continent is possible, "the Land of the Five Rivers" can aptly be called "the Gateway of India." This place has been a centre of great commercial activity from times immemorial. It is this commerce that we intend to describe briefly in this monograph.

#### A.—THE BEGINNING OF COMMERCE IN THE PUNJAB.

##### 1. COMMERCE IN THE VEDIC PERIOD.

THE earliest inhabitants of the Punjab of whom anything certain is known were the Aryans. Probably about 3,000 years before Christ, they came down in many groups from the highlands of the north to the fertile valleys of the Punjab rivers. They were not uncivilized and barbaric people, but on the contrary, were highly civilized (as compared with the standards of the times) and had sufficiently progressed in the arts of peace. But they were not essentially a commercial people. Their main industry like that

**The Aryans  
essentially  
agricul-  
turalists.**

<sup>1</sup> Trevaekia, "The Land of the Five Rivers."

<sup>2</sup> Festing, Gabrielle, "When Kings rode to Delhi."



of their descendants in the present age, seems to have been agriculture. In fact the very designation of Arya is said to be a variation of a root, which means 'to cultivate'. Thus writes Mr. R. C. Dutt, "Certain it is the word Arya is the one word in the Rig Veda which distinguishes the conquerors as a class, or even as a caste, from the aborigines of the country. And there are remarkable passages (in the Rig Veda) also, which show that the new settlers in calling themselves Arya, had not altogether forgotten the original signification of the word." One instance will suffice.

'O' Ye two Asvins! You have displayed your glory by teaching the Arya to cultivate with plough and sow corn, and by giving him rains for the production of his food, and by destroying the Dasya by your thunderbolt." (I. 117.21, Rig Veda).<sup>1</sup>

This shows that the Aryans were essentially agriculturists rather than a pastoral or commercial people, as there are few allusions to the latter in the Rig Veda.

The Rig Veda is a collection of hymns. And as might be expected the reference to such a subject as commerce must necessarily be rare in such a book. But there are certain verses here and there in this book, which throw an interesting light on the economic life of the community. One of them runs as under :—

"One sells a large quantity for a small price, and then goes to the purchaser and denies the sale, and asks for a higher price. But he cannot exceed the price once fixed on the plea that he has given a large quantity. Whether the price was adequate or inadequate, the price fixed at the time of sale must hold good." (iv, 24, 9, Rig Veda)<sup>2</sup>.

This clearly shows that a transaction, if once completed, was final. It indicates the presence of some sort of current money. It must be stated in this connection that there is no distinct allusion to coined money in the Rig Veda.

Commerce  
in Vedic  
times.

<sup>1</sup> Dutt, Ramesh Chunder, "A History of Civilisation in Ancient India."

<sup>2</sup> *Ibid.*

Early  
Commerce  
in the  
Punjab.

First Stage.

Such a state of society surely does not warrant the belief that commerce on a wide scale existed in the Punjab. The Aryans, as is well known, lived in small scattered villages under their chiefs, who may or may not have owed allegiance to Rajas or Chiefs stronger than themselves. These villages were more or less self-sufficient economic units. Even the families forming the clans which occupied the villages must have grown their grain and cotton required for food and clothing. And as in those days the clansmen were generally related to one another by blood, their mutual dealings were not based on modern commercial principles.

Second  
Stage.

This state of society did not continue for a long time. Shortly there came a stage, when villages grew in extent and population. All of the inhabitants of a village were no longer related to one another, and were not of the same social status owing to the admission of the conquered slaves into the Aryan fold. The people came to possess a greater amount of wealth as they had, by this time, acquired a greater knowledge of the land and its physical features than before. Such circumstances brought about a rudimentary sort of commerce. A sort of specialization took place, and society became divided into two parts, the Upper and the Lower. The former included the richer people, the fighting men of the village, the priests, and agriculturists and traders of the Aryan stock—the 'twice-born' of the caste system which developed some-time afterwards. The latter division included the common labourers and those who had taken to occupations, which were not honourable according to Aryan ideas, but, however, were necessary for the smooth working of society. This division was probably formed by the members of the conquered classes. Thus there came about a rude specialization and exchange of services by means of *barter*. In such a state, the village weaver supplies the cloth to the community. The teacher imparts education to the young. The priest performs sacrifice to the gods of the community, and so on. They gather at the harvest time and get their share of the produce, which is generally sufficient for the interval between the two harvests. At this time, it is custom that rules the society.



“ But the hard clear-cut lines of that definite bargaining, which so largely fashioned human life for good or for evil, came to the front when strangers sought for the satisfaction of their own wants and the disposal of their superfluities. Trade proper, and specially trade organised by a distinct class of traders or merchants, arose first out of the relations between groups of men, clans, or other rudimentary economic nations. It was international trade rather than domestic trade.”<sup>1</sup> “ At the end of this stage described above, such a trade began to grow between village and village. Means of communications are provided by linking village with village by means of roads. Mr. Havell describing the village plan of the Aryans writes, “ the largest of the main streets, which ran east and west, was known as the Kings Street—*Rajputana*, the shorter one was called *Mahakala* or *Vamana*, signifying Broad Street or Short Street. These two streets, wider than the rest and planted with trees, were the two main lines of communication linking village with village and forming the *highways of commerce*.”<sup>2</sup> We do not know about the exact nature of commerce at this time; and probably it was not considerable. Only in times of famine and scarcity grain and other articles of necessity may have been carried by bullock carts,—the typical Indian conveyance—to the affected places. A medium of exchange, money consisting of pieces of precious metal, such as has been referred above,<sup>3</sup> may have been used.

The begin-  
ning of  
commerce  
between  
different  
clans or  
groups of  
men.

Such was state of things prevalent on the eve of the Epic Age.

## 2. COMMERCE IN THE EPIC PERIOD.

The Aryans had by this time moved further east probably as far as Bengal. They had driven away the aborigines from the plains of northern India into the south, thus getting rid of the greatest peril to their existence. This gave them time to settle down peacefully and to consolidate their political and social system. The natural result was that the old tribal system gave place to larger

<sup>1</sup> Trevaekia, “The Land of the Five Rivers,” page 80.

<sup>2</sup> Havell, E. B., “The History of Aryan Rule in India,” page 23.

<sup>3</sup> See page II.

states and kingdoms, and the village settlements grew into large towns and cities. "The royal capitals became industrial and trading centres, the duties imposed upon merchandise forming part of the State-revenue. The Indus and other waterways upon which the early Aryan settlements were placed, were important trade routes linking together the military roads maintained by the State, along which passed the caravans laden with gold, precious stones, and spices from Southern India which added to the magnificence and luxury of the royal courts of Arya Varta as well as those of Western Asia and Europe."<sup>1</sup>

The development of the Caste System.

The state of civilization described in the Ramayana and the Mahabharata bears ample testimony to this statement. The extension of the Aryan Pale to the length and breadth of Northern India, must have been accompanied by the growth of commercial intercourse throughout the Pale. And as the danger of reprisals from the conquered people having ceased or at least lessened, the community settled down and took to the arts of peace. In course of time, they felt the need of specialization, and thus there arose the four castes, or division of society in four classes.

The 'Vaisha' Varuna.

The importance attached to trade and commerce at this time is clearly pointed out by the fact that the third Varuna of Vaishas is absolutely set apart for its pursuit. "That it was not merely petty trade, but an extensive intercourse between distant regions which is contemplated, is proved by the nature of the duties which are enjoined. Their principal occupation is defined to be the keeping of herds of cattle (with which in India commodities are transported from place to place), to carry on trade, to lend on interest, and cultivate the soil. Hence they are to turn their attention to practical knowledge. They must be thoroughly acquainted with all commodities and soils, with the productions and wants of other countries, with various dialects and languages, and with whatever else has direct or indirect reference to purchase and sale. In one word they are to be perfect men of business."<sup>2</sup> It was in the

<sup>1</sup> Havell, E. B. "The History of Aryan Rule in India," page 38.

<sup>2</sup> Irving's "Theory and Practice of Caste," page XI, and his "The Commerce of India," page 62;

hands of the members of this class that trade and commerce flourished in these pre-historic days.

### 3. COMMERCE IN THE PUNJAB BEFORE THE MAURYAN DOMINATION.

The earliest written Indian records depict Northern India in the sixth or seventh century B. C., as divided into a multitude of independent states, some monarchies and some tribal republics and owning no allegiance to any paramount power. "The most ancient literary traditions, compiled probably in the fourth and fifth century B.C., but looking back to an older time, enumerate sixteen of such states or powers extending from Gandhara, on the extreme north-west of the Punjab, comprising the modern districts of Peshawar and Rawalpindi to Avanti or Malwa, with its capital Ujjain, which still retains its ancient name unchanged."<sup>1</sup> This was also almost exactly the position in the Epic Age. At this time 'the Land of Five Rivers,' was probably also divided into many petty states, monarchies, oligarchies and republics—managing their own affairs and owning allegiance to no single paramount power. In such a state of things, the healthy and invigorating influence which is brought about upon the commerce of a country by the existence of one supreme political power over the whole area is absent. Consequently trade and commerce must have suffered from many handicaps such as the absence of royal protection on the highways and the prevalence of varied systems of tolls. And therefore we can not expect an active commerce between the communities at this time.

Darius, son of Hystaspes, autocrat of the Persian Empire from 521 to 485 B.C., "at some date later than 516 B.C."<sup>2</sup> sent an expedition to prove the feasibility of a passage by sea from the mouth of Indus to Persia. Its Commander, Skylax, with his companions, succeeded ultimately in reaching the Red Sea. As a consequence of this the Indus Valley was annexed to the Persian Empire. It formed one of the richest provinces of the Empire and

The invasion of Darius and its implications.

<sup>1</sup> Smith, V. A., "Early History of India," page 29; also Rhys David, "Buddhist India," page 23.

<sup>2</sup> Smith, V. A., "Early History of India," page 29.

paid the enormous tribute of 360 Euboic talents of gold dust, or 185 hundredweights, worth fully a million sterling, and constituting about one-third of the total bullion revenue of the Asiatic provinces.

This fact implies the following :—

1. The very idea of invasion implies some sort of commercial intercourse between India and countries on the west of Asia.
2. The sailing down the Punjab rivers in boats by Skylax implies that the native boats plied in the rivers in those days, *viz.*, 6th century B. C.
3. The very richness of the province implies a state of society sufficiently advanced in the arts of peace and therefore active internal commerce must have existed.
4. Henceforward the sea route between India and Persia was opened to commerce.

Alexander's  
invasion  
326 B. C.

After about two centuries concerning which we know very little, we come to the time of Alexander's invasion of the Punjab in 326 B. C. We are told that at this time there were many independent petty states in the Punjab and that the Indus formed the Eastern boundary of the Persian Empire. The Indians were well-advanced in the arts of peace and war and were rich and highly civilized. Such a state of society presupposes advanced methods of commerce.

Taxila, an  
ancient In-  
dian mart.

The city, which stood predominant during Alexander's campaign, was Taxila. It has been described as a very flourishing mart, where Asiatics of all nationalities used to gather for commercial purposes. Moreover, some of the inhabitants of Taxila followed certain customs, as that of exposing their dead to be eaten up by vultures,<sup>1</sup> and that of the poor parents selling their daughters of marriageable age in the open market,<sup>2</sup> which were surely not Aryan. Their prevalence in an Indian city can only be explained by assuming that they were the outcome of the foreign element in the population of the city, which must have been considerably

<sup>1</sup> 'The Cambridge History of India,' Volume I, page 416.

<sup>2</sup> *Ibid.*, page 414.

strengthened by the Persian occupation of the Indus Valley. Thus the commercial intercourse between this part of India and the West is clearly proved at this time.

*Secondly* "the rapidity with which Alexander penetrated into the Punjab is only to be accounted for on the supposition of his army following some well-appointed highways."<sup>1</sup> which must have been used for commercial purposes. In fact, "in the earliest times, as well as under the Moghal empire, the great roads engaged the peculiar attention of the Government."<sup>2</sup>

The route taken up by Alexander in the Punjab.

*Thirdly* that the progress of inland commerce was materially facilitated by the convenience of transport afforded by the numerous rivers of the Punjab; and that the rivers were used for this purpose is proved by the fact that the boats necessary for the crossing of the Jhelum in order to attack the recalcitrant Poros, were readily supplied to Alexander. Again on his return the fact that the forces of Alexander sailed down the Jhelum to the sea in a flotilla built on the shore of this river, proves that the natives were aware of the advantages which the rivers afforded for the purposes of commerce.

The Punjab rivers used as the high-ways of Commerce.

*Fourthly* the fact that a portion of Alexander's army under Nearchos went by the sea-route to Babylon warrants the belief that since Skylax's expedition this route had been opened to commerce.

The sea-route.

It is now commonly believed that Alexander's campaign did not produce any permanent results. "India was not hellenized. She continued to live her life of 'splendid isolation,' and soon forgot the passing of the Macedonian storm."<sup>3</sup> And what is more, "Alexander's expedition did not lead to the opening up of new highways between East and West—rather the reverse."<sup>4</sup> It is perfectly true that as an immediate result of the Macedonian Conqueror's raid, no commercial routes were opened; but as a result of this invasion, there were established some Greek principalities on the

The results of Alexander's campaign.

<sup>1</sup> Irving, B.A., "The Commerce of India," page 62.

<sup>2</sup> *Ibid*, page 62.

<sup>3</sup> Smith, V.A., "Early History of India," page 118.

<sup>4</sup> Havell, E.B., "The History of Aryan Rule in India," page 63.

north-west border of India and even in the plains of the Punjab. These supplied the connecting link between the East and the West, and thus stimulated commercial intercourse.

4. THE COMMERCE OF THE PUNJAB UNDER THE MAURYS.

“ The East bowed low before the blast  
 In patient, deep disdain,  
 She let the legions thunder past,  
 And plunged in thought again.”

*Mathew Arnold.*

The rise of Chandragupta Maurya.

Alexander left India and soon afterwards died at Babylon. His Indian provinces revolted and soon the Greek Governors were turned out. “ The wounds of battle were quickly healed ; the ravaged fields smiled again as the patient oxen and no less patient husbandmen resumed their interrupted labours ; and the places of the slain myriads were filled by the teeming swarms of a population, which knows no limit save those imposed by the cruelty of man, or the still more pitiless operations of nature.”<sup>1</sup> But this brilliant feat of arms is important in another way. It led up to the rise of Chandragupta Maurya, and the foundation of the Mauryan Empire in 321 B. C., which embraced the whole of Northern India and some parts of modern Afghanistan and Baluchistan.

The establishment of Mauryan supremacy stimulated internal as well as external commerce.

The foundation of the Mauryan Empire united the whole of Northern India, and supplied protection on the roads, and introduced a uniform system of tolls in the Empire. These measures naturally stimulated internal as well as external commerce in the country.

The means of communication in the Empire.

Such a vast Empire as that of Chandragutpa could not be kept together without being linked by up easy means of communication. This the Mauryan potentate was able enough to perceive ; and the Empire was supplied with a net-work of roads, which served military as well as commercial purposes. These radiated from the

<sup>1</sup> Smith, V. A., “ Early History of India,” page 118.



centre at Pataliputra towards the four quarters of the Empire, and covered up the entire territory embraced by it. One of these roads, with which we are concerned here, was that which has been mentioned in Megasthenes as the "Royal Road." It began at Pucelastis (Pushkalavati, now Charsadda), passed by the Kabul Valley, and went across the Indus, through Taxila, across the Hydaspes (Jhelum), the Hyphasis (Beas), the Hesydrus (Sutlej), and the Jamanes (Jamna) and then through Hastinapur reached the Ganges. Then the road went by ways of Rhodôpha (Dabhai), Calina paxa (Kanauj), Prayag (Allahabad) and Phalibothra (Patna), and ended at the mouth of the Ganges probably at Tamluk.<sup>1</sup> This is clearly the fore-runner of the modern Grand Trunk Road.

The "Royal Road."

The fact that this road almost exactly followed the route taken up by Alexander in the Punjab prompts us to believe that in the Punjab at least Chandragupta did not build this road, rather it existed before him, and he only connected it with the road to Pataliputra.

In addition to the 'Royal Road' or '*Raj marag*', there were various kinds of roads and trade-routes with various designations. Some of them are mentioned below :—

Other kinds of roads.

(i) Roads classified according to their use :—

1. *Rajmarag*.—The King's highway was usually 32 feet wide.
2. *Rathya*.—Road for chariots, was 32 feet wide.
3. *Rathpath*.—Road for smaller chariots was 10 feet wide.
4. *Pashupatha*.—Road for cattle in general was 8 feet wide.
5. *Mahapashupath*.—Road for large animals.
6. *Kashudarpashupath*.—Road for small animals was 4 feet.

<sup>1</sup> See Warmington, E. H., "The Commerce Between the Roman Empire and India," page 31; also Law, N. N. "Studies in Ancient Hindu Polity," pages 70, 71 and Megasthenes, B. K. IV. Fragment VI.

7. *Khroshtarpath*.—Road for asses and camels, was so made that it could be used in all seasons.
8. *Chakarpath*.—Was the road meant for carts.
9. *Padpath ; Manushyapath and Anspath*.—The roads for pedestrians were 4 feet wide.

Trade routes  
proper.

The Arth-Sastra describes some of these roads as trade-routes proper '*Vanikpath*.' They were *Chakarpath, Padpath Anspath* and *Khroshtarpath*.

(ii) Roads classified according to the destinations they led to :—

10. *Rashtrapath*.—32 feet wide, was the road leading to the districts.
11. *Vivitpath*.—32 feet wide, was the road leading to pastures.
12. *Sayonipath*.—Led to the fields under cultivation.
13. *Daronmukhpath*.—32 feet wide, led to the fort in the centre of 400 villages.
14. *Sthaniyapath*.—32 feet wide, led to the fort in the centre of 400 villages.
15. *Vayukpath*.—Was the road which led to a military station.
16. *Shamshanpath*.—Led to the cremation grounds.
17. *Grampath*.—Was a road which led to and through a village.
18. *Vanpath*.—Led to forests.
19. *Hastikashetarpath*.—Led to forests infested with elephants.
20. *Setupath*.—Were roads which passed over elevated and difficult places like embankments.

(iii) Roads peculiar to forts :—

21. *Rathcharyasanchar*.—Roads for chariots, paved with planks cut from the trunks of palms, or with broad or thick slabs of stones.

22. *Prthi*.—Was a passage between two towers.

23. *Devpath*.\*—Was a passage leading to a temple.

The maintenance and upkeep of these roads was one of the cares of the State. "Along these main routes trees were planted, wells were dug, and post-houses, police-stations, and hostels for travellers were built at regular intervals. Megasthenes mentions that pillars were set up at every ten stadia (about 1½ miles) to mark distances and serve as signposts.<sup>2</sup> Special fines were levied on those who did any damage to the roads.

The main:  
tenance of  
roads.

Various kinds of vehicles plied on these roads. They were the *Devarath*, the car used for carrying sacred images; the *Pushyarath*, the car used at the time of public festivals; the *Sangramik*, the war-chariot; the *Pariyanik*, the ordinary travelling car; the *Parpura-bhiyanik*, the car used in expeditions only, and the *Venik*, used only for training. These were drawn by camels, bulls, horses and asses, which along with human porters, were also used for carrying merchandise.

Means of  
transporta-  
tion.

Besides roads, rivers were regarded as the best military routes and the most important highways of commerce. There were several classes of water-routes, such as the *Kulya*, the ordinary river-routes and the artificial waterways; the *Kulpath*, the routes for coastal traffic; and the *Sanyanpath*, the ocean-routes. On these routes plied several kinds of boats and vessels, such as the *Sanyatyahnava*, the ocean-going vessels; the *Shankh-mukht-grahnah navah*, the boats used for pearl fishing; the *Mahanavah*, the boats used in large rivers; and the *Kashudrakanavah*, the boats used in small and shallow rivers. In addition to these, such primitive arrangements as rafts of timber, and bamboo tied together, baskets covered with skin and inflated leather bags were prevalent for crossing the rivers.

Means of  
communi-  
cation in  
the Empire  
—the water-  
ways.

A considerable water-borne traffic was carried on at this time. It was regulated by a separate State Department, which also main-

Chandar-  
gupta's Ad-  
miralty De-  
partment.

\* See Laws' Studies in Ancient Hindu Polity, Volume I, pages 71—75.

<sup>2</sup> Havell, E. B., "History of Aryan Rule in India," page 72.

tained harbours, ferries and bridges, and protected travellers and merchants against river and sea-pirates.

The articles  
of Com-  
merce.

Such an organized system of roads and water-routes presupposes an active and brisk trade throughout the Empire. And in fact there was a considerable amount of trade between north and south, and east and west. Kautilya, the author of Arthshastra, attaches more importance to the routes leading to south than those leading to the north, as the former were famous for the traffic in such valuable commodities as diamonds, pearls, gold and conch shells, while the latter supplied blankets, skins, and horses to the markets of Magadha.

Commerce  
with foreign  
countries.

As is well-known the Maurya potentates had political relations with many kingdoms on the west as far as Egypt. These relations naturally stimulated commerce, particularly the political as well as religious relations of Asoka with other states did much in that direction. Hence a very important feature of the time was a considerable increase in commerce with countries on the West. We would now trace the history of this commerce, which is very important on account of the flow of specie to India in return for objects exported, which were at once 'splendid and trifling.'

#### B.—THE COMMERCE BETWEEN INDIA AND THE COUNTRIES IN THE WEST.

The anti-  
quity of the  
external  
commerce.

The commerce between India and the countries in the West has been carried on from times immemorial. It appears in the very dawn of history. "The first commercial adventure on record" is that which was "conducted by a company of Ishmælitæ, come from Gilead, with their camels bearings spicery, and balm, and myrrh, going to carry it down to Egypt."<sup>1</sup>

The Arabs,  
the first  
carriers of  
trade.

Thus the Arabs seem to have been the first carriers of oriental trade. The most distinguished among them were the Sabæans, who occupied the southern portion of the Arabian peninsula. Thus situated happily, and protected from the barbaric ravages from

<sup>1</sup> Macpherson, David, "The History of the European Commerce with India."

which Western Asia suffered from time to time, they long continued to be the principal commercial agents between the nations of the East and those of the West. They supplied the coveted articles of oriental traffic to the Egyptians, who diffused them further west and north.

The rise of the Persians and afterwards that of the Macedonians gave a death blow to the commercial activities of the Egyptians. After the death of Alexander, Ptolemy, one of the Generals of the Macedonian army, established himself in Egypt. He succeeded in drawing away the oriental commerce from Sidon and Tyre to his new capital Alexandria. Till the rise of the Romans, this city remained the channel of the oriental traffic for the West.

The rise of  
Alexandria.

The first century before and after Christ witnessed great and important convulsions both in the East and the West. In the East, the Kushans were endeavouring to establish themselves in north-western India, while in the West, Rome was absorbing the remains of the Empire of Alexander. Under Augustus, the Roman Empire was at its zenith. And being aware of the advantages of Indian commerce, the Romans immediately endeavoured to participate in the commerce with India.

The rise of  
the Romans.

The accession of Augustus had a far-reaching influence on the commerce with India. Many embassies from Indian Kings, one of them being that sent by Kadphises I,<sup>1</sup> the founder of the Kushan Empire, reached him in his capital. This was in itself the result of the growth of commercial intercourse. "It was the great development of trade between India and the West, both by sea and land, in the palmy days of the Roman Empire which was the direct cause of the frequent diplomatic conversations between the courts of Indian kings and Rome."<sup>2</sup>

The com-  
merce with  
Rome.

This commerce between India and Rome continued to thrive during the 2nd and 3rd centuries A. D. Meanwhile a captain named Hippalus, discovered that the monsoons could be used to

<sup>1</sup> Rawlinson, H. G., "India and the Western World;" also Benerjee, Geurangnath, "India as known to the Ancient World," page 21.

<sup>2</sup> Havell, E. B., "The History of Aryan Rule in India," page 140.

sail successfully to the Indian shores. This made the maritime trade more important than the land trade. After the reign of Nero, there was a gradual decrease in the demand for Indian luxuries till the time of Caracalla, A. D. 217, when it almost stopped. This was probably due to the growth of the Persian Empire in Western Asia.

Commerce  
with Central  
Asia.

Although the busy commerce with Rome had stopped, the commercial intercourse with countries on the north-west of India never ceased till recent times. Leaving this topic for the future, we will now briefly describe here the chief commercial routes between the East and the West.

Early trade-  
routes be-  
tween the  
East and the  
West.

There were several routes, both by land and by sea, by which the commerce was carried on with the West.

(a) Routes by sea were as under :—

1. By way of the Persian Gulf, and up the Tigris and Euphrates to Mesopotamia ; thence by means of caravans to cities along the eastern shores of the Mediterranean. From this place the Tyrians in ancient times, and the Venetians and the Genoese in the Middle Ages, transported the oriental commodities to European marts.
2. By the Red Sea to the Arabian cities, and thence to Alexandria in Egypt and the European marts.

These routes were generally frequented by the commerce of the south-western coast of India and Sind. The Punjab commerce was mostly carried on by the land-routes, which are given below.

(b) Routes by land—

1. Through the Khyber Pass to Balkh and Khiva, and along the shores of the Caspian, to the towns on the Euxine.
2. The trade route between China and India *via* Kabul and Bactria, or through Kashmir, Tibet and Tartary joined the great silk route in Bactria.

Considerable trade was carried on by these routes. But there is a good deal of controversy over the question whether the routes by sea or by land were the more important. It is very difficult to decide this controversy once for all. But it seems that before the discovery of the monsoons, the land routes on the north were more important than the sea-routes ; but later on, the latter became more important on account of the great amount of insecurity on the land routes. But the commerce by the land-routes never stopped completely till the discovery of the Cape of Good Hope route. Even then the commerce of Central Asia was carried by these routes.

The comparative importance of land and sea routes.

“The objects of oriental traffic,” as Gibbon puts it, were “splendid and trifling.” The tremendous amount of risk involved on the way confined the traffic only to the articles of luxury. There was a large demand for them in the markets of Rome, so that there was a continued drain of specie from Rome to India. The Roman Emperors tried to check the luxurious tastes of their subjects in order to stop this drain, but failed. The articles exported from India consisted of living animals and birds, such as apes, monkeys, tigers, elephants, and parrots, peacocks, dogs and snakes ; cotton cloth, muslin, and chintz of various kinds ; silk cloth and thread ; indigo, and other dyes ; cinnamon and other spices ; sugar ; diamonds, pearls, and emeralds ; steel ; drugs, and aromatics. Rome suffered from an adverse balance of trade and paid for her imports mostly in specie, but the following articles were also imported into India :—

The Articles of Commerce.

Coarse and fine cloth (probably woollen) ; brass ; tin ; lead ; coral ; glass ; antimony ; perfumes and wines.

Imports.

The Punjab played a very important part in this commerce. All the land-routes which connected the interior with the West passed through its fertile plains, and thus encouraged the inhabitants of the Punjab to profit by it. Under the Kushans, its marts, such as Taxila and Parashpura, were the emporia of trade from the West and the East. Some of its rulers had even political rela-

The place of the Punjab in this commercial intercourse.

tions with the Roman Emperors, which must have stimulated the commerce of the Punjab with that country.

**The Punjab  
Commerce  
in the time  
of the Gup-  
tas.**

After the downfall of the Kushans, the Punjab suffered from the successive inroads of the Sakas, and later on of the Huns. The whole of it does not seem to have formed part of the Empire of the Guptas, and therefore did not benefit from the beneficent rule of those far-famed Emperors. Its position being that of a frontier province, it suffered at the time from the frequent inroads of the barbaric invaders. The commerce at the time, therefore, could be anything but active and brisk.

**In the time  
of Harsha.**

Similar must have been the condition of commerce in the time of Harsha. The Punjab proper was not one of the provinces of that illustrious monarch, and had continued to be "No man's" land. Under such a state of political affairs the commerce with distant countries must have been unsafe; but probably on account of the relation of the ruling tribes, such as the Sakas and the Huns, with Central Asia, there was a considerable trade between the Punjab and the countries of Central Asia.

#### C.—THE COMMERCE OF THE PUNJAB IN THE MUHAMMADAN PERIOD.

**The rise of  
the Muham-  
madans.**

The sixth and seventh centuries after Christ witnessed the establishment of Muhammadan supremacy in Asia. In the eighth century after Christ, Sind was invaded and conquered. The Punjab struggled on until it was annexed by the Ghaznavids in the eleventh century A. D. Henceforward the Punjab was connected intimately with the countries of Central Asia commercially as well as politically. Caravans must have come to the Punjab from all parts of Central Asia at the time of Mahmud and his successors.

**The Afghan  
rule in the  
Punjab.**

From the hands of the Ghaznavids, the Punjab passed into the hands of Shahab-ud-Din Ghorî, after whose death Kutb-ud-Din Aibak established himself as an independent sovereign. Henceforward till the battle of Panipat in 1526, the Punjab was under the rule of the Afghan Kings. They as a rule were not disposed to build roads for commercial purposes, and therefore commerce



could not have been very active at the time. The names of Feroz Shah Tughlak and Sher Shah Suri stand forth predominant among the rulers of the time, who took good care to keep roads in proper order. The latter is said to have not only rebuilt Chandragupta's old 'Royal Road', but to have kept it in proper repair and free of robbers. The comparatively peaceful reigns of both these monarchs must have stimulated internal as well as external commerce, though we do not know any definite particulars about it.

Babur, the founder of the Mughal Empire, wrested India from the hands of the Afghans in the battle of Panipat. He was an able statesman, and is said to have repaired the great royal road; but he, and also his son, Humayun, could not get time to look after the commerce of India. This the great Akbar did. He not only extended the limits of the Mughal Empire, but also consolidated it. He bestowed good care on the means of communications, and we read of roads connecting Agra, the Imperial capital, with Surat, and Lahore and thence to Kabul. These roads were kept in good order according to the standards of the time. "Though the roads were unmetalled, the main routes of land travel were clearly defined, in some cases by avenues of trees, and more generally by walled enclosures of brick or stone (serais), in which travellers and merchants could pass the night in comparative security. These contained a well supplied with baths and a tank with fresh water, with attendants to look after them and to wait on the travellers."<sup>1</sup> The chief roads were marked by Kos-minars.

India is a little changing country. Her people prefer to stick to the customs and institutions of their predecessors. This is why Hindu Society has remained essentially the same throughout the ages. Such has also been the case with the means of transport. The pack animals, asses, horses, and camels, etc., which were used for the purpose of carrying goods in ancient times, continued to be used in the Mughal period; but in addition to these the improved state of roads in these times stimulated the use of wheeled traffic, viz., bullock carts and ekkas.

The Punjab  
under the  
Mughals.

Means of  
communications by  
land.

Means of  
land trans-  
port.

<sup>1</sup> Trevisa, "The Land of the Five Rivers," page 188.

Means of  
communi-  
cations by  
water.

The waterways also continued to be used as the highways of commerce. The *Ain-i-Akbari* furnishes very interesting details about water-borne traffic in the reign of Akbar. We are told that there was a separate 'Admiralty Department,' which had to perform the following duties:—

1. To see to the supply of ships and boats for the purposes of navigation, and to supervise their building.

[It may be mentioned in this connection that boats and ships were of various types and sizes, and were put to various uses. Some were meant for the transportation of elephants and other animals; others were used for the conveyance of merchandise; and others were meant to be used as pleasure-boats.]

2. To see to the supply of men, efficient and experienced mariners, for the ships and boats.
3. To watch the rivers, and to regulate traffic at the ferries.
4. To impose, realize or to remit duties. Akbar is said to have remitted a large number of duties.

River-tolls  
in Akbar's  
time.

As No. 3 above suggests there were elaborate regulations regarding the river-traffic. No one was permitted to swim across a river. The boats were not allowed to travel at nights save in special cases. The goods could only be landed at the public wharfs. River-tolls were charged. "For every boat was charged Re. 1 per *kos* at the rate of 1,000 *mans* provided the boat and the men belong to one and the same owner. But if the boat belongs to another man and everything in the boat to the man who has hired it, the tax is Re. 1, for every 2½ *kos*. At ferry places an elephant has to pay 10*d.* for crossing; a laden cart, 4*d.*, ditto, empty 2*d.*, a laden camel, 1*d.*, empty camels, horses, cattle with thin things, ½ *d.*, ditto, empty, ¼ *d.*; other beast of burden pay 1/16 *d.*, which included the toll due by the driver. Twenty people pay 1*d.* for crossing, but they are often taken gratis."<sup>1</sup>

Commerce  
by water in  
the Punjab  
in the Mu-  
ghal Period.

Such an elaborate system of regulations presupposes a good deal of commerce by water. The numerous rivers in the Punjab

<sup>1</sup> "Ain-i-Akbari"; Blochmann's translation.

must have been very easy highways of commerce. Moreland says, "Full use was made of the river system of the Indus and Ganges, as well as of the net-work of the Channels in Bengal, and the rivers were undoubtedly the principal highways of Northern India."<sup>1</sup> It may be stated here that the strength of the flood and the direction of the wind were important factors in such a traffic, the decrease and increase in which therefore depended on a particular season.

It has been mentioned above that the roads were kept in proper order. But in considering such a statement, it should be remembered "that the standard of the seventeenth century traveller was not that of the present day: highway robberies were to be expected in Europe as well as in India, and conditions which would now be regarded as almost intolerable might be described as satisfactory by a traveller of the time of Jehangir."<sup>2</sup> And so, though we have called the conditions satisfactory, there were many obstacles in the way of the free growth of commerce. *Firstly* the roads, though generally safe, were infested with thieves in places. William Finch, an English traveller of the time of Jehangir, says that the road from Delhi to Karnal was "thievish", but from Karnal to Lahore, there was no trouble. *Secondly* the road watchmen were not trustworthy. They would try to squeeze as much as they could from the merchants. *Thirdly* heavy inland dues were charged from the merchants; and what is more the provincial and district officers were in the habit of claiming a large amount for themselves. In spite of these handicaps, the trade under the Mughals was in a flourishing condition. Merchants, who were "as subtle as the devil,"<sup>3</sup> and knew how to evade the illegal demands of the district officers and other Government officials, moved in large caravans from place to place. But "the cost of official levies and non-official robberies, together with the time which the slow-moving caravans took to reach their destination, com-

The commerce by road in the Punjab in the Mughal period.

<sup>1</sup> Moreland, W. H., "India at the Death of Akbar," page 241.

<sup>2</sup> *Ibid*, page 41.

<sup>3</sup> William Finch in his 'travels'.

bined to confine markets within narrow limits, and to make prices depend on the stock of a commodity actually on the spot other than on the supply generally available."<sup>1</sup> There was trade only in valuable commodities such as textile goods and indigo, which could bear the expenses of carriage from place to place.

**The Roads  
after Akbar.**

As has been mentioned above the inland transit dues were charged in the Mughal Period. Akbar passed orders remitting them twice during his reign, but the orders of the Central Government could be easily evaded by the Provincial Governors; and therefore they continued to be levied to the end of Akbar's reign. Jehangir, on his accession to the throne, forbade the levy of road and river tolls, and also directed that the bales of the merchants should not be opened without informing them and obtaining their leave. In spite of his efforts, the roads in Jehangir's times had considerably deteriorated according to Hawkins, who wrote that "the country is so full of thieves and outlaws that almost a man cannot stir out of doors, throughout all his (Jehangir's) dominions without great forces."<sup>2</sup> Probably much the same conditions of things continued to prevail to the time of Aurangzeb.

**The Ex-  
ternal  
commerce  
of the Pun-  
jab during  
this period.**

At this time there were two regular trade routes which connected Punjab with Afghanistan and other countries on the north-west and ultimately with Europe. The first went from Lahore to Kabul and then to the Black Sea and Constantinople. Kabul on this route was a great commercial centre, where merchants from China, India, Persia and Turkistan met and exchanged their commodities.

The second route went from Multan to Kandahar, and thence to Persia. "Both these routes carried a considerable volume of traffic when judged by standards appropriate to the conditions prevalent at the time."<sup>3</sup>

**Direct com-  
merce with  
Europe.**

An important feature of the commerce of this period is the growth of direct commerce with Europe by sea. But this con-

<sup>1</sup> Trevaakin "The Land of the Five Rivers," page 134.

<sup>2</sup> Moreland's "India at the Death of Akbar," page 46.

<sup>3</sup> *Ibid.*, page 219.

merce did not have any great effect on the commerce of the Punjab till the time of Ranjit Singh. We, therefore, prefer to ignore it at this place.

During the reigns of Akbar's successors, Jehangir, Shah Jehan and Aurangzeb the commerce of the Punjab continued to be in much the same condition as that in the reign of Akbar; though the means of land-communications were not kept in proper order. After the death of Aurangzeb, India suffered from the absence of a single supreme power. The Punjab continued to be under the decayed Mughal rulers for some time, but later on her fortunes were connected with that of the Afghan Power on the North-West. During these days, on account of the absence of efficient Government in the land, the commerce in the Punjab could not have been in a flourishing condition. The political connection of Kabul and the Punjab must have kept alive the intercourse between the commercial marts of the Punjab and Afghanistan.

**Punjab  
Commerce  
after  
Aurangzeb.**

A striking feature of these troubled times was the rise of the Sikhs. During the time of the later Mughals they gradually gathered strength. When the Punjab went under the sway of the Afghans, they under their chiefs—the Sikh Sirdars—owed allegiance to the Afghan Amir. Thus it was the Amir of Kabul, Shah Zaman, who appointed Ranjit Singh the Governor of Lahore. This remarkable man in a few years established himself as an independent ruler of the Punjab and Kashmir. The Punjab again was under a strong Indian ruler.

**The rise of  
the Sikhs in  
the Punjab.**

#### D.—THE COMMERCE OF THE PUNJAB TO THE TIME OF ANNEXATION.

Ranjit Singh gave an established Government to the inhabitants of the Punjab. But his Government was a military despotism. He took greater care to preserve order and peace and increase his income from land revenue than to improve the means of communications and stimulate commerce. On the contrary, in his time, the merchants passing from his territory had to pay very heavy tolls and duties. The old route from Kabul to Lahore was, therefore, abandoned.

**Commerce  
of the  
Punjab  
under Ranjit  
Singh.**

Routes of  
commerce  
with  
Afghanistan.

Hence the commerce of India which formerly passed through Lahore, and *vid* the Khyber Pass to Kabul, on account of the heavy duties charged by the Sikh Government and the Governor of Peshawar and the unsafe condition of the road between the Khyber and Kabul, took the following routes :—

1. That coming from Calcutta, came to Delhi, and then deviated towards Hansi, Bahawalpore, Multan, and crossed the Indus at the ferry of Kaheri. And then through the Gomal Pass to Kabul *vid* Ghazni.
2. That coming from Bombay proceeded through Gujrat to Palli in Marwar; and then through the desert of Rajputana to Bikaner, and joined the above route at Bahawalpore.
3. The third route was through Sind to Kandahar and then to Ghazni and Kabul.

The com-  
merce be-  
tween the  
Punjab and  
Afghanistan.

These routes touched only the fringes of the Punjab territory. They were joined at Jhang by a route from Amritsar, the commercial capital of the Punjab. The Punjab exports to Afghanistan went by this route to Jhang on the Chenab, and thence *vid* Dera Ismail Khan to Kandahar.

The carriers  
of this com-  
merce—the  
Powindahs.

No account of the commerce of the Punjab would be complete without a reference to the Powindahs. It were they who carried the commerce from Bombay and Calcutta, on the one hand, and to Kabul and Bokhara on the other. They were Afghans, but did not belong to any particular tribe, the majority of them belonging either to the Ghilzais, the illegitimate, or to the Lohanis, the legitimate descendants of Lodhi, the chief of Khorassan. They occupied the territory lying between the western slopes of the Suleiman range and the Derajat. In summer they would move to the highlands of Afghanistan, and further on to Bokhara with Indo-European goods. In autumn they would come back to the banks of the Indus. Leaving their families there in the vicinity of Dera Ismail Khan to graze their spare cattle, they would move with Afghan

goods to Multan, Lahore, Delhi, Cawnpore, Calcutta and even to Madras and Bombay. They would manage to return to the Dera-jat about the month of March to move on to Afghanistan.

They had to face a good deal of opposition and blackmail on their way to Kabul from the Waziris and others. They would therefore move in large caravans consisting of four or five thousand members, and would ever be ready to fight their way. "It is an interesting sight to watch a Powindah caravan wending its way through the Gomal Pass. Long trains of gaudily equipped camels, their head-stalls ornamented with bands of worsted work and strings of coloured shells. On their backs are slung the covered Khajawahs containing the wives of the richer merchants. These form the main body of the procession, which is made up of other camels laden with bales of merchandise; droves of sheep, goats, troops of ragged urchins, screaming and laughing, in their endeavours to aid the women in maintaining some sort of order in the apparently chaotic mass. A few men armed with knife, sword, and match-lock, guard the main portion, but a few hundred yards ahead may be seen a compact body of the fighting men of the clan, mounted and dismounted, all armed to the teeth, who constitute the vanguard. On either flank, crowning the heights with greatest care and almost military exactitude, move a similar body of footmen, whilst in rear follows an equally strong party, all on the watch for their hereditary enemy, the Vaziris. As the caravan nears the halting stage, pickets are posted, the camels are unladen and permitted to crop the herbage of the hills in the immediate neighbourhood of the caravan, but even here they are strongly escorted and driven to the encampment as dusk draws on. The black blanket tents are pitched, fires lighted and the evening meals cooked in readiness for the return of the camel escort." This is the description of a Powindah caravan given by Sir W. P. Andrew in his book "Our Scientific Frontier."<sup>1</sup>

Such were the carriers of the commerce between India and the countries on the north-west. They carried on a considerable ex-

The articles  
of com-  
merce.

<sup>1</sup> Page 80.

port and import trade. The following were the exports from this country :—

**Exports.**

English cotton piece-goods, silks of all sorts, chintzes, European coloured clothes, merinoes, velvets, copper, tin, tea, cardamums, pepper, betel nuts, sugar, country muslin, indigo, dried jinger, borax, sal ammonia, turmeric, carbonate of potash, salt, pewter, steel, firearms, gun-powder, money, cotton, and various medicines.

**Imports.**

The following were the imports :—

1. From *Bokhara* and *Samarkand*—silk, horses, drugs, manna, wool, gold coins, furs, and gold and silver wire and thread.
2. From Herat Herat silk, Persian carpets, currants, turquoises, antimony, quince seed, saffron, and goats' hair.
3. From Kabul—Pistachio nuts, dried grapes, almonds, pomegranates, melons, grapes, pears, apples, asafoetida, dried apricots, cinnamon seeds, goats' hair for shawls, country clothes, sheep skins, choqas or camels' hair cloaks, and dyes.
4. From *Ghazni* and *Kandahar*—Madder, sheeps' wool, liquorice, rice, ghee, sarsaparilla, gum arabic, mint, rhubarb, and fruits.

The total imports were about one million sterling annually.

The condition of inland commerce during this period.

During the Sikh regime means of communication were bad. "The old Mughal roads had degenerated into mere tracks through the woods and jungle and were always infested with robbers."<sup>1</sup> The roads, such as they were, being *kachha*,<sup>2</sup> they would become impassable during the rains on account of mud, so much so that the camels would sink up to their haunches in mud, while the oxen would be unable to extricate the carts, which would get jammed in the mud. Such a condition of roads coupled with the six famines which overtook the Punjab during the Sikh regime could but have a baneful influence on the commerce of this province.

<sup>1</sup> Trevaekia, "The Land of the Five Rivers."

<sup>2</sup> Unmetalled.



Yet a certain amount of commerce was carried on between the different parts of the Punjab. Amritsar, the sacred city of the Sikhs, was the commercial capital of the Punjab. Merchants from Kashmir, Afghanistan, Bokhara, Delhi and other parts of the Punjab gathered there from the exchange of goods. Other important cities were Multan and Jhang in the Sikh territory, and Ferozepore and Ludhiana in the Cis-Sutlej territory.

A considerable amount of commerce was also carried on by means of rivers. Under Ranjit Singh attempts were made to regulate it by means of treaties.<sup>1</sup> between the British and the Sikh potentate.

At the time of the annexation the conditions were much the same. But the introduction of the British element in the Government of the country had restored confidence among the merchants, who began to use the roads more frequently. Thus the road from Kabul to Lahore, *vid.*, Peshawar was again opened to commerce.

The policy of the new Governments was to develop the resources of the country and to improve the means of communication and thus stimulate commerce. The old roads were repaired and the new built; the Railways were planned: and attempts were made to improve river navigation. In order to accomplish the last mentioned object, the Marine Department of the Government of the Punjab was organized in 1861-62. The accompanying monograph attempts a sketch of the history of this Department for the period of its existence from 1861-62 to 1871-72.

The condition of things at the time of the annexation of the Punjab.

The policy of the British.

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<sup>1</sup> See Chapter 1 below.

**APPENDIX No. I.**

*Rates of duty leviable by Maharaja Ranjit Singh on Merchandize<sup>1</sup> navigating the  
Sutlej and the Indus.*

	Rs.	A.	P.		Rs.	A.	P.
Shawl goods	..	10	0	0	Oil (Roghan Seeah)	..	..
Opium	..	7	8	0	Costus (Kooth)	..	..
Indigo	..	2	8	0	Sugar Candy (Nubat)	..	..
Almonds	..	..	..	..	Gall (Hullelehizurd)	..	..
Pistashes	..	..	..	..	The emblic myrobalans	..	..
Raisins, small and large	..	..	..	..	(Ahmleh)	..	0 4 0
Pine Kernels	..	..	..	..	The belleric myrobalans	..	..
Figs	..	..	..	..	(Bulleh)	..	..
And other dried fruits,					Cotton (Pumbah)	..	..
Red Dye (Rubia Man-					Small Gall (Hulleleh	..	..
jit)	..	0	8	0	Zungee)	..	..
Silk of all sorts	..	..	..	..	Walnuts (Akhrot)	..	..
Manufactured and other-					Cichrium Endwia (Kas-	..	..
wise broad cloth of					nee)	..	..
every description	..	0	6	0	Mellon Seed (Khurgarn)	..	..
Velvet	..	..	..	..	Turmeric (Zurdehob)	..	..
Satin	..	..	..	..	Ginger (Adruk)	..	..
Chintzes and figured	..	..	..	..	A kind of Collyrium	..	..
Velveteens	..	..	..	..	(Russorit)	..	0 4 0
White cotton cloth of all					Alces (Sibi)	..	..
sorts (Parcheb Sauffed,					Saffrom (Zafrah)	..	..
Raismanee Hummah					Catachu (Kutha)	..	..
Kissum)	..	0	4	0	Soapnut (Retha)	..	..
Chintzes of all sorts (Aki-					The bark of the Birch	..	..
sam-i-Cheert)	..	..	..	..	Tree (Bhoj Puttur)	..	..
Sugar (Sukurturice)	..	..	..	..	Dry Ginger (Zungbeer)	..	..
Molasses (Shukur Soorkh)	..	..	..	..	And other Groceries	..	..
and Khand Seeah)	..	..	..	..	Cardamums small and	..	..
Clarified Butter (Roghan					large (Olachee Khurd	..	..
Zard)	..	..	..	..	and Kalan)	..	..

<sup>1</sup> By virtue of the Treaty concluded on 18th May, 1839, between Ranjit Singh and the British.

Rs. A. P.	Rs. A. P.
Seeds of Cardamums	Tea (Chah) .. ..
(Dann ah Illachee) .. ..	All sorts of Glassware
Cinnabar or Vermillion	(Aksami shee, sheh allat) .. ..
(Shingruif) .. ..	Assafetida (Angozeh) .. ..
Pellitory (Akurkurha) .. 0 4 0	B'dellium (Googul) .. 0 4 0
Cloves (Kuruful) .. ..	Maeen (Maeen) .. ..
Nutmeg (Jaesful) .. ..	Collyrium (Soorma) .. ..
Mace (Iavuttree) .. ..	Alum (Phitkuree) .. ..
Cinnamon (Darcheenee) .. ..	Multan earth (Gili Mul-
Dry Dates (Khoormai	tani) .. ..
Khooshak) .. ..	Copper (Miss) .. ..
Turbith Root (Toor-	Tin (Kulee) .. ..
bood) .. ..	Quick silver (Seemanl) .. ..
Cocoanut (Naryeel) .. ..	Lead (Soorb) .. ..
Asgundh (Asgundh) .. ..	Pewter (Just) .. ..
Orpiment (Hurtal) .. ..	Brass (Birinjee) .. ..
Bamboo Sugar (Tuba-	Bell Metal (Roeen) .. ..
sheer) .. ..	Articles of Ironmongery
Armenian Earth (Gili-i-	(Aksam-i-Ahum) .. ..
Armunnee) .. ..	And other Articles of Im-
Black Pepper (Filfil-i-	port from Bombay .. ..
Seeah) .. ..	Rice (Birunj) .. ..
Red Pepper (Filfil-i-	Wheat (Gundaom) .. ..
Durrax) .. 0 4 0	Gram (Nukhood) .. ..
Gallnut (Mazoo) .. ..	Maizes (Moth, Moongh,
Shells (Khurmohreh) .. ..	Mash, Adus.) .. ..
China Root (Chobchee-	Barley (Jau) .. ..
nee) .. ..	Aniseed (Koonjud Susuf) .. ..
Morinda Citrifolia (Aul)	Indian Corn (Bajrah,
Betelnut (Sooparee) .. ..	Mukkee, Jowar) .. ..

## APPENDIX No. II.

*A scale of duties agreed to by Maharajah Kharak Singh in 1840.*

	Rs.	A.	P.
Duty on a boat not exceeding two hundred and fifty maunds of freight, proceedings from the foot of the hills, Rupar or Ludhiana, to Mithankot or Rojan, or from Rojan or Mithankot to the foot of the hills, Rupar or Ludhiana	50	0	0
<i>Vis.,</i>			
From the foot of the hills to Ferozepore, or back	..	20	0 0
From Bahawalpore to Mithankot or Rojan, or back	..	15	0 0
From to Bahawalpore, or back	...	15	0 0
The whole trip up or down	..	50	0 0
Duty on a boat above two hundred and fifty maunds, but not exceeding five hundred maunds, from the foot of the hills, Rupar or Ludhiana, to Mithankot or Rojan, or from Rojan or Mithankot to the foot of the hills, Rupar or Ludhiana	..	100	0 0
<i>Vis.,</i>			
From the foot of the hills to Ferozepore or back	..	40	0 0
From Ferozepore to Bahawalpore or back	..	80	0 0
From Bahawalpore to Mithankot or Rojan, or back	..	80	0 0
The whole trip, up or down	..	100	0 0
Duty on all boats above five hundred maunds	..	150	0 0
<i>Vis.,</i>			
From the foot of the hills to Ferozepore or back	..	60	0 0
From Ferozepore to Bahawalpore or back	..	45	0 0
From Bahawalpore to Mithankote or Rojan or back	..	45	0 0
The whole trip, up or down	..	150	0 0

Rs. A. P.	Rs. A. P.
Seeds of Cardamums	Tea (Chah) .. ..
(Dann ah Illachee) .. ..	All sorts of Glassware
Cinnabar or Vermillion	(Aksami shee, sheh allat) .. ..
(Shingruf) .. ..	Assafetida (Angozeh) .. ..
Pellitory (Akurkurha) .. 0 4 0	B'dellium (Googul) .. 0 4 0
Cloves (Kuruful) .. ..	Maeen (Maeen) .. ..
Nutmeg (Jaesful) .. ..	Collyrium (Soorma) .. ..
Mace (Iavuttree) .. ..	Alum (Phitkuree) .. ..
Cinnamon (Darcheenee) .. ..	Multan earth (Gili Mul-
Dry Dates (Khoormai	tani) .. ..
Khooshak) .. ..	Copper (Miss) .. ..
Turbith Root (Toor-	Tin (Kulee) .. ..
bood) .. ..	Quick silver (Seemaul) .. ..
Cocoanut (Naryeel) .. ..	Lead (Soorb) .. ..
Asgundh (Asgundh) .. ..	Pewter (Just) .. ..
Orpiment (Hurtal) .. ..	Brass (Birinjee) .. ..
Bamboo Sugar (Tuba-	Bell Metal (Roeen) .. ..
sheer) .. ..	Articles of Ironmongery
Armenian Earth (Gili-i-	(Aksam-i-Ahum) .. ..
Armunnee) .. ..	And other Articles of Im-
Black Pepper (Filfil-i-	port from Bombay .. ..
Seeah) .. ..	Rice (Birunj) .. ..
Red Pepper (Filfil-i-	Wheat (Gundaom) .. ..
Durraz) .. 0 4 0	Gram (Nukhood) .. ..
Gallnut (Mazoo) .. ..	Maizes (Moth, Moongh,
Shells (Khurmohreh) .. ..	Mash, Adus.) .. ..
China Root (Chobchee-	Barley (Jau) .. ..
nee) .. ..	Aniseed (Koonjud Susuf) .. ..
Morinda Citrifolia (Aul)	Indian Corn (Bajrah,
Betelnut (Sooparee) .. ..	Mukkee, Jowar) .. ..

## APPENDIX No. II.

*A scale of duties agreed to by Maharajah Kharak Singh in 1840.*

	Rs. A. P.
Duty on a boat not exceeding two hundred and fifty maunds of freight, proceedings from the foot of the hills, Rupar or Ludhiana, to Mithankot or Rojan, or from Rojan or Mithankot to the foot of the hills, Rupar or Ludhiana	50 0 0
<i>Vis.,</i>	
From the foot of the hills to Ferozepore, or back ..	20 0 0
From Bahawalpore to Mithankot or Rojan, or back ..	15 0 0
From .. to Bahawalpore, or back ...	15 0 0
The whole trip up or down .. .. .	50 0 0
Duty on a boat above two hundred and fifty maunds, but not exceeding five hundred maunds, from the foot of the hills, Rupar or Ludhiana, to Mithankot or Rojan, or from Rojan or Mithankot to the foot of the hills, Rupar or Ludhiana .. .. .	100 0 0
<i>Vis.,</i>	
From the foot of the hills to Ferozepore or back ..	40 0 0
From Ferozepore to Bahawalpore or back ..	30 0 0
From Bahawalpore to Mithankot or Rojan, or back ..	90 0 0
The whole trip, up or down .. .. .	100 0 0
Duty on all boats above five hundred maunds .. .. .	150 0 0
<i>Vis.,</i>	
From the foot of the hills to Ferozepore or back ..	60 0 0
From Ferozepore to Bahawalpore or back ..	45 0 0
From Bahawalpore to Mithankote or Rojan or back ..	45 0 0
The whole trip, up or down .. .. .	150 0 0

## APPENDIX No. III.

*Detailed statement of the amount of Toll leviable in the Bahawalpore Territory on boats proceeding up and down the river Sutlej and Indus.*

	Rs. A. P.
1. On all boats laden with merchandize proceeding from beyond the eastern frontier of the Bahawalpore Territory to Khairpur Shargia, and <i>vice versa</i> .. ..	53 6 1
On all boats laden with merchandize proceeding from beyond the eastern frontier to Bahawalpore and <i>vice versa</i> ..	66 11 8
On all boats laden with merchandize proceeding from beyond the eastern frontier to Chachrah and <i>vice versa</i> ..	93 6 8½
On all boats laden with merchandize proceeding from beyond the north-east frontier to the south-west frontier, and <i>vice versa</i> .. .. ..	106 12 8
2. On all boats laden with merchandize proceeding from beyond the south-east frontier to Chachrah and <i>vice versa</i> .. .. ..	19 15 6
On all boats laden with merchandize proceeding from beyond the south-west frontier to Bahawalpore and <i>vice versa</i>	40 0 0
On all boats laden with merchandize proceeding from beyond the south-west frontier to the north-east frontier and <i>vice versa</i> .. .. ..	106 12 8
On all boats laden with merchandize proceeding from beyond the south-west frontier to Khairpur and <i>vice versa</i> .. .. ..	53 6 1½
3. On all boats laden with merchandize from the rivers of the Punjab that enter the channel of the Sutlej and Indus, opposite the ferry of Bakri, if they proceed from the above ferry to beyond the south-west frontier of the Bahawalpore Territory, and into a foreign territory or <i>vice versa</i> .. .. ..	26 11 ¾
On all boats laden with merchandize from the rivers of the Punjab that enter the channel of the Sutlej and Indus, on boats proceeding the ferry of Bakri to beyond the north-east frontier and into a foreign territory and <i>vice versa</i> .. .. ..	85 1 2½

\* Approved by the Governor-General of India on the 11th October 1838.

4. On empty boats no duty was to be levied
5. "At whatever place in the Bahawalpore Territory merchants may stop to lay in, or dispose of, cargo agreeably to the former treaties, they will pay the established duties of that place on the purchase and sale of goods."



## APPENDIX No. IV.

*Proposed† rates for the Navigation of the Sutlej and the Indus by Mercantile boats (excepting the Nawab Bahawal Khan's own merchants and subjects) to be paid for the transit through the Bahawalpore Territory.*

A boat not capable of containing more than 250 maunds of freight, proceeding from Rajhan or Kote Mithan, to the foot of the hills, Rupar, Ludhiana, &c., or from Rupar, or Ludhiana to Rojhan, or Kote Mithan ..	10	0	0
A boat above 250 maunds, and not exceeding 500 maunds..	20	0	0
A boat above 500 maunds .. .. .	40	0	0

†Sanctioned by the Governor-General of India in Council on the 31st August, 1840.

## APPENDIX No. V.

*Fares for passage and rates of freight for private passengers goods, Government Officers and Soldiers, Stores, &c., &c., by the vessels of the Indus Flotilla Company, between Kotri and Multan.*

TABLE A.

*Upward fares for passengers from Kotri to Multan.*

	Rs.	A.	P.
For 1st class passengers, Cabin accommodation and everything provided except cigars .. .. .	250	0	0
For 2nd class passengers, saloon accommodation and everything provided except liquor .. .. .	200	0	0
For 3rd class passengers on Deck .. .. .	20	0	0
For children between 12 and 6 years of age .. .. .	Half price.		
For children between 6 and 3 years of age .. .. .	Quarter price.		
For Mail Guards and officer of the Post Officer Department (when on duty) .. .. .	Free.		
For Military Officer, Troops and Government Artisans (when on duty or provided with passage at the expense of the Government) as follows :—			
1st. Those entitled to 1st class passage .. .. .	200	0	0
2nd. Those entitled to 2nd class passage, Warrant Officers, &c. .. .. .	70	0	0
3rd. Soldiers and non-commissioned officers .. .. .	20	0	0

TABLE B.

*Upward fares for Horses, Carriages, &c., from Kotri to Multan.*

	Rs.	A.	P.
For a carriage or Buggy per 100 miles .. .. .	5	0	0
For a Palanquin per 100 miles .. .. .	4	0	0
For a horse, pony, bullock, &c., per 100 miles .. .. .	10	0	0
For dogs, sheep or goats each per 100 miles .. .. .	1	0	0

*Upward Freights.*

For seeds, grain, cotton, wool, and saltpetre per maund (of 82 lbs.) .. .. .	0	8	6
For seeds and cotton, if from Kotri to Multan per maund (of 82 lbs.) .. .. .	1	4	0

## viii

For Railway permanent way materials such as rails, chains, fish plates, spikes, nuts and bolts, (a special rate, if from Kotri to Multan) per maund ..	Rs. A. P.	1 0 0
For all other goods per maund (of 82 lbs.) ..	..	0 4 6
For all other goods, if from Kotri to Multan per maund (of 82 lbs.) .. ..	.. ..	1 9 8
For Treasure (silver and gold per 100 miles) ..	..	1½ per cent.

*Downward Fares and Freight from Multan to Kotri.*

For passengers and goods, stores, carriages, horses, &c. ..	..	⅓rd of upward rates.
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*N.B.*—For original source for A & B, see the memorandum attached to letter No. 149, from the Under-Secretary to Government, Punjab, Railway Department, to the Secretary to Government, Punjab, dated Murree, 8th July, 1891. Also "Government Gazette, Punjab and its Dependencies" for 17th July, 1891.

## APPENDIX No. VI.

The following tables show the rates of up and down freight as proposed by Captain Hampton for the through traffic between Peshawar and Karachi. They also show the up and down rates of freight charged by the Punjab Government Steam Flotilla between Sukkur and Mukhd only.

TABLE A.

Karachi to	CLASS.					REMARKS.
	1st.	2nd.	3rd.	4th.	5th.	
	Rs. A.P.	Rs. A.P.	Rs. A.P.	Rs. A.P.	Rs. A.P.	
Sukkur per maund of 80 lbs.	1 3 6	1 6 7	1 8 1	2 1 0	3 5 5	I.—Freight on goods will have to be paid in transit.
Dera Ghazi Khan per maund of 80 lbs.	3 3 6	3 6 7	3 8 1	4 1 0	5 5 5	II.—An error being discovered in the freight charged, the deficiency will have to be paid prior of delivery of goods.
Dera Ismail Khan per maund of 80 lbs.	3 11 6	3 14 7	4 0 1	4 9 0	5 13 5	III.—Goods not cleared away with- in 48 hours of arrival will be liable to godown rent at one anna per package per diem.
Mukhd per maund of 80 lbs.	4 3 6	4 6 7	4 8 1	5 1 0	6 5 5	
Attock per maund of 80 lbs.	5 3 6	5 6 7	5 8 1	6 1 0	7 5 5	
Rawalpindi per maund of 80 lbs.	6 5 5	8 7 5	5 10 1	6 3 0	7 7 5	
Peshawar per maund of 80 lbs.	5 9 6	5 12 7	5 14 1	6 7 0	7 11 5	
Kohat per maund of 80 lbs.	4 15 6	5 2 7	5 4 1	5 13 1	7 1 5	
Nowahera per maund of 80 lbs.	5 6 6	5 9 7	5 11 1	6 4 0	7 8 5	

TABLE B.

*Down freight only on goods from Peshawar to Karachi and immediate stations.*

*Note.*—Down charges of freight fluctuate according to the state of market and are therefore to be considered as the minimum rates, the rates of the Indus Steam Flotilla and the Sindh Railway are to be revised as may be deemed advisable by those companies.

**No. 1.**

	Class of goods.	FROM PESHAWAR.			
		Karachi.	Sukkur.	Dera Ghazi Khan.	Dera Ismail Khan.
		Rs. A.P.	Rs. A.P.	Rs. A.P.	Rs. A.P.
Block iron .. .. .	1st	2 15 6	2 6 0	1 14 0	1 10 0
Seeds .. .. .	3rd	3 1 1	2 6 0	1 14 0	1 10 0
Cloth (piece) .. .. .	4th	4 1 0	2 6 0	1 14 0	1 10 0
Jeera Coriander .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Rice .. .. .	3rd	3 1 1	2 6 0	1 14 0	1 10 0
Saltpetre .. .. .	2nd	2 15 1	2 6 0	1 14 0	1 10 0
Tallow .. .. .	2nd	3 10 7	2 6 0	1 14 0	1 10 0
Paper .. .. .	2nd	3 10 7	2 6 0	1 14 0	1 10 0
Dry dates .. .. .	2nd	3 2 7	2 6 0	1 14 0	1 10 0
Sugar .. .. .	2nd	6 6 7	2 6 0	1 14 0	1 10 0
Cotton pressed .. .. .	3rd	3 6 1	2 6 0	1 14 0	1 10 0
Cotton unpressed .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Cotton thread .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Dye stuff .. .. .	3rd	3 8 1	2 6 0	1 14 0	1 10 0
Ghee or oil cakes .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Tobacco .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Manjeet .. .. .	4th	3 11 0	2 6 0	1 14 0	1 10 0
Turmeric .. .. .	3rd	3 6 1	2 6 0	1 14 0	1 10 0
Raisins .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Pepper .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Paper .. .. .	4th	3 15 1	2 6 0	1 14 0	1 10 0
Borax .. .. .	3rd	3 4 1	2 6 0	1 14 0	1 10 0

	Class of goods.	FROM PESHAWAR.			
		Karachi.	Sukkur.	Dera Ghazi Khan.	Dera Ismail Khan.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Carpets .. .. .	3rd	3 14 1	2 6 0	1 14 0	1 10 0
Shoes .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Wool pressed .. .. .	4th	3 7 0	2 6 0	1 14 0	1 10 0
Wool unpressed .. .. .	4th	3 9 0	2 6 0	1 14 0	1 10 0
Country medicines .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Toys .. .. .	4th	4 7 0	2 6 0	1 14 0	1 10 0
Indigo .. .. .	5th	4 7 5	2 6 0	1 14 0	1 10 0
Dry fruit .. .. .	3rd	5 3 5	2 6 0	1 14 0	1 10 0
Silk .. .. .	5th	5 3 5	2 6 0	1 14 0	1 10 0
Ivory .. .. .	5th	5 3 5	2 6 0	1 14 0	1 10 0
Tea .. .. .	4th	3 11 0	2 6 0	1 14 0	1 10 0
Wines and spirits .. .. .	4th	3 11 0	2 6 0	1 14 0	1 10 0
Ghee .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Fashmina .. .. .	5th	5 3 5	2 6 0	1 14 0	1 10 0

TABLE B.

*Down freight only on goods from Peshawar to Karachi and immediate stations.*

*Note.*—Down charges of freight fluctuate according to the state of market and are therefore to be considered as the minimum rates, the rates of the Indus Steam Flotilla and the Sindh Railway are to be revised as may be deemed advisable by those companies.

No. 1.

	Class of goods.	FROM PESHAWAR.			
		Karachi.	Sukkur.	Dera Ghazi Khan.	Dera Ismail Khan.
		Rs. A.P.	Rs. A.P.	Rs. A.P.	Rs. A.P.
Block iron .. .. .	1st	2 15 6	2 6 0	1 14 0	1 10 0
Seeds .. .. .	3rd	3 1 1	2 6 0	1 14 0	1 10 0
Cloth (piece) .. .. .	4th	4 1 0	2 6 0	1 14 0	1 10 0
Jeera Coriander .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Rice .. .. .	3rd	3 1 1	2 6 0	1 14 0	1 10 0
Saltpetre .. .. .	2nd	2 15 1	2 6 0	1 14 0	1 10 0
Tallow .. .. .	2nd	3 10 7	2 6 0	1 14 0	1 10 0
Paper .. .. .	2nd	3 10 7	2 6 0	1 14 0	1 10 0
Dry dates .. .. .	2nd	3 2 7	2 6 0	1 14 0	1 10 0
Sugar .. .. .	2nd	3 6 7	2 6 0	1 14 0	1 10 0
Cotton pressed .. .. .	3rd	3 6 1	2 6 0	1 14 0	1 10 0
Cotton unpressed .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Cotton thread .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Dye stuff .. .. .	3rd	3 8 1	2 6 0	1 14 0	1 10 0
Ghee or oil cakes .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Tobacco .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Manjeet .. .. .	4th	3 11 0	2 6 0	1 14 0	1 10 0
Turmeric .. .. .	3rd	3 6 1	2 6 0	1 14 0	1 10 0
Raisins .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Pepper .. .. .	3rd	3 12 1	2 6 0	1 14 0	1 10 0
Paper .. .. .	4th	3 15 1	2 6 0	1 14 0	1 10 0
Borax .. .. .	3rd	3 4 1	2 6 0	1 14 0	1 10 0

	Class of goods.	FROM PESHAWAR.			
		Karachi.	Sukkur.	Dera Ghasi Khan.	Dera Ismail Khan.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Carpets .. .. .	3rd	3 14 1	2 6 0	1 14 0	1 10 0
Shoes .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Wool pressed .. .. .	4th	3 7 0	2 6 0	1 14 0	1 10 0
Wool unpressed .. .. .	4th	3 9 0	2 6 0	1 14 0	1 10 0
Country medicines .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Toys .. .. .	4th	4 7 0	2 6 0	1 14 0	1 10 0
Indigo .. .. .	5th	4 7 5	2 6 0	1 14 0	1 10 0
Dry fruit .. .. .	3rd	5 3 5	2 6 0	1 14 0	1 10 0
Silk .. .. .	5th	5 3 5	2 6 0	1 14 0	1 10 0
Ivory .. .. .	5th	5 3 5	2 6 0	1 14 0	1 10 0
Tea .. .. .	4th	3 11 0	2 6 0	1 14 0	1 10 0
Wines and spirits .. .. .	4th	3 11 0	2 6 0	1 14 0	1 10 0
Ghee .. .. .	4th	3 15 0	2 6 0	1 14 0	1 10 0
Peashma .. .. .	5th	5 3 5	2 6 0	1 14 0	1 10 0



## No. 2.

	Class of goods.	FROM MUKHUD.			
		Karachi	Sukkur.	Dera Ghazi Khan.	Dera Ismail Khan.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Block iron .. ..	1st	1 9 6	1 0 0	0 8 0	0 4 0
Seeds .. ..	3rd	1 11 0	1 0 0	0 8 0	0 4 0
Cloth (piece) .. ..	4th	2 11 0	1 0 0	0 8 0	0 4 0
Jeera corinder .. ..	3rd	2 6 0	1 0 0	0 8 0	0 4 0
Rice .. ..	3rd	1 11 0	1 0 0	0 8 0	0 4 0
Saltpetre .. ..	2nd	1 9 1	1 0 0	0 8 0	0 4 0
Tallow .. ..	2nd	2 4 7	1 0 0	0 8 0	0 4 0
Paper .. ..	2nd	2 4 7	1 0 0	0 8 0	0 4 0
Dry dates .. ..	2nd	1 12 7	1 0 0	0 8 0	0 4 0
Sugar .. ..	2nd	2 0 7	1 0 0	0 8 0	0 4 0
Cotton pressed .. ..	3rd	2 0 1	1 0 0	0 8 0	0 4 0
Cotton unpressed .. ..	4th	2 9 0	1 0 0	0 8 0	0 4 0
Cotton thread .. ..	4th	2 9 0	1 0 0	0 8 0	0 4 0
Dye stuff .. ..	3rd	2 2 1	1 0 0	0 8 0	0 4 0
Ghee or oil cakes .. ..	3rd	2 6 1	1 0 0	0 8 0	0 4 0
Tobacco .. ..	3rd	2 6 1	1 0 0	0 8 0	0 4 0
Munjeet .. ..	3rd	2 5 0	0 0	0 8 0	0 4 0
Raisins .. ..	3rd	2 6 1	1 0 0	0 8 0	0 4 0
Pepper .. ..	3rd	1 14 1	1 0 0	0 8 0	0 4 0
Tape .. ..	4th	2 9 0	1 0 0	0 8 0	0 4 0
Borax .. ..	3rd	1 14 0	1 0 0	0 8 0	0 4 0
Carpets .. ..	3rd	2 8 1	1 0 0	0 8 0	0 4 0
Shoes .. ..	4th	2 9 0	1 0 0	0 8 0	0 4 0
Wool pressed .. ..	4th	2 1 1	1 0 0	0 8 0	0 4 0
Wool unpressed .. ..	4th	2 3 1	1 0 0	0 8 0	0 4 0
Country medicines .. ..	4th	2 9 0	1 0 0	0 8 0	0 4 0

	Class of goods.	FROM MUKHUB.			
		Karachi.	Sukkur.	Dera Ghazi Khan.	Dera Ismael Khan.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Toys .. .. .	4th	3 1 0	1 0 0	0 8 0	0 4 0
Indigo .. .. .	5th	3 1 5	..	0 8 0	0 4 0
Dry fruit .. .. .	3rd	2 6 1	1 0 0	0 8 0	0 4 0
Silk .. .. .	5th	3 13 5	1 0 0	0 8 0	0 4 0
Ivory .. .. .	5th	2 13 5	1 0 0	0 8 0	0 4 0
Tea .. .. .	4th	2 5 1	1 0 0	0 8 0	0 4 0
Wines and spirite .. .. .	4th	2 5 8	1 0 0	0 8 0	0 4 0
Ghee .. .. .	4th	2 9 0	1 0 0	0 8 0	0 4 0
Pashmina .. .. .	5th	2 13 0	1 0 0	0 8 0	0 4 0

## No. 3.

	Class of goods.	FROM DERA ISMAIL KHAN.		
		Karachi.	Sukkur.	Dera Ghazi Khan.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
Block iron .. .. .	1st	1 5 6	0 12 0	0 4 0
Seeds .. .. .	3rd	1 7 1	0 12 0	0 4 0
Cloth (piece) .. .. .	4th	2 7 0	0 12 0	0 4 0
Jeera Corinder .. .. .	3rd	2 2 1	0 12 0	0 4 0
Rice .. .. .	3rd	1 7 1	0 12 0	0 4 0
Saltpetre .. .. .	2nd	1 5 1	0 12 0	0 4 0
Tallow .. .. .	2nd	2 0 7	0 12 0	0 4 0
Paper .. .. .	2nd	2 0 7	0 12 0	0 4 0
Dry dates .. .. .	2nd	1 8 7	0 12 0	0 4 0
Sugar .. .. .	2nd	1 12 7	0 12 0	0 4 0
Cotton pressed .. .. .	3rd	2 5 0	0 12 0	0 4 0
Cotton unpressed .. .. .	4th	2 5 0	0 12 0	0 4 0
Cotton thread .. .. .	4th	2 5 0	0 12 0	0 4 0
Dye stuff .. .. .	3rd	1 14 1	0 12 0	0 4 0
Ghee or oil cakes .. .. .	3rd	2 2 1	0 12 0	0 4 0
Tobacco .. .. .	3rd	2 2 1	0 12 0	0 4 0
Munjeet .. .. .	4th	2 1 0	0 12 0	0 4 0
Turmeric .. .. .	3rd	1 12 0	0 12 0	0 4 0
Raisins .. .. .	3rd	2 2 1	0 12 0	0 4 0

## No. 4.

				FROM DERA GHAAZI KHAN.	
Class of goods.				Karschi.	Sukkur.
				Rs. A. P.	Rs. A. P.
Block iron	..	1st	..	1 1 6	0 8 0
Seeds	..	3rd	..	1 3 1	0 8 0
Cloth (piece)	..	4th	..	2 3 0	0 8 0
Jeera corinder	..	3rd	..	1 14 1	0 8 0
Rice	..	3rd	..	1 13 1	0 8 0
Saltpetre	..	2nd	..	1 1 1	0 8 0
Tallow	..	2nd	..	1 12 7	0 8 0
Paper	..	2nd	..	1 12 7	0 8 0
Dry dates	..	2nd	..	1 4 7	0 8 0
Sugar	..	2nd	..	1 8 7	0 8 0
Cotton pressed	..	3rd	..	1 8 1	0 8 0
Cotton unpressed	..	4th	..	2 1 0	0 8 0
Cotton thread	..	4th	..	2 1 0	0 8 0
Dye stuff	..	3rd	..	1 10 1	0 8 0
Ghee or oil cakes	..	3rd	..	1 14 1	0 8 0
Tobacco	..	3rd	..	1 14 1	0 8 0
Munjeet	..	4th	..	1 13 0	0 8 0
Turmeric	..	3rd	..	1 8 1	0 8 0
Pepper	..	3rd	..	1 6 1	0 8 0
Pepper	..	3rd	..	1 6 1	0 8 0
Tape	..	4th	..	2 0 1	0 8 0
Borax	..	3rd	..	2 1 1	0 8 0
Carpets	..	3rd	..	2 0 1	0 8 0
Shoes	..	4th	..	2 1 1	0 8 0
Wool pressed	..	4th	..	1 9 0	0 8 0
Wool unpressed	..	4th	..	1 11 0	0 8 0

				FROM DERA GHASI KHAN.	
				Karachi.	Sukkur.
Class of goods.				Rs. A. P.	Rs. A. P.
Country medicines	..	4th	..	2 1 0	0 8 0
Toys	..	4th	..	2 9 0	0 8 0
Indigo	..	5th	..	2 9 5	0 8 0
Dry fruit	..	3rd	..	1 14 1	0 8 0
Silk ..	..	5th	..	3 5 5	0 8 0
Ivory	..	5th	..	3 5 5	0 8 0
Tea	..	4th	..	1 13 0	0 8 0
Wines and spirits	..	4th	..	1 13 0	0 8 0
Ghee ..	..	4th	..	2 1 0	0 8 0
Pashmina	..	5th	..	3 5 5	0 8 0

TABLE C.

*The Up and Down freight on Treasure between Sukkur and Mukhud only.*

NOTE.—Treasure will only be conveyed between Sukkur and Mukhud.

Stations.	PER CENTER.		REMARKS.
	Up.	Down.	
	Rs. A. P.	Rs. A. P.	
Sukkur .. ..	..	2 8 0	I.—Copper coin will be charged by weight as in Table A.
Dera Ghazi Khan ..	1 8 0	1 8 0	II.—Treasure will not be received unless securely packed and sealed and weighed in the presence of the shippers.
Dera Ismail Khan ..	2 1 0	1 0 0	III.—Treasure is deliverable only (as goods are) on the Bill of Lading only.
Mukhud .. ..	2 8 0	..	IV.—No treasure however short the distance will be shipped for less than Rs. 1-8-0 that is when the charge according to table rates is under that amount.

TABLE D.

*Freight on conveyances and animals between Sukkur and Mukhud.*

NOTE.—Conveyances were only to be carried between Sukkur and Mukhud.

Stations.	CONVEYANCES.						ANIMALS.					
	Empty four-wheeled conveyances.		Empty two-wheeled conveyances.		Palanquins Fanjors or Doolies.		Horses.		Fenies or Bullocks.		Sheep or Goats or dogs.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.
	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.	Rs.A.
1. Sukkur .. ..	..	48 0	..	24 0	..	8 0	..	16 0	..	8 0	..	0 12
2. Dera Ghazi Khan ..	24 0	24 0	12 0	12 0	4 0	4 0	8 0	8 0	4 0	4 0	0 6	0 6
3. Dera Ismail Khan ..	36 0	12 0	18 0	6 0	6 0	2 0	12 0	4 0	6 0	8 0	0 0	0 3
4. Mukhud .. ..	48 0	..	24 0	..	8 0	..	16 0	..	8 0	..	0 12	..

1. The shoes of horses are to be removed by shippers, who are also to erect stalls at their own expense.

2. The keeper of animals will be charged a deck passage.

TABLE E.

*The embarkation and landing fee payable to freight agents between  
Sukkur and Mukhud.*

Irrespective of distance.	ONE RATE UP AND DOWN.		
	Amount.		
	Rs.	A.	P.
For a horse, bullock or cow .. ..	0	8	0
For a calf, dog, sheep or goat .. ..	0	1	0
For four-wheeled conveyances .. ..	1	0	0
For two-wheeled conveyances .. ..	0	8	0
For a single package, an anna of which is to be paid to the Indus Flotilla .. ..	0	2	0

TABLE F.

*The Up and Down freight on Gun powder and combustible articles, irrespec-  
tive of distance between Karachi and Peshawar.*

Irrespective of distance .. ..	ONE RATE UP AND DOWN.		
	Per maund of 80 lbs.		
	Rs.	A.	P.
	34	13	6

1. No less charge than one maund.
2. Vitrol, Aqua fortis and other dangerous liquids carried only by special agreement.

TABLE G.

*The Up and Down freight on small packages and parcels, irrespective of distance between Karachi and Peshawar.*

Irrespective of distance.	ONE RATE UP AND DOWN.		
	Per package.		
	RS.	A.	P.
Under 20 seers each .. .. .	5	0	0
Above 20 seers and under 30 seers each ..	5	0	0
Above 30 seers and under 40 seers each ..	6	12	0

Above 40 seers, the usual goods rate will be charged.

*N. B.*—Government Stores, etc., were to be conveyed free of charge : but the shippers were to furnish to Commanders of the vessels with a certificate stating that the articles were the *bona-fide* property of the State. Commanders were instructed to refuse articles unless furnished with such certificates, which were required to support a *pro forma* charge in the books, of the Department.

This rule also applied to Officers travelling on duty at the expense of the State, as well as to convicts, and their goods and also to troops ; for the passage of whom an embarkation order was to be furnished, signed by the chief Civil or Military Officer of the Station.

The freight Agents were, if required to land or ship Government Stores to be paid the actual expenses thereon incurred.



## APPENDIX No. VII.

## BIBLIOGRAPHY.

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| 33. Travaskis, H. K.  | .. | .. | "The Land of the Five Rivers."   |
| 34. Vincent, W.       | .. | .. | "The Commerce and the Navigation of the Ancients in the Indian Ocean." |
| 35. Warmington, E. H. | .. | .. | "The Commerce between the Roman Empire and India."                     |
| 36. Wilson            | .. | .. | "Economic Development in the Punjab."                                  |

B.—REPORTS, GAZETTEERS, &c.

1. Punjab Administration Reports for 1850-51 to 1884-85.
2. Punjab District Gazetteers.
3. Press Lists of the old Records, General Department, Punjab Government, Vols.
4. Aincough, Thomas, M.—"General Review of the Conditions and Prospects of British Trade in India."
5. Accounts relating to trade by land of British India with Foreign Countries.
6. Accounts relating to Sea-borne trade and navigation of British India.
7. Inland Trade (Rail and River-borne).

C.—LIST OF THE SELECTED ORIGINAL RECORDS USED.

MARINE DEPARTMENT RECORDS.

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3. Letter No. 208, dated Murree, 18th August 1863, from the Secretary to Government, Punjab and its Dependencies, to the Secretary to Government of India, Calcutta.
4. Letter No. 2604, dated 15th June 1863, from the Secretary to Government of India, Financial Department, Calcutta, to the Secretary to Government, Punjab and its Dependencies.
5. Letter No. 508, dated 15th August 1863, from the Secretary, Punjab Government to Supreme Government.

6. Resolution No. 99 (of His Excellency the Governor-General in Council), dated 28th September 1861.

7. Letter No. 2304, dated 9th November 1861, from the Punjab Government to the Supreme Government.

8. Letter No. 244, dated 18th September 1863, from the Officiating Secretary to Government, Punjab, to the Secretary to Government of India, Marine Department.

9. Letter No. 1112, dated 27th June 1864, from the Secretary to the Government of India, Home Department, to the Secretary to Government, Punjab.

10. Letter No. 16, dated 27th June 1864, from the Council of Government of India, to the Secretary of State for India.

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12. Letter No. 190, dated Multan, the 12th June 1866, from William Ford, Esq., Commissioner and Superintendent, Multan Division, to T. H. Thornton, Esq., Secretary to Government, Punjab, Lahore.

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14. Letter No. 99, dated Sukkur, 16th September 1867, from Commander Fate to Captain Hampton, Superintendent, Punjab Government Flotilla, Sukkur.

15. Letter No. 99, dated Sukkur, 16th September 1867, from Chief Engineer, Punjab Government Steamer "Beas", to Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, Sukkur.

16. Report showing how the permanent Conservancy Establishment was employed during the official year 1867-68.

17. Letter No. 3 of 1866, dated Sukkur, 27th September 1866, from G. W. Ladner, 2nd class Engineer, Punjab Steam Flotilla, to Captain W. H. Hampton, Superintendent, Inland Navigation, Punjab, Sukkur.

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21. Letter No. 117 of 1867, dated 10th October 1866 from Commander Tate, Punjab Government Steamer "Beas", to Captain W. H. Hampton, Superintendent, Inland Navigation, Punjab.

22. Letter No. 47, dated Kurrachee, 17th December 1866, from Superintending Engineering, Inland Navigation, Punjab, to Superintendent W. H. Hampton, Superintendent, Inland Navigation, Punjab, Sukkur.

23. Copy of letter No. 46, dated 11th December 1866, Government Factory, Sukkur, from Superintending Engineer, Inland Navigation, Punjab, to Captain Hampton, Superintendent, Inland Navigation, Punjab, Sukkur.

24. Order Book containing orders from April, 1867 to August, 1870.

25. Log Book of the Punjab Steamer Ravi, 1869.

26. Letter No. 149, dated Murree, 8th July 1861, from the Under-Secretary to Government, Punjab, Railway Department, to the Secretary to Government, Punjab.

27. Letter No. 416, dated Government Steam Office, Sukkur, 16th December 1868, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, To T. H. Thornton, Esq., Secretary to Government, Punjab, and its Dependencies.

28. Letter No. 7, dated 6th January 1869, from T. H. Thornton, Esq., Secretary to Government, Punjab, to Captain Hampton, Superintendent, Punjab Government Steam Flotilla, Sukkur.

29. Letter No. 450, dated Steam Office, Sukkur, 28th December 1868, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, to T. H. Thornton, Esq., Secretary to Government, Punjab.

30. Letter No. 456, dated India Office, London, 23rd December 1868, from the Secretary of State for India, to His Excellency the Right Honourable the Governor-General of India in Council.

31. Letter No. 246, dated Indian Office, London, 23rd December 1868, from the Secretary of State for India to His Excellency the Right Honourable the Governor in Council, Bombay.

32. Letter No. 109, dated Fenchurch Street, London, E. C., 5th December 1867, from Edward Ritherdon, Esq., Surveyor of Shipping, to the Under-Secretary of State for India, India Office.

33. Letter No. 110, dated Cannon Street, London E. C., 5th December 1867, from G. H. Lockit, Esq., Secretary, Hamilton Windsor Iron Works, Ltd., to E. Ritherdon, Esq., Marine Survey to the India Office.

34. Letter No. 206, dated Government Steam Office, Sukkur, 18th February 1869, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, Sukkur, to T. H. Thornton, Esq., Secretary to Government, Punjab, and its Dependencies.

35. Letter No. 111, dated 27th April 1869, from T. H. Thornton, Esq., Secretary to Government, Punjab, and its Dependencies, to Colonel W. H. Norman, C.B., Secretary to Government of India, Marine Department.

36. Letter No. 84, dated Fort William, the 20th December 1869, from Major-General H. W. Norman, C.B., Secretary to Government of India, Marine Department, to T. H. Thornton, Esq., Secretary to Government, Punjab.

37. Copy of a memorandum No. 7-M., dated Simla, 18th August 1869, from Colonel Arthur Broome, C.B., Controller-General of Military Expenditure, Marine Department, Accounts Branch.

38. Copy of the office Memorandum No. 13, dated 27th August 1869, from Major-General H. W. Norman, C.B., Secretary to Government of India.

39. Copy of letter No. 3341, dated Simla, the 15th November 1869, from A. M. Monteath, Esq., Director-General of the Post Office of India, to R. B. Chapman, Esq., Officiating Secretary to the Government of India, Financial Department.

40. Copy of letter No. 2889, dated Fort William, the 11th December 1869, from G. H. M. Battan, Esq., Under-Secretary to the Government of India, Financial Department.

41. Letter No. 1, dated 3rd January 1870, from T. H. Thornton, Esq., Secretary to Government, Punjab, to Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla.

42. Letter No. 4-C, dated Dera Ghazi Khan, the 23rd March 1870, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, to the Secretary to Government, Punjab.

43. Letter No. 480, dated Sukkur, 17th January 1870, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, to T. H. Thornton, Esq., D.C.L., Secretary to Government, Punjab.

44. Letter No. 456, dated Simla, the 6th July 1870, from Lieutenant-Colonel J. J. Wills, Commissary-Military Department.

45. Letter No. 115, dated Lahore, 3rd August 1870, from T. H. Thornton, Esq., Secretary to Government, Punjab, to the Commissary-General, Calcutta.

46. Letter No. 545, dated Sukkur, 11th February 1871, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, to the Secretary to Government, Punjab.

47. Letter No. 14, dated Sukkur, 8th February 1871, from J. H. Boyce, Esq., Superintending Engineer, Punjab Government Steam Flotilla, to the Superintendent, Punjab Government Steam Flotilla.

48. Letter No. 25, dated Lahore, 20th February 1871, from J. H. Thornton, Esq., Secretary to Government, Punjab, to the Superintendent, Punjab Government Steam Flotilla.

49. No. 1 (Abolition of the Punjab Government Steam Flotilla, printed) from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, Sukkur, to the Officiating Secretary to Government, Punjab.

50. Letter No. 480-R,—54-F, dated Kurrachee, 22nd March 1871, from Captain John Wood, Agent, Superintendent, Sindh Railway and Indus Steam Flotilla Company, Kurrachee, to the Superintendent, Government Steam Flotilla, Sukkur.

51. Copy of Memorandum No. 49, dated Fort William, 25th May 1871, from Colonel B. E. Bacon, Officiating Secretary to the Government of India, Foreign Department.

52. No. 8824, dated Simla, the 30th September 1871, Government of India, Financial Department.

53. Letter No. 1236-G., dated Simla, 18th June 1871, from the Supreme Government to the Punjab Government.

54. Letter No. 856-99, dated Lahore, 19th September 1871, from Lepel H. Griffin, Esq., Officiating Secretary to Government, Punjab, to the Secretary to Government of India, Foreign Department.

55. Letter No. 26, dated Fort William, the 7th December 1871, from Colonel H. K. Burne, Secretary to Government of India, Marine Department, to the Military Secretary to Government, Punjab.

56. Letter No. 1, dated Lahore, 2nd January 1872, from Lepel H. Griffin, Esq., Officiating Secretary to Government, Punjab, to the Superintendent, Punjab Government Steam Flotilla.

57. Letter No. 518, dated 19th January 1872, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, Sukkur, to the Officiating Secretary to Government, Punjab.

58. Memorandum of services of the officers and other employees of the Punjab Government Steam Flotilla.

59. Letter No. 598, dated Government Steam Office, 8th March 1872, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, to the Officiating Secretary to Government, Punjab.

60. Letter No. 42, dated 14th March 1872, from Lepel Griffin, Esq., Officiating Secretary to Government, Punjab, to the Superintendent, Punjab Government Steam Flotilla.

61. Letter No. 595, dated Sukkur, 8th March 1872, from Captain W. H. Hampton, Superintendent, Punjab Government Steam Flotilla, Sukkur, to the Officiating Secretary to Government, Punjab.

62. Letter No. 598, dated 9th March 1872, from Captain W. H. Hampton, &c., &c., to the Officiating Secretary to Government, Punjab.

63. Letter No. 32, dated 8th March 1872, from J. H. Boyce, Esq., Superintending Engineer, Punjab Government Steam Flotilla, to the Superintendent, Punjab Government Steam Flotilla.

64. Letter No. 64, dated Lahore, 4th April 1872, from Lepel Griffin, Esq., Officiating Secretary to Government, Punjab, to the Secretary to Government, Punjab, to the Secretary to the Government of India, Military Department.

65. Resolution No. 3510, Government of India, Financial Department, dated Fort William, the 22nd May 1872.

66. Letter No. 520, from Mr. P. Edgeworth, Commissioner and Superintendent, Multan Division, to P. Melvil, Esq., Secretary to the Board of Administration (Proceedings, General Department of the Government of the Punjab, for the week ending 4th September 1852, No. 105-06).

67. Letter No. 576, dated Multan, the 22nd September 1852, from Superintendent, Multan Division, to the Secretary to the Board of Administration.

68. Copy of letter dated Kurrachee, May 5th, 1854, from Lieutenant H. W. Grounds, Inland Navigation Surveyor, Punjab Rivers, to E. Thornton, Esq., C. S., Commissioner and Superintendent, Jhelum Division. A copy of the above attached with.

69. Letter No. 79, from Edward Thornton, Esq., Commissioner and Superintendent, Jhelum Division, to R. Temple, Esq., Officiating Secretary to Chief Commissioner (Proceedings of the General Department of the Punjab Government of the week ending 29th July No. 8½ B.D.).

70. Letter No. 77, from Edward Thornton, Esq., Commissioner and Superintendent, Jhelum Division, to P. Melvill, Esq., to the Chief Commissioner of the Punjab, dated Rawalpindi District, Murree, 15th July 1857.

71. Letter No. 1877 of 1854-55, dated Lahore, the 31st July 1854 from Lieutenant-Colonel R. Napier, Chief Engineer, Punjab, to R. Temple, Esq., Officiating Secretary to the Chief Commissioner for the Punjab.

72. Letter No. 8840, dated Fort William, the 25th August 1854, from G. F. Edmonstone, Esq., Secretary to the Government of India, to J. Lawrence, Esq., Chief Commissioner of the Punjab.

73. Letter No. 146, dated Murree, 4th September 1855, from Edward Thornton, Esq., Commissioner and Superintendent, Jhelum Division, to R. Temple, Esq., Secretary to the Chief Commissioner for the Punjab.

74. Letter, dated Multan, 15th August 1855 from K. McIver, Multan, to E. Thornton, Esq., Commissioner and Superintendent, Jhelum Division, Murree.

75. Letter No. 184, dated Lahore, 6th May 1856, from D. F. Moleod, Esq., Financial Commissioner for the Punjab, to R. Temple, Esq., Secretary to the Chief Commissioner of the Punjab.

76. Letter No. 443 of 1856, dated Kotree, 25th April 1856, from Commander E. H. Daniell, Officer Commanding Indus Flotilla, to R. Temple, Esq., to the Chief Commissioner for the Punjab, Lahore.

77. Letter No. 129, dated Leia, the 13th September 1856, from Major D. Ross, Commissioner and Superintendent, Leia Division, to R. Temple, Esq., Secretary to the Chief Commissioner, Punjab, Lahore.



78. Letter No. 248 of 1856, dated 9th September 1856, from Captain S. F. Grahmn Officiating Deputy Commissioner, Dera Ghazi Khan, to Major D. Ross, Commissioner and Superintendent, Leia Division.

79. Correspondence given in "The Establishment of Steam Flotilla on the Indus" a printed pamphlet, printed by W. M. H. Allen and Co., Leadon Hall, Street, London, 1857.

80. Letter dated 5th January 1857, from W. P. Andrew, Esq., to Sir James C. Melvill, K.C.B., &c., &c.

81. Letter from W. P. Andrew, Esq., Euphrates Valley Railway Company, Ltd., Gresham House, Old Broad Street, London, 2nd March 1857.

82. Letter from Sir James C. Melvill, K.C.B., &c., to W. P. Andrew, Esq., dated East India House, 4th March 1857.

83. Letter from W. P. Andrew, Esq., to Sir James C. Melvill, K.C.B., dated Scinde Railway Co., Gresham House, Old Broad Street, 20th April 1857.

84. Letter from Sir James C. Melvill, K.C.B. to W. P. Andrew, Esq., Chairman of the Scinde Railway Co., &c., &c., dated East India House, 17th June 1857.

85. Letter from Deputy Consulting Engineer for Railway in Sindh to the Consulting Engineer for Railways, Bombay, dated Office of Deputy Consulting Engineer for Railways in Sindh, Kurrachee, 7th June 1863.

“ THE CHANNELS OF THE RIVERS OF THE PUNJAB  
IN 1866.”

*References.*

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shows sand-Banks, &c.



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