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PUBLIC WORKS DEPARTMENT, PUNJAB.

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1888-89

ADMINISTRATION REPORT

OF THE

GENERAL BRANCH,

FOR THE YEAR 1888-89.



Lahore:

THE "CIVIL AND MILITARY GAZETTE" PRESS,
Contractors to the Punjab Government.

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FOR THE YEAR 1888-89.

The total expenditure of the year was Rs. 65,75,317. The main heads of classification are as under :—

	Rs.		Rs.
Imperial Military Works	3,61,955	Original Works	33,55,948
Do. Civil Works	20,63,846	Repairs	22,70,280
Provincial Do.	23,52,264	Establishment	9,76,102
Do. Railways	30,893	Tools and Plant	20,068
Local (Incorporated) Funds Works	10,60,135	Barrack Department	9,881
Municipal Fund Works	7,06,224	Suspense	-56,962
* Total	65,75,317	Total	65,75,317
* In India	65,38,262		
In England	37,055		
Total	65,75,317		

and show that out of every hundred rupees expended, Rs. 50·60 have been devoted to Original Works; Rs. 34·23 to Repairs, Rs. 14·72 to Establishment, Rs. 0·31 to Tools and Plant, and Rs. 0·14 to Barrack Department.

The percentage of Establishment on Provincial Works alone was 23·2 (see Table, p. 8). On Imperial and Provincial Works together the cost was 20·1 per cent. distributed under Direction 4·8, Construction 14·2, and Accounts 1·1.

GENERAL REMARKS.

2. The expenditure is about 8 lacs in excess of the average for two previous years :—

	1886-87.	1887-88.	1888-89.
	Rs.	Rs.	Rs.
Imperial Military	2,29,775	2,79,341	3,61,955 (p. 13)
Do. Civil	8,57,367	17,71,437	20,63,846 (p. 13)
Provincial Civil	25,47,075	23,16,543	23,52,264 (p. 14)
Railways	38,177	-5,955	30,893 (p. 15)
Local Incorporated Funds	8,25,533	9,58,886	10,60,135 (p. 14)
Municipal	9,25,149	7,65,918	7,06,224 (p. 14)
Total	54,23,076	60,86,170	65,75,317

owing to increases under Imperial Military of 1 lac; of Imperial Civil of 7½ lacs; and Local Incorporated Funds of 1¼ lacs; and less outlay under Provincial of ¾ lac and Municipal of 1½ lacs.

IMPERIAL MILITARY WORKS.

Of the expenditure of Rs. 3,61,955, Rs. 2,03,502 were spent on Original Works, Rs. 78,986 on Repairs, Rs. 65,385 on Establishment, Rs. 4,201 on Tools and Plant, and Rs. 9,881 on Supplies and Repairs of Barrack furniture.

The important works completed during the year were, *viz.*, reconstruction of Left N. I. Lines, Abbottabad; construction of Barracks for 2-5th Gurkhás, Abbottabad; extension of Right and Left N. I. Lines at Dera Ismail Khan; alterations and extension of Bells of Arms and Q.-M. Stores, Left N. I. Lines, Jhelum; extension of Transport Followers' quarters in Right N. I. Lines, Dera Ismail Khan; additions and alterations to Fort Oghi. The works in progress were: Quarter-guard, Armourer's Shop, Sentry-boxes, and 3 wells at Pesháwar; construction of Mule Lines for 2-5th Gurkhás, Abbottabad; new Hospital and Magazine, Abbottabad; Quarter-guard for the Cavalry Section of the Guide Corps at Mardán; construction of Spurs for protection of the Cantonment of Edwardesabad from encroachment of the Kurram River.

IMPERIAL CIVIL WORKS.

Of the expenditure of Rs. 20,63,846, Rs. 16,90,778 was on Original Works, Rs. 1,07,695 on Repairs, Rs. 3,45,595 on Establishment, and Rs. 3,853 on Tools and Plant. Suspense Account being credited with Rs. 84,075.

CIVIL BUILDINGS.

Postal and Telegraph.

No works of any importance under these heads were in progress during the year 1888-89.

Viceregal and other Imperial Buildings at Simla.

In consequence of the abolition of the late Imperial Circle of special superintendence, the several works appertaining thereto were transferred to the charge of the Punjab P. W. D. during 1888-89.

The principal works completed during the year were, *viz.*, Electric light cable Viceregal building; re-roofing stables and servants' houses at Courteen Hall; additional out-house accommodation at Peterhoff; furnishing Inverarm. The works in progress were: subsidiary retaining walls, and laying out grounds at Viceregal Lodge; sanitary improvements Army Head-quarters and G. of I. Secretariat buildings; provision against fire of partly timbered Imperial buildings; purchase of the Windermere Estate as a residence for the Kábul Envoy.

COMMUNICATIONS.

Khushálgarh and Dera Ismail Khan Road, 227 Miles.

Approximately one-third of the whole work has been executed during the year under review, and it is anticipated that this road with the bridges over

the Kurram and Gambila will be completed by the end of October 1889. The extent of the work by Sections is shown in the following table:—

Sections.	Miles.	Estimate.	Expended during the year.	Total expended.	Probable date of completion.
	No.	Rs.	Rs.	Rs.	
Khushálgarh to Kohát ...	31 $\frac{3}{4}$	2,40,932	69,574	1,99,713	July 1889.
Kohát to Ismail Kheyl ...	24 $\frac{1}{4}$	3,80,388	1,13,682	3,69,329	July 1889 (excepting Lachi Valley Bridge).
Ismail Kheyl to Kurram ...	21 $\frac{7}{8}$	3,42,727	* 1,06,904	3,26,729	* August 1889.
Kurram to Latammar ...	41 $\frac{1}{4}$	2,33,985	78,699	2,21,508	Do.
Latammar to Bannu ...	19 $\frac{3}{8}$	1,90,654	56,264	1,80,507	Do.
Bannu to Naurang ...	15	1,04,308	20,408	94,273	Completed.
Naurang to Peyzu ...	36 $\frac{1}{4}$	3,33,524	1,21,278	3,19,020	August 1889.
Peyzu to Dera Ismail Khan ...	37	2,47,036	1,23,825	2,43,936	July 1889.
Kurram Bridge ...	...	5,57,827	{ 90,875 } { 1,98,331 }	4,95,976	August 1889.
Gambila Bridge ...	...	4,78,811	2,22,989	3,00,896	October 1889.
Total ...	226 $\frac{3}{4}$	31,10,192	11,11,954	27,52,337	

* NOTE.—The figures of estimate and expenditure of these sections do not include the amounts for general charges and tools and plant.

In addition Rs. 22,234 have been expended in repairs.

Dera Gházi Khan-Peshín Road, 68 Miles.

Owing to heavy and difficult cliff cutting at Limond's Gap, opening to traffic was delayed till September 1888. The káfila trade to and from Afghánistán has been considerable. The works not yet commenced are: Khár Reservior, Limond's Gap Bridge, Tombewálla well, metalling 5 miles, water-supply Girdoo, Rákhí Gorge, Mitháwan and Shahgarh. It is considered that all may be finished by December 1889.

An estimate has been submitted for completing the military requirements of the road in camps, metalling, watering arrangements and Bardástkhánás. Outlay during the year Rs. 1,48,669—Rs. 6,83,596 having been spent out of an estimate of Rs. 7,19,986.

Murree-Kohála Hill Cart Road, 28 $\frac{1}{2}$ Miles.

Completed and reopened for wheeled traffic. The outlay during the year was Rs. 60,252. The total outlay, amounting to Rs. 6,36,343, is exclusive of the special provision of Rs. 85,000 for establishment.

PROVINCIAL CIVIL WORKS.

(INCLUDING LOCAL INCORPORATED AND MUNICIPAL.)

Administration.

Of the expenditure of Rs. 23,52,264, Rs. 7,01,341 was on Original Works, Rs. 11,77,535 on Repairs, Rs. 4,36,986 on Establishment, Rs. 9,289 on Tools and Plant; the remainder, Rs. 27,113, being shown under head "Suspense Balances."

The following represent some of the principal works completed: Additions to the Deputy Commissioner's Court-house at Bannu; new tahsils at Kángra and Hamírpur; new Treasury Strong-room at Hissár; additional servants' houses and cattle-pound for new District Court, Simla; new tahsils at Kabírwála and Lodhrán; additions and alterations to District Court, Dera Gházi Khan; new Distillery building at Simla; additions to Government House, Lahore; re-roofing "Benmore," Simla; and constructing an outpost (including Political

Officer's quarters and other buildings) at Thal. The works in progress were: New tahsils at Kahuta and Pind Dádan Khan; conversion of Serai at Lála Musa into a tahsíl building; new tahsils at Ludhiána and Mailsi; re-roofing Deputy Commissioner's Court at Dera Ismail Khan; combined tahsíl and thánnah at Ferozepore in the Gurgáon District, and tahsíl at Bhiwáni.

Law and Justice.

The following works were completed: Extension to judicial lock-up, Deputy Commissioner's Court, Bannu; new District and Divisional Judge's Court at Ráwalpindi; new Munsiffs' Courts at Jagráon and Samrála; Court-house for Extra Assistant Commissioner and Munsiff at Hissár, and for Sub-Judge and Munsiff at Rohtak; additions and alterations to magisterial lock-up at Kasúr, and the new Chief Court, with its subsidiary buildings, at Lahore. The works in progress were: Munsiffs' Courts at Moga and Dasúya, and the Sessions-house at Dera Gházi Khan.

Ecclesiastical.

The new Church at Ludhiána commenced in 1887-88 was completed at a cost of Rs. 5,068. The new Church at Mardán (a grant-in-aid building) and the extension of the Cemetery at Murree were in progress.

Archaeological and Historical.

Special repairs, Rs. 2,571, were carried out to the Kábuli Bágh Mosque and Ibráhím Lodi's Tomb at Pánipat. The total outlay to end of the year on the Emperor Jehángír's Tomb at Shahdera, near Lahore, was Rs. 10,546. Other historical buildings at Delhi received attention, *viz.*, Moti Masjid, Humáyún's Tomb, Safder Jang's Tomb, Sekandar Lodi's Tomb, and Khairpur Mosque.

Jails.

The chief works completed were: Sixty solitary cells and workshop for juvenile prisoners in the Lahore Central Jail; enlargement of two blocks of solitary cells in the District Jail, Shahpur; provision of quarters for Jailor, Native Doctor and Matron, Umballa Jail; new hospital for prisoners, Umballa Jail; ward for European prisoners, Delhi Jail; enclosure wall, Delhi Jail; providing iron-grated doors and windows to two sleeping barracks and re-roofing ten sleeping barracks in the Ferozepore Jail. The following were in progress: Re-roofing barracks in Lahore Central Jail; Jail for political prisoners at Abbottabad; extension of lock-up at Abbottabad; extending cantonment water-supply to District Jail, Pesháwar; providing doors and gratings to sleeping barracks, Gujránwála Jail; quarters for Jailor and Hospital Assistant, District Jail, Shahpur; renewing enclosure walls of the Umballa Jail; barrack for 50 prisoners in the Hissár Jail.

Police.

The chief works completed were: First class Police Stations at Kotli and Paroha; second class Stations at Lilla and Nungal; increased accommodation for Police Hospital, Pesháwar; dismantling the third and fourth flats of the old Fort at Ladwa used as Police Station, and a Police Hospital at Ferozepore. Those in progress were: Police Station at Kálu Khan; first class Police Station and a Police Rest-house at Kallar; a Police Post at Karor; Police Office at Edwardesabad; second class Police Station at Urlána; re-roofing Police Barracks at Karnál; and a first class Police Station at Mullazai.

Educational.

Portions of the Aitchison College at Lahore were completed, *viz.*, two boarding-houses, six cook-houses, four servants' houses, two stables, two houses for College servants, two sets of latrines; the Governor's house and out-offices; one cook-house and servants' houses for third boarding-house and a dispensary. The third boarding-house was taken in hand in October 1888. The total outlay to end of year, Rs. 3,85,520, against an estimate for Rs. 4,87,448.

Among other educational works completed are: Additions and alterations to Educational Press building, Lahore; Railway Technical School, Lahore; re-roofing and altering the Steward's quarters, Lawrence Military Asylum, Sanáwar. Special repairs to Boys' barracks and re-roofing Girls' barracks, Lawrence Military Asylum, Sanáwar, were in progress.

Exclusive of outlay on buildings in connection with the Aitchison College, the total expenditure amounted to Rs. 1,35,262, of which Provincial Funds

contributed Rs. 44,493, District Funds Rs. 68,026, and Municipal Funds Rs. 22,743.

Medical.

The Lady Aitchison Hospital for Women at Lahore was completed and formally opened by Her Excellency the Marchioness of Dufferin and Ava on the 15th of November 1888. The total expenditure to end of the year was Rs. 56,764. The subsidiary buildings in connection with the Lahore Veterinary School were completed at a cost of Rs. 45,589. Three convalescent wards in Delhi Lunatic Asylum were completed. The project for the Dufferin Hospital at Delhi is under preparation.

Miscellaneous.

Among the completed works were: Rest-houses at Hamírpur and Mailsi; auxiliary buildings for the Accountant-General's Office, Lahore; and purchase by Government of the building at present occupied by the Government Press, with the lands and out-houses attached thereto. New rest-houses at Ismailabad, Singhour, Kairu and Lodhrán were in progress.

COMMUNICATIONS.

The expenditure is about 1 lac more than the average of two previous years, owing to a less outlay of $\frac{2}{3}$ lac under Provincial, due chiefly to some of the roads having been made over to Local Boards for maintenance, and an increase of $1\frac{2}{3}$ lacs under District, principally attributable to the increased grants from unspent balances of previous years:—

	1886-87.	1887-88.	1888-89.
	Rs.	Rs.	Rs.
PROVINCIAL.			
Original Works	2,66,237	1,99,231	1,65,821
Repairs	9,05,869	9,62,005	9,39,859
Total ...	11,72,106	11,61,286	11,05,680
DISTRICT.			
Original Works	1,21,401	1,65,353	2,14,096
Repairs	3,72,579	4,24,850	4,93,691
Total ...	4,94,980	5,90,203	7,07,787
MUNICIPAL.			
Original Works	1,757	3,729	4,657
Repairs	13,935	17,812	19,345
Total ...	15,692	21,541	24,002
GRAND TOTAL ...	16,82,778	17,73,030	18,37,469

The number of miles of metalled and unmetalled roads maintained in the Province during the year, exclusive of those under District Officers, was 2,881, of which $1,248\frac{1}{2}$ represent metalled and $1,632\frac{1}{2}$ unmetalled mileage. On metalled roads renewal of metal was carried out on something like 243 miles. The total cost of maintenance per mile of metalled roads during the year was Rs. 533.6-0. The outlay on unmetalled roads was Rs. 4,26,658 by contribution of Rs. 1,91,353 from Provincial and Rs. 2,35,305 from District and Municipal Funds.

Metalled Roads, 1,248½ Miles.

Among completed works are metalling of Hazro-Huttián road, Rs. 23,382; gradients of Nowshera and Mardán road through the Tarákai Hills, Rs. 4,465, and left approach road to the Railway bridge over the Indus at Attock, Rs. 32,292. Of those in progress are: Oghi-Darband road; improvements Kasauli-Dharpur Branch Cart road; collection of metal, Lahore-Shekhupura road; approach road to the Railway bridge at Sher Shah, and road boundary pillars in the Jullundur Division.

Repairs were carried out to the Grand Trunk Road from Delhi to Pesháwar, 582 miles, and metalling or remetalling on the following Provincial roads was in progress :—

From Delhi to Gurgáon; Delhi to Muthra; Delhi to Sirsa; Umballa to Kálka; Ludhiána to Ferozepore; Jullundur to Hoshiárpur; Ráwalpindi to Murree; Siálkot to Wazírabad (Section in Gujránwála District); Nowshera to Mardán.

Additions and special repairs to the Markunda River protective works on the Grand Trunk Road were completed, while the protective works in connection with the Bhimber Stream at Gujrát and the river Beás at Bhekowál were well advanced.

Metalling of the Railway Feeder road at Daryakhan in the Dera Ismail Khan District was in progress.

Bridges.

The principal bridges completed were :—the Jhari at mile 10 on the Hazára Trunk Road; the Dhobi at mile 21 on the Umballa-Kálka road; the East Beyn on the Grand Trunk Road near Jullundur; the bund across the Jubber River on the Kángra Valley Cart road; the Nyni Khud bridge on the Patháankot-Dalhousie road. Those in progress were :—the Dotari on the Hazára Trunk Road; the Lalru at mile 13 of the Umballa-Kálka road; the Bassi at mile 20 of the Umballa-Kálka road; two metalled gaps on miles 141 and 146 of the Grand Trunk Road near Rájputra; openings in parapet walls, Kálka-Simla Cart road; suspension bridges over the Sutlej at Suni and Biláspur (contributed by the Native States concerned); the Chukki on the Kángra Valley Cart road, and the Aik (from District Funds) on the Siálkot-Zufferwál road.

Collieries.

Trial shafts, in connection with coal explorations, in mile 7, Abbottabad and Murree road, District Hazára, were sunk at various points, and a special report on this work is under preparation by the Superintending Engineer, 1st Circle. Coal of fair quality has been excavated in small quantities, but it has not yet been ascertained whether the coal found is part of a regular seam or only a pocket.

Boat-bridges and Ferries.

The following is a statement of the principal boat-bridges in the Province, showing the dates of dismantling and re-opening :—

LOCALITY OF BRIDGE.	DATE OF		NUMBER OF BOATS.		Length of bridge.	REMARKS.
	Dismantling.	Re-opening.	Government.	Hired.		
Over River Jumna at Mansúrpur ...	16-6-88	15-10-88	...	14	270	
Ditto at Chounsa ...	Do.	Do.	...	15	228	
Ditto at Sanáuli ...	15-6-88	21-11-88	) The contractors use their own boats		180	
Ditto at Margana ...	Do.	Do.			135	
Ditto at Rájghát near Jagádhari ...	June '88	Octr. 1888	...	24	359	
Over River Beas at Dera Gopipur ...	21-5-88	6-10-88	27	...	407	
" Rávi at Shahdera ...	Maintained throughout the year.		) 28	...	1,025 to 1,065	
" " at Chichawatni ...	Do.			18		...	615
" Jhelum at Khusháb ...	...	23-10-88	23	...	828	
" Indus at Khushálgarh ...	Maintained throughout the year.		19	...	960	
" " at Dera Ismail Khan ...	23-4-88	13-10-88	40	14	2,378	
" " at Dera Gházi Khan ...	27-4-88	15-10-88	87	5	3,643	
" Kábul River at Nowshera ...	Maintained throughout the year.		15	17	828	
" " " at Adozai and its branches.	18-5-88	28-9-88 & 10-10-88	6	38	705 to 1,071	

The cost of the maintenance of these boat-bridges was Rs. 1,09,082, against Rs. 1,21,645 in 1887-88 and Rs. 1,05,773 in 1886-87.

The number of minor ferries maintained during the year was 401, as per Appendix A.

The ferries of Attock at Khairabad, Michni at Bela Momendan, and Abazai are managed, and the income enjoyed, by the boatmen. Of the others, one at Sher Shah is managed by the North-Western Railway. Ten at Tangri, Raksi, Chautang, Sarsuti, Rájghát, Bagah, Dholanwála, Koreshi, Kinghar and Garhiála are under direct management, and 387 are leased to contractors.

The gross income realized from all boat-bridges and ferries in the Province amounted to Rs. 2,05,778, and after omitting charges for toll collections and establishment, the amount credited to Provincial Revenues was Rs. 1,93,894. The detailed expenses and receipts are not forthcoming, nor have any incidents of importance been reported.

Accommodation for Travellers.

Materials for a new dák bungalow at Gujrát, valued at Rs. 3,369, were collected. A supply-house at Delhi was completed at an outlay of Rs. 3,032.

Arboriculture.

Detailed reports are furnished to the Conservator of Forests by Executive Engineers and Civil Officers for inclusion in the Annual Forest Report.

Miscellaneous Public Improvements.

The outlay on town buildings, water-supply and works of sanitation, &c., &c., amounted to Rs. 7,40,935.

Town Buildings.—A further expenditure on the new Town Hall at Simla of Rs. 19,084 was incurred. The total cost to end of 1888-89 amounted to Rs. 3,70,642. Work on the Clock Tower at Mooltan was renewed. The Lahore Town (or Victoria Jubilee) Hall is under construction from Municipal and District Funds: Rs. 46,870 have been expended. Offices for the District Committees of Ráwalpindi, Ajnála, Tarn Taran, Zailgarh, and the Aitchison Gunj (grain market), Lahore, were completed.

Water-supply.—The construction of the Degh distributary in the Montgomery District was completed at a cost of Rs. 22,246. A supplementary scheme from Mai Vero's Tank to the Ráwalpindi Tahsíl was in progress. An arrangement (approved of by the Local Government) has been made between the Military Works Department and the Ráwalpindi Municipality for the extension from the Tahsíl to the Sudder Bazar as a temporary arrangement. The Delhi project is under preparation and the original drainage scheme is under revision. Preliminary arrangements in connection with the Umballa water-supply are nearly completed. The channel from the Khyber stream to the Subadár's quarters at Jamrud was lined with concrete. The covering in of the Lahore water-works wells was completed. The Bara Bund at Pesháwar and Biddar Mirjan Bund at Gujrát were completed. The Khalilpur and Bádshápur Bunds in the Gurgáon District, the bund at the Tangri Naddi, and measures in connection with the Amritsar water-supply, were in progress. The contract for the iron-work, Pesháwar City, was given to Messrs. Richardson and Cruddas of Bombay. Arrangements for the acquisition of the land have been made, and work on the reservoir will shortly be put in hand. Good progress was made in the Jubilee Well, Montgomery.

Sanitation, &c.—The drainage of the town of Gujránwála was well advanced. The drains at Bhiwáni and the city drainage of Pesháwar were completed; work in connection with iron drains in the Simla Bazár, extension of the Chowburji drain at Lahore, the Artillery jhíl at Pesháwar and the Ludhiána drainage was in hand.

Establishment.

The following statement shows the outlay during 1888-89 and two preceding years on (1) works and repairs, and (2) establishment, and the proportional cost of the latter to the expenditure on works and repairs. With an

average increase of expenditure, Rs. 9,26,592, the average cost of establishment has been reduced from 24·58 to 20·1 per cent. :—

	EXPENDITURE.		Percentage cost of Establishment.
	Works, &c.	Establishment.	
1886-87.	Rs.	Rs.	
Imperial Military	1,85,578	41,513	
" Civil	6,74,646	1,42,844	
Total Imperial ...	8,60,224	1,84,357	
Provincial	18,93,969	6,36,846	33·5
Contribution	51,287	28	
Total Provincial ...	19,45,256	6,36,874	
Grand Total, Imperial and Provincial ...	28,05,480	8,21,231	29·3
1887-88.			
Imperial Military	2,26,449	49,701	
" Civil	14,82,707	3,18,136	
Total Imperial ...	17,09,156	3,67,837	
Provincial	18,81,205	4,36,910	23·2
Contribution	2,38,717	4,868	
Total Provincial ...	21,19,922	4,41,778	
Grand Total, Imperial and Provincial ...	38,29,078	8,09,615	21·1
1888-89.			
Imperial Military	2,92,369	65,385	
" Civil	17,98,473	3,45,595	
Total Imperial ...	20,90,842	4,10,980	
Provincial	18,78,876	4,36,986	23·2
Contribution and other Works ...	2,74,153	9,010	
Total Provincial ...	21,53,029	4,45,996	
Grand Total, Imperial and Provincial ...	42,43,871	8,56,976	20·1

The distribution of charges for establishment is given in the following table :—

	1886-87.		1887-88.		1888-89.	
	Rs.		Rs.		Rs.	
Direction	1,86,049	6·6	1,91,229	5·0	2,05,135	4·8
Construction	5,93,445	21·2	5,77,683	15·1	6,05,535	14·2
Accounts	41,737	1·5	40,703	1·0	46,306	1·1
Total	8,21,231	29·3	8,09,615	21·1	8,56,976	20·1

RAILWAYS.

Amritsar and Pathankot Railway.

No provision was made in the Budget Estimate for capital outlay on this line, but in August 1888 an expenditure of Rs. 24,000 was authorized on certain works. The Revised Estimate was passed by the Government of India for Rs. 7,000, the reduction being due to the utilization of stores in stock to the extent of Rs. 10,655, and to the North-Western Railway authorities not being able to complete the works during the year under review.

Contrasted with the Revised Estimate the outlay during the year (page 15) shows a lapse of Rs. 2,154.

The charge borne by the Local Government on account of interest at 4 per cent. on the capital outlay (Rs. 55,97,298) to end of 1887-88 and half outlay for 1888-89 (Rs. 2,423) after deducting contributions from Provincial Funds and loss by exchange amounted to Rs. 1,97,998. The net receipts of the year amounted to Rs. 87,385 (giving a percentage of 1.56 on capital outlay to date). The net loss to Provincial Revenues will amount to Rs. 1,10,613.

The line is at present worked by the North-Western Railway under agreement with the Punjab Government, under conditions that Government is to receive as net earnings the following interest on the capital expended, to be calculated monthly :—

At the rate of 1 per cent. the first year.			
Do.	1½	do.	second year.
Do.	1½	do.	third year.
Do.	1½	do.	fourth year.
Do.	2	do.	fifth year.

Upon the expiration of the present Provincial Contract on 31st March 1892, the Government of India has stated that it will be ready to enter upon a new agreement whereby the working (as of a Branch line) would be performed at 50 per cent. of the gross traffic receipts.

Bhatinda-Bahawalpur Railway Survey.

Field-work was finished by the end of January 1889.

The survey was carried on to Samasatta, 8 miles beyond Bahawalpur and 217½ miles from Bhatinda, at which point it was considered advisable to effect a junction in preference to Bahawalpur.

The project will probably be submitted, complete, by June 1889. The expenditure during the year is estimated at Rs. 26,047. The total expenditure on the Survey to end of the year amounted to Rs. 30,591.

This project forms a link which, in connection with the Patiala-Bhatinda Railway, would shorten the distance between Umballa and Karachi by 122½ miles.

Patiala-Bhatinda Railway.

The field-work of the Survey of this line on the route recommended to the Patiala Darbar by His Honor the Lieutenant-Governor was completed the previous year. Detailed estimates, amounting to Rs. 75,42,278, were submitted for sanction in May 1888, and subsequently accepted by the Government of India for Rs. 56,28,674, exclusive of rolling-stock and workshops.

The length of the line is 92½ miles, and work was set in hand in April 1888. During the year the earthwork and the brickwork of all bridges has been completed. Formation was completed for laying the permanent-way throughout. Nearly three-fourths of the work was completed. The first engine with permanent-way material ran through to Nabha, 15½ miles, on the 17th March 1889.

Stations and offices and staff quarters are practically complete. Station machinery is expected from England, and will be all erected by the time the rails reach Bhatinda. The line will probably be fit to open by October 1889.

Delhi-Kotri Railway.

A reconnaissance to connect Delhi with Karáchi *viá* Kotri was performed.

Delhi-Umballa-Kálka Railway.

A survey of the section between Delhi and Umballa was completed during November and December 1888. The section between Umballa and Kálka had been previously surveyed under the orders of Government, and the staking out of this length was at once taken in hand by the Company's officers. The acquisition of land and the necessary preliminaries for commencing work of construction between Delhi and Kálka were well in hand at the close of the year. The total length of this Railway is 162 miles.

Jamrúd Extension, North-Western Railway.

The route for an extension of the North-Western Railway from Pesháwar to Jamrúd was surveyed and estimated for. The extension is to be made solely for military purposes.

(i).—Statement showing the Expenditure incurred from Imperial Funds on Public Works in the Punjab during the year 1888-89 under the several heads of Classification.

DETAILS.	Original Works.	Repairs.	Total.
	Rs.	Rs.	Rs.
IMPERIAL.			
44.—MILITARY WORKS.			
Buildings for accommodation of European Troops ... ..	...	849	849
Ditto ditto Native Troops	1,79,281	28,195	2,07,476
Ordnance Works	92	584	676
Commissariat Buildings	3,262	480	3,742
Staff and Miscellaneous	2,296	2,481	4,777
Roads to Hill Stations or Lines of Military Communications...	...	4,208	4,208
General Cantonment Works	15,576	21,063	36,639
Stud Buildings ... ..	...	1,493	1,493
Fortifications	2,995	19,633	22,628
Total Military	2,03,502	78,986	2,82,488
Establishment ... ..	...	...	64,397
Tools and Plant ... ..	...	...	4,201
Profit and Loss ... ..	...	...	...
Barrack Department (exclusive of Establishment)	8,149	1,732	9,881
Establishment ... ..	...	...	988
Grand Total Military	2,11,651	80,718	3,61,955
IMPERIAL.			
45.—CIVIL WORKS.			
<i>Civil Buildings.</i>			
Salt Buildings ... ..	...	...	...
Post Offices	4,668	14,979	19,647
Telegraph Buildings	676	4,104	4,780
Administration	3,68,970	43,043	4,12,013
Miscellaneous	18,028	12,149	30,177
Total Civil Buildings	3,92,342	74,275	4,66,617
<i>Communications.</i>			
Metalled and Bridged Roads	10,89,350	23,699	11,13,049
Raised, Bridged and Unmetalled Roads	2,09,086	9,721	2,18,807
Total Communications... ..	12,98,436	33,420	13,31,856
<i>Miscellaneous Public Improvements.</i>			
Sewage, including Drainage ... ..	...	...	...
Total Mis. Public Improvements ... ..	...	...	...
<i>Collieries.</i>			
Coal operations ... ..	...	...	...
Total Collieries... ..	...	...	...
Total 45.—Civil Works	16,90,778	1,07,695	17,98,473
Establishment ... ..	...	...	3,45,595
Tools and Plant ... ..	...	...	3,853
Add Suspense Balance ... ..	...	...	—84,075
Grand Total, Imperial Civil Works ... ..	...	...	20,63,846
Net expenditure in India and in England against Grant ... ..	...	...	20,63,846
Deduct (a) Credits to Expenditure in England at 2 shillings per rupee. ... ..	...	...	25,289
(b) Credits to "Loss by Exchange" at estimated average rate of Secretary of State's drawings ... ..	...	...	11,766
For value of English Stores received and other Items charged off finally in England. ... ..	...	...	...
Net expenditure in India against Budget Grant ... ..	...	...	20,26,791

(ii).—Statement showing the Expenditure incurred under the several Heads of Classification on Public Works in the Punjab from Provincial, Local (Incorporated), District and Municipal Funds during 1888-89.

HEADS.	PROVINCIAL FUNDS.		INCORPORATED DISTRICT LOCAL FUNDS.		MUNICIPAL FUNDS.		GRAND TOTAL.	
	Original Works.	Repairs.	Original Works.	Repairs.	Original Works.	Repairs.	Original Works.	Repairs.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<i>Civil Buildings.</i>								
Administration	1,77,915	57,278	5,275	15,079	31	1,930	1,83,221	74,287
Minor Departments	7,733	6,093	...	2,019	...	...	7,733	8,112
Law and Justice	58,911	12,535	783	4,346	195	875	59,889	17,756
Ecclesiastical	12,472	11,675	...	...	...	13	12,472	11,688
Jails	87,102	38,382	...	...	...	...	87,102	38,382
Police	72,207	41,987	400	2,355	15,127	7,459	87,734	51,801
Educational	32,395	12,098	36,825	31,201	14,411	8,332	83,631	51,631
Medical	35,908	5,530	23,854	12,610	5,926	11,100	65,688	29,240
Miscellaneous	33,034	19,150	3,610	5,644	2,482	183	39,126	24,977
Forest	1,500	...	...	...	...	...	1,500	...
Stud ... ..	...	...	...	...	...	...	...	...
Total ...	5,19,177	2,04,728	70,747	73,254	38,172	29,892	6,28,096	3,07,874
<i>Communications.</i>								
Metalled and bridged roads	1,11,868	6,66,237	73,376	1,64,049	3,542	3,253	1,88,786	8,33,539
Raised, bridged and unmetalled roads (including district and village roads)	35,729	1,55,624	37,173	1,97,994	...	138	72,902	3,53,756
Bridges and culverts ... ..	...	...	92,159	22,996	...	...	92,159	22,996
Boat-bridges and ferries	3,920	96,790	1,394	6,938	...	40	5,314	1,03,768
Accommodation for travellers	14,304	20,275	7,617	22,395	...	3,759	21,921	46,429
Arboriculture ... ..	...	933	2,377	76,590	1,115	12,155	3,492	89,678
Total ...	1,65,821	9,39,859	2,14,096	4,93,691	4,657	19,345	3,84,574	14,52,895
<i>Miscellaneous Public Improvements.</i>								
Town buildings	258	1,436	11,427	1,760	93,207	21,391	1,04,892	25,187
Water-supply	10,253	—25	36,198	26,179	1,03,958	23,992	1,50,409	50,146
Markets ... ..	...	...	3,105	...	4,158	4,614	7,263	4,614
Paving of streets	1,356	31,537	1,845	11,970	57,606	1,60,743	60,807	2,04,250
Lighting ... ..	...	...	...	...	214	4	214	4
Sewage and drainage... ..	3,704	...	3,791	7,804	73,149	20,692	80,644	28,496
Conservancy ... ..	...	...	...	...	5,653	6,652	5,653	6,652
Miscellaneous ... ..	...	...	1,939	865	5,512	2,616	7,451	3,481
Mines (Collieries)	772	...	...	...	...	...	772	...
Total ...	16,343	32,948	58,305	48,578	3,43,457	2,41,304	4,18,105	3,22,830
Total Works ...	7,01,341	11,77,535	3,43,148	6,15,523	3,86,286	2,90,541	14,30,775	20,83,599
Establishment	4,36,986	...	99,551	...	28,585	...	5,65,122	...
Tools and Plant	9,289	...	1,913	...	812	...	12,014	...
Profit and Loss ... ..	...	...	...	...	...	...	...	...
Add—Suspense Balances	27,113	...	...	...	...	...	27,113	...
GRAND TOTAL ...	23,52,264	...	10,60,135	...	7,06,224	...	41,18,623	...

(iii).—Statement showing the Expenditure incurred from Provincial Funds on Railways in the Punjab during the year 1888-89.

DETAILS.	Outlay to close of 1887-88.	Outlay in 1888-89.	Total.
	Rs.	Rs.	Rs.
PROVINCIAL.			
48.—STATE RAILWAYS.			
<i>Amritsar-Pathankot Railway.</i>			
Preliminary Expenses	44,363	...	44,363
Land	1,80,967	44	1,81,011
Construction of Line	11,09,226	489	11,09,715
Ballast and Permanent-way	27,95,827	3,348	27,99,175
Stations and Buildings	6,38,289	21,120	6,59,402
Plant	40,285	...	40,285
Establishment	1,67,512	...	1,67,512
Rolling Stock	5,31,503	...	5,31,503
Loss by Exchange	27,770	...	27,770
Add—Increase in Balance of Suspense Accounts	61,556	—20,155	41,401
Total Final and Suspense Heads ...	55,97,298	4,846	56,02,144
Total Capital Expenditure, 48—Railways ...	55,97,298	4,846	56,02,144
Bhatinda-Bahawalpur Railway Survey	4,544	26,047	30,591
GRAND TOTAL ...	56,01,842	30,893	56,32,735

APPENDIX A.

List showing Minor Ferries maintained in the several Districts of the Punjab during 1888-89.

DISTRICTS.	Number of Ferries.	Localities.	DISTRICTS.	Number of Ferries.	Localities.
HISSAR ...	9	Khereka. Banudhar. Jhurar. Panihari. Sarbadh. Sadhanwar. Jakhal. Ratia. Kalotha.			Kawan. Myani. Ghoda Mandi. Indresa. Haniki. Hanúdwála. Talli. Naggar. Kandiki. Mamdót. Mattar. Bahádurki. Punjgaráin. Baggiliki. Jodha. Khewa. Ghurka. Moozzam. Jhangar. Amruka.
ROHTAK ...	Nil.	Nil.	FEROZEPUR ...	20	
GURGAON ...	8	Sultánpur. Solrah. Bilochpur. Sheikhpur. Bholra. Mabauli. Garwari. Hasanpur.			
			JULLUNDUR ...	Nil.	Nil.
DELHI ...	11	Dahisra. Barauli. Burari. Wazirabad. Okhla. Jastpur. Karnoli. Mahabatpur. Kabúlpur. Majhaoli. Shajahánpur.			Nangal. Anandpur. Behrámpur. Sainsowál. Dhaulkhani. Jhindbarri. Kiratpur. Srigobindpur. Bhetan. Mullanwál. Mauli. Naushera. Pakhowál. Bianpur. Káttigarh.
KARNAL ...	9	Begi. Dabkauli. Kalsaura. Changáon. Khojgipur. Dhindawata. Titána. Ratta Khera. Sota.	HOSHIARPUR ...	15	
UMBALLA ...	10	Localities not stated by Deputy Commissioner.			Sujánpur. Nadaun. Chamba. Siba ke Riáli. Bhogarwán. Surarwán.
SIMLA ...	Nil.	Nil.	KANGRA ...	6	
					Bagah. Dera Nának. Sunder Chak. Dera Afghána. Madála. Basauli. Trimuni. Jalála. Shahpur. Baheri. Durangla. Jehla. Akhwára. Gidri. Srinagar. Buláki Chak.
LUDHIANA ...	12	Sherpur. Jodhwál. Khanpur. Chamta. Jowála Majra. Mathwára. Lasára. Kariena. Moh <i>alias</i> Khaira. Bhundri. Sidhwán. Tehara.	GURDASPUR ...	16	

APPENDIX A—continued.

DISTRICTS.	Number of Ferries.	Localities.	DISTRICTS.	Number of Ferries.	Localities.
AMRITSAR ...	21	Localities not given.			Machliwál. Shahidanwáli. Kot Maldeo. Chautra. Islámpur. Hassuwáli. Badh. Rajbana. Khharanwála. Dab Kallán. Kacha Kamira. Fakir Sial. Haveli Bahádar Shah.
LAHORE ...	23	Dhana. Asal Naroki. Marl Talwára. Gurúki. Lakho Dher. Ajla and Alpa. Karaul. Kishti Bhai Rupa. Faizpur. Saggián. Atari. Sabdan. Niáz Beg. Shahpur. Chung. Mohlanwál. Khudpur. Mánnga. Natch. Lakhanki. Gagga. Mudrán. Moliwál.			Rajghát. Pipli. Hamandpur. Chuhepur. Arewála. Muhanwála. Taraganuwála. Alipur. Ghatoi. Nakreri. Sanpolevanwála. Ram Chautra. Serai Sidhu. Shakruwála. Baghdád. Buchanwála. Tulambha. Ghauspur. Fargilshah. Núr Miráli. Batiánwála. Nusratpur. Chamwála. Mangwanwála. Mir Muhamadwála. Gol Shah Mahomed. Golanwála.
MONTGOMERY ...	25	Khai. Maháwad Shah. Kulb Sabáwa. Mahr Shabána. Kikri. Alam Shah. Mari Jhamra. Piráli. Jhandoo. Majhani. Faridabad. Killa Bhamba Singh. Nala. Degh. Shekhuki. Fardwah. Bhila. Maluki. Ahloke. Malkana. Bhaloo. Shabanwáli. Mádhni. Jamlua. Bhúkh.	MOOLTAN ...	54	Tibi Lál. Lohára. Debra Lalla. Durpur. Khurrampur. Fattehpur. Nekokara. Murádpur. Núrpur. Azimpur. Kalia Shah. Mahra Balock. Lakha Saldera. Sabuka. Sharraf. Kot Emámdín. Pailádpur. Aimnawála. Aliwáhan. Bandwála. Mukhwarewála. Samásatta. Naberwála. Sirabatta. Bindriwála. Laiwáhan. Gudpur.
JHANG ...	27	Shekhán. Chániot. Sagganki. Tahli Manjini. Thalla Mohamed Shah. Chorgalli. Alipur. Billi. Jhang Mohal. Kot Bashab. Mani Shah Skira. Kabra. Sajbar. Koh Khan.			

APPENDIX A—continued.

DISTRICTS.	Number of Ferries.	Localities.	DISTRICTS.	Number of Ferries.	Localities.			
MUZAFFARGARH.	20	Shershah.	KOHAT ...	Nil.	Nil.			
		Bullewáhan.						
		Dholanwála.						
		Dhunduwála.						
		Tibbewála.						
		Ganga.						
		Binde Ishaq.						
		Shahpur.						
		Shahr Sultán.						
		Madwála.						
Bakhri.	PESHAWAR ...	11	Khairabad.					
Makhanbela.			Akora.					
Kundrála.			Kheshi.					
Núrwála.			Zakhi.					
Khangarh Dorna.			Gujrán.					
Jhokwála.			Nissutta.					
Bet Isanwála.			Dheri.					
Nahránwála.			Hind.					
Hiranwála.			Jehángira.					
Shahwála.			Bela Momendan.					
D. G. KHAN ...	29	Koreshi.	HAZARA ...	1	Locality not stated by the Deputy Commissioner.			
		Kinghar.						
		Marjhanghi.						
		Ghali.						
		Shahwála.						
		Pírwála.						
		Bitsawái.						
		Anokhar.						
		Dhamwála.						
		Sheru.						
Kundrála.	RAWALPINDI ...	12	Hill.					
Ratta Leghári.			Bhagam.					
Sirri Miani.			Dangally.					
Rakh.			Lálgráon.					
Mehrewála.			Lachman.					
Kotla Sher Mahomed.			Seri.					
Kotla Andran.			Khawádar.					
Nowshera.			Malot.					
Núrpur.			Rámpattan.					
Wang.			Owen.					
Mithankot.	Makhad.							
Bangalo.	Ghariálla.							
Bhagsur.	GUJRAT ...	Nil.	Nil.					
Madmanthar.								
Ahadpur.								
Kihalwála.								
Rojhán.								
Kiro.								
Shahwáli.								
D. I. KHAN ...				9	Shinki.	SHAHPUR ...	13	Chachar.
					Belot.			Sadakamboh.
					Jai.			Dhak.
	Dalwála.	Tankiwála.						
	Kanjani.	Hamoka.						
	Baksha.	Shekhowál.						
	Kahsri.	Thali Hargan.						
	Marhel.	Langarwála.						
	Fatekhán.	Tetri.						
	BANNU ...	5	Localities not stated by the Deputy Commissioner.		JHELUM ...			13	Janra.
Dhangrote.								
Mangla.								
Gattalián.								
Pind Ratwál.								
Kot Basira.								
Kahar.								
Maryála.								
Paran.								
Rasúl.								
Ahmedabad.								
Jetipur.								
Chak Nizám.								
Jellalpur.								

APPENDIX A—concluded.

DISTRICTS.	Number of Ferries.	Localities.	DISTRICTS.	Number of Ferries.	Localities.
GUJRANWALA ...	12	Kádirabad. Kala. Pheroke. Rám-nagar. Garhi. Khanke. Mahmúndpur. Chuchak. Hazára. Burkhán. Wazírabad. Palku.	SIALKOT ...	10	Right bank of Chenáb.

