

Revenue (1897) Department.

MISCELLANEOUS SERIES.

G.O., No. 5231

DATED 7 Oct^r

[Despatch Abstract.]

Coming to the Board of Revenue and to the
Superior Madras Survey, resolution of
the Govt. of India forwarding General
Report on the operations of the Survey of
India Department, during the years 1895-96

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

1897.
GOVERNMENT OF INDIA.
DEPARTMENT OF REVENUE AND AGRICULTURE.
LAND-SURVEYS.

File No. 123 of
1897.
Serial No. 2.

*Current Number
8411.*

RESOLUTION.

No. 13-123-2.

The Hon. Mr. Foster C.S.E.

Order in re 5231 d/17 Oct 97

*Communicated to
the Board of Revenue and
to the Supt., Madras Survey*

Dated Simla, the 20th September 1897.

Recd. & Regd. 22/9/97

31/10/97

SUBJECT.

General Report on the operations of the Survey of India Department, during the year
1895-96.

G. C. Press, Simla, -No. 1079 R. & A. D. -21-9-97-716.

Extract from the Proceedings of the Government of India in the Department of Revenue and Agriculture (Land-Surveys), No. 13-123-2, dated 20th September 1897.

READ—

The General Report on the operations of the Survey of India Department during the year 1895-96.

RESOLUTION.

The field operations of the Survey of India Department during the year ending 30th September 1896, were carried on by twenty-one parties (one of which was a double party) and two small detachments.

The various classes of work on which these parties and detachments were engaged were as follows:—

	No. of parties employed.	No. of detachments employed.
1. Trigonometrical	1	...
2. Topographical	6	...
3. Forests (excluding the Forest Survey Branch)	4	...
4. Cadastral	4	...
5. Traverse	3	2
6. Scientific	3	...
Total	21	2

Eleven parties and two detachments were thus employed on remunerative operations, that is to say on Forest and Cadastral Survey and Traverse work, as compared with eleven parties and one detachment similarly employed in 1894-95.

2. The aggregate area surveyed in detail during the year under review was 63,653 square miles against 1,25,381 square miles in the previous year, the decrease being almost entirely due to the smaller amount of geographical

reconnaissance that was undertaken, as will be seen from the following comparative statement:—

Class of work.	Area surveyed in square miles.	
	1894-95.	1895-96.
Topographical	21,588	19,798
Imperial Forest Surveys	2,612	3,202
Forest Survey Branch	1,616	1,712
Cadastral	6,934	8,609
Geographical	92,631	30,279
Exceptional work not entered under special heads ...	125,381	63,600
	3	53
TOTAL ...	125,384	63,653

3. As in the previous year, one party was employed on Trigonometrical operations and carried on the work of principal triangulation in Upper Burma and Baluchistan. The Mandalay Meridional series covered a direct distance of 18 miles, and an area of 360 square miles; and observations were extended into the valley of the Chindwin. In Baluchistan a beginning was made with the principal longitudinal series which, starting from the Great Indus series, is to be pushed westwards through Baluchistan. This series will afford a sound and accurate foundation for the work already executed in Baluchistan and Mekran and will, eventually, it is hoped, form the basis of a triangulation which will link up the trigonometrical systems of Asia and Europe.

4. Topographical operations were carried on in the Bombay Presidency, Sindh, Baluchistan, the Himalayas and Upper Burma. The 2-inch survey of the Southern Mahratta country, which has been in progress during the past nine seasons, was completed. The total area surveyed topographically was 19,798 square miles as compared with 21,588 in the year 1894-95.

5. The four parties of the Imperial Survey engaged on Forest Surveys were employed in the Central Provinces, the Bombay and Madras Presidencies and in Lower Burma. The Forest Survey Branch continued their operations in the Central Provinces, the North-Western Provinces and Oudh, the Chamba State and Upper and Lower Burma. The Himalaya party also surveyed an area of 200 square miles of forest in Kulu and Kangra and the Native States of Patiala and

Sirmur. The total outturn of forest survey work amounted to 4,914 square miles, of which 3,202 square miles were completed by Imperial parties and 1,712 square miles by the Forest Survey Branch, against 2,612 and 1,616 square miles respectively during the previous year. The cost rates in the Bombay and Madras Presidencies and in Lower Burma have generally been reduced; while in the Central Provinces they were somewhat higher than in the previous year.

6. Cadastral Survey operations by Imperial parties were carried on in Bihar by one double party, in Burma by two parties and in Assam by one party. Cadastral survey by local agency under the professional control of the Deputy Surveyor General, Revenue Branch, was also carried on in various districts of the North-Western Provinces and Oudh. The aggregate area surveyed in all Provinces amounted to 8,609 square miles, of which 3,269 square miles were executed by local agency in the North-Western Provinces and Oudh.

7. Traverse Survey operations were carried on by two parties in the North-Western Provinces and Oudh, by one party in the Central Provinces, and by two small detachments in Government Estates in Chota Nagpur, the total area traversed being 9,089 square miles.

8. From a scientific point of view, the most interesting and important feature of the year's work was the completion of the telegraphic determination of the difference of longitude between Greenwich and Karachi, which was begun last year by two parties working under Captains Burrard and Lenox-Conyngham. This determination is of the greatest importance, as providing a final datum for Indian longitudes. Arcs were measured from Karachi to Bushire, from Bushire to Teheran, from Teheran to Potsdam, and from Potsdam to Greenwich. Check arcs were also measured between Karachi and Jask, and Jask and Bushire. The final result was to increase the error which had already been suspected in the accepted longitude of Madras by 0.308 seconds, or about 150 yards linear. The work was carried through under considerable difficulties; a comparison between the Karachi-Bushire and Karachi-Jask-Bushire arcs shows that very high accuracy was attained; and the results reflect great credit upon the officers to whom they are due. In the course of their operations they received the most ready and valuable assistance from the German Government and its officials, from various officials in England, and from the officers of the Indo-European Telegraph Company, to all of whom the cordial acknowledgments of the Governor-General in Council are due.

9. Tidal observations with self-registering tide gauges were continued by one party at 13 stations in India, Burma, the Persian Gulf, Ceylon, the Andaman Islands and Minicoy; the series of observations at Minicoy and Trincomalee were terminated during the year; and a new tidal observatory was erected at Suez. Here again the acknowledgments of Government are due for much ready help rendered by officers not belonging to the Department. The line of double levels which is being run between Vizagapatam and Allahabad was continued over a length of 278 miles.

10. Geographical surveys and reconnaissances were carried on in Upper Burma and covered an area of 5,079 square miles of new country. The aggregate area geographically surveyed on the Eastern and Western Frontiers together, amounted to 30,279 square miles.

11. The progress of work at the Head Quarters Offices continued to be satisfactory. In the drawing section, good progress was made with the maps of Burma. The Provincial maps on the 16-mile scale and 66 sheets of the Atlas of India have been revised, and much miscellaneous work was in progress; while 4,900 cadastral sheets were issued during the year.

In the Engraving Section, good progress was made with the quarter sheets of the Atlas of India, and 18 district maps, a 16-inch map of Calcutta, the 128-mile map of India, a 16-mile map of Gujarat and the 80-mile Railway map of India were published. Progress was also made with new maps of Bengal, the Bombay and Madras Presidencies and the Punjab.

The Photo-Lithographic Section showed an increase of outturn, the value of the extra-departmental work amounting to Rs. 86,364 as compared with Rs. 76,534 in the previous year. The work maintained the high standard of excellence which it has attained under the supervision of Colonel Waterhouse, the loss of whose services by retirement is regretted by the Government of India.

In the Mathematical Instrument Office the number of instruments issued largely increased, exceeding in value the issues of the previous year by over a lakh of rupees. Steps have been taken to utilise more fully than hitherto, by repair or conversion, the large stock of defective instruments that has accumulated, and have resulted in a considerable saving to Government.

12. The Survey of India Department continued throughout the year under the administration of Major-General C. Strahan, R. E., and the Government of India desire to acknowledge the efficient manner in which he has controlled its operations, and the value of the work done in all its Branches.

Order.—Ordered that the above Resolution be forwarded to the Surveyor-General of India, the Inspector-General of Forests, the Local Governments and Administrations noted on the margin,* and to the Foreign, Military and Public Works Departments.

- Madras.
- Bombay.
- Bengal.
- North-Western Provinces and Oudh.
- Punjab.
- Central Provinces.
- Burma.
- Assam.
- Coorg.

Ordered also that the Resolution be published in the Supplement to the *Gazette of India*.

(True extract.)

W. J. M. M. M.

Secretary to the Government of India.

To the Secretary to the Government of Madras.

When given for copying _____
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When examined _____
When signed _____

HEAD AGAIN G.O., No.
189

DATED

CURRENT No.

ENCLOSURES TO G. No.

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LETTER OF GOVERNMENT.

WITH DITTO.

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