

APPENDIX.

EXTRACTS FROM REPORTS OF CHIEF SURVEYORS IN CHARGE OF SETTLEMENT AND SECTIONAL OPERATIONS IN DISTRICTS.

AUCKLAND.

MAJOR TRIANGULATION.

Only 50,000 acres under this heading have been completed during the year, and that wholly by Mr. Barnard in extension over the mountainous country near the East Cape, to check and aid the Land Purchase surveys. Mr. Barnard met with considerable obstruction from the Natives; and it is due to his perseverance under considerable difficulties that the meridian was sufficiently extended to cover surveys in progress. A major triangulation, covering about 800 square miles, is in progress under District Surveyor Cussen, to cover the country between Cambridge and Taupo, where many surveys are likely to be required during the coming season.

MINOR TRIANGULATION.

The total amount of minor work executed is 506,221 acres, at a mean cost of 1'04d. per acre—a slight increase on the cost for last year, owing to its being more in forest-country. About half of this has been undertaken in the interests of Crown-land surveys, and is principally in the reduction of the major triangles to lengths suitable for section purposes. The sides have invariably been obtained from the major series, generally by the Ray-trace system, which has been found to give very good results, and seems particularly applicable to the class of instruments used—viz., 5-inch theodolites. The average closure on fifteen different triangulations of the past season is 1'52 links per mile, a result which shows the survey to be considerably within the limit allowed, and also gives confidence in the work depending on it.

TRIGONOMETRICAL AND TOPOGRAPHICAL SURVEY.

No survey under this heading has been undertaken specially with a view of delineating the features of the country passed over, but the topography so gained has been incidental to the progress of the triangulation, and, being nearly all open country, has been done cheaply. The mere fact of any country being forest-clad at once precludes any great attention to topography, owing to the difficulty of seeing and recognizing the features from different stations. The larger part has been done whilst triangulating in connection with the exercise of road rights through Native grants, by Mr. Cussen.

RURAL AND SUBURBAN.

Under this head, an area of 57,666 acres, in 429 sections, averaging 135 acres in size, has been surveyed, at a cost of 1s. 3d. per acre, a moderate increase on the mean rate of last year. The cause of this is the fact that a large proportion of the area surveyed is in sections of small size, scattered from end to end of the district, and in localities adjoining or surrounded by old surveys. Whenever this is the case the cost at once rises considerably, as, owing to the exceeding difficulty of finding the old marks, the surveyor has often to survey more than three or four times the area applied for before he can be sure that he is not encroaching on land already granted. This will continue to be the case until the old surveys are surrounded by a fringe of new; and the cost, consequently, will remain at a high rate. A considerable area under this heading may be called revision survey—that is, of lands sold from the old map, but which were found not sufficiently complete to furnish data for the Crown grants. The land laws in this district allow of free selection before survey in any of the Crown lands, in areas of twenty acres and upwards. This is an additional cause of the increased cost of surveys, and, I may add, of discontent on the part of applicants, who cannot understand why their wants are not attended to at once, forgetting that to send a surveyor to mark out a 20-acre section, perhaps fifty miles away from other work, involves a larger cost than the price the land would fetch at auction. As showing that the section surveys are conducted with accuracy, I may state that a mean of thirty-six closures of different lengths gives 2'9 links error per mile.

In addition to the area shown in the return, 51 sections, of 6,230 acres, have been surveyed by authorized surveyors at the cost of applicants, under the homestead clauses of the Land Act. As the fees under this system only cover the cost of surveying the boundaries, it will devolve on the Government to lay out the necessary roads. This is a work that should precede the section survey, as settlers could then arrange their fences in accordance; but, with the amount of work in hand hitherto, it has been found impossible to carry this out.

TOWN SECTION SURVEY.

Under this head, 298 sections, of 249 acres in area, have been surveyed, and two townships—one at Te Aroha and another at Te Puke—are in progress.

NATIVE LAND COURT SURVEYS.

Of the area under this heading, 34,594 acres, in seventeen blocks, have been surveyed for the Natives within the Tauranga confiscation boundary, costing £536; whilst 21,000 acres are in progress in a rough, mountainous country, which will probably cost between £600 and £700 before it is completed. These surveys are made for the Tauranga District Court, who, it is presumed, protect the Government interests by way of lien over the lands so surveyed.