

HONGKONG.REPORT OF THE SUPERINTENDENT OF THE BOTANICAL AND AFFORESTATION
DEPARTMENT FOR 1892.

*Laid before the Legislative Council by Command of His Excellency
the Governor, on the 5th April, 1893.*

No. 7.

BOTANIC GARDENS,
HONGKONG, 28th March, 1893.

SIR,—I have the honour to submit the Annual Report on the Botanical and Afforestation Department for 1892.

STAFF.

2. There have been no changes, except the usual number amongst the labourers, during the year, and all have been at their posts continuously, no vacation or other leave having been taken. Mr. W. J. TUTCHER arrived from England just before the end of 1891, and took up his position as Assistant. I have much pleasure in recording my great satisfaction with the assiduous, patient, and able manner in which he has applied himself to and discharged his duties in the Gardens, and also, when required for special work, for about a fortnight, in supervising the counting of trees and tree-pits for Forestry work.

The Chinese office and outdoor staffs have also given diligent and faithful service in the various capacities in which they have been employed.

3. The accommodation and facilities, which the new Offices provide, have enabled much more and efficient work to be performed than could be done in the old, cramped, and entirely unsuitable building, which formerly had to be put up with. These indoor improvements have influenced the staff and outdoor work generally and are a great help in securing the accomplishment of superior work.

4. The usefulness of the department as a centre for the distribution of information and advice is constantly availed of by local correspondents, and others in China and all parts of the world. It is sometimes a tax to attend to the correspondence, but at all times when it is possible inquiries are cheerfully replied to, even when we gain nothing in exchange, as it would be discourteous to leave such communications unattended to.

BOTANIC GARDENS.

Improvements.

5. Alterations in the nursery consequent on the construction of the new and removal of the old buildings have been continued and are now nearly complete.

6. In my last report I mentioned that I proposed making the approach to the nursery through a plant-house abutting just opposite to the Albany on Albany Road. This house has been erected and furnished with plants, and it appears to have met with great approval, on all sides, from the Public. It was put up with material partly taken from the old building which was demolished, the ornamental front was thus put up for the very modest sum of \$200. A temporary roof has been constructed until a suitable opportunity and sufficient means can be found for putting on a permanent and more ornamental one.

7. Work and store-sheds, and a carpenter's shop have also been constructed from the material of the old building, thus supplying a want which has greatly handicapped work for years past.

8. In Glenealy Ravine, just above the Roman Catholic Cathedral, the site where two water-tanks formerly stood has been filled up and a rockery for ornamental plants made on it.

9. Another small rockery a little lower down has also been made.

10. On the south side of the new road leading from the Gardens to the Roman Catholic Cathedral the formerly untidy corner has been levelled and planted.

This new road while no doubt providing to some people easier access to the Cathedral has not improved the Gardens, especially as it has brought to the neighbourhood boys who cannot be always kept out of mischief.

11. In the old Garden the ground which had become bare under the large "banian" has had a thick covering of good soil placed on it, supported by rough stones at the circumference and the whole space has been planted with Camellias.

Water-Supply.

12. This has been good and uninterrupted throughout the year, except in the nursery, but an alteration in the supply pipes made by the Water and Drainage Department, has effected an improvement in this respect.

West Indian Limes.

13. At the suggestion of His Excellency the Governor, I applied to the Trinidad Botanic Gardens for a supply of seeds of these and the Director, Mr. HART, kindly sent me a parcel from which a nice little stock of plants was raised. Some of these have been planted in the Garden and in one of the tree nurseries, the remainder having been distributed chiefly amongst Chinese market growers who have promised to cultivate the plants in their gardens. It is hoped that by this means the Hongkong Market will in time be furnished with superior limes to those now obtainable.

Lawns.

14. The serious injury done to lawns in the Colony in 1891 and recorded in my last report, has been repeated this year, the caterpillars having re-appeared about the same time of year, namely, in the latter half of September, and continued their depredations until the end of November when with the approach of colder weather they disappeared. In 1891 numerous experiments, as reported, were tried to destroy the larvæ and moths without destroying the grass, but these experiments, with the exception of handpicking of the larvæ, and trapping of the moths, were only partly successful.

Experiments were renewed, however, when the caterpillars re-appeared, and eventually a method was discovered of destroying them without injuring the grass. In the meantime handpicking was resorted to. The article which was found successful was Jey's Fluid, one part to sixty parts of water. This was applied to the grass through the coarse rose of a large water-pot, giving sufficient of the liquid to saturate all parts of the grass above ground. Dull days, or if on clear days after the sun had gone down, were chosen in order that the liquid should take as long as possible to evaporate. Applications were found to destroy most of the caterpillars and to leave the grass uninjured, but it was necessary to repeat the process after intervals of two or three weeks, the process of depositing and hatching of eggs being continued by the moths. The remedy is somewhat expensive but it is the only one which has succeeded.

It seems probable that the mischief can be stamped out by this method, but, unfortunately, when neighbours make no effort to check the insects on their own lawns, such places are nurseries for the development of moths which will, undoubtedly, find their way to the gardens of those who make efforts to get rid of the pest.

Maintenance of Buildings, Paths, &c.

15. All the plant-houses, aviaries, sheds, roads, and paths have been kept in good repair.

Workmen's Cottages and Tool-houses.

16. As originally constructed, some of them 30 years or more ago, and others upwards of 20 years ago, these buildings were and are unsuitable, both in a sanitary and other sense, for the purposes for which they are required. They are, moreover, disreputable in appearance and an eyesore to the neighbourhood besides being right in the way of the completion of the new road recently made to open up new building sites. The sites in the vicinity of these buildings would be much depreciated in value in the eyes of would-be purchasers by the presence of these old, ugly, and insanitary buildings. It would therefore in every sense be desirable to have them demolished and re-built as soon as there may be an opportunity for so doing.

Rain Gauge.

17. By direction of His Excellency the Governor a rain gauge has been obtained from England and fixed in a suitable position for measuring and recording rain-fall in the Gardens. It was in position in time for records to be commenced from January 1st of this year, and in future the records will be published in the departmental report.

18. It might be interesting and useful to supplement the rain gauge by maximum and minimum and dry and wet bulb thermometers for observing temperature and atmospheric moisture.

Garden Rules.

19. Some desirable alterations being required in the Rules for the maintenance of order in, and admission of the Public to, the Gardens the Rules were revised, authorised, and published in the *Government Gazette* in Notification No. 473 of the 19th November, 1892.

Amongst other alterations the time for closing the gates was made a little earlier in order that they should not be open after dark, at which time the darkness afforded facilities for irregularities which could not be checked so well as in daylight.

Distribution and Interchange of Plants, Seeds, &c.

20. Living plants to the number of 941, and seeds of the weight of 16 lbs. in 128 packages and packets were received. The principal donors were :—

Botanical Department, Antigua, West Indies.	Dammann & Co., Napoli, Italy.
„ Gardens, British Guiana.	Foster, Mrs. Pearce
„ „ Grenada.	Goddard, Mrs.
„ „ Hanoi.	Hooper, A. Shelton
„ „ Jamaica.	Humphreys, H.
„ „ Royal, Bangalore.	„ J. D.
„ „ „ Calcutta.	Lewis, Mrs.
„ „ „ Ceylon.	Mueller, Sir F. Von, Melbourne.
„ „ „ Kew.	Rapp, F.
„ „ „ Mauritius.	Ribeiro, J. S. V.
„ „ „ Trinidad.	Shepherd, Mrs. Bruce
„ „ Saharunpur.	Skertchly, S. B. J., F.G.S.
„ „ Singapore.	Treseder, John G., Sydney.
Chapman, Mrs.	Watters, T., Canton.

21. Of plants 3,675 and of seeds 58 lbs. 14 ozs. contained in 270 packages &c., were distributed. The chief recipients were :—

Acclimatisation Society, Brisbane.	Forest and Gardens Department, Penang.
Arthur, Mrs.	Foster, Mrs. Pearce
Barker, C. B., H. E. Major-General Digby	Fraser, F. A., Hoihow.
Barton, J.	Gardens and Forests, Singapore.
Böehmer & Co., Louis, Yokohama.	Goddard, Captain
Bird, H.	Government Civil Hospital.
Botanic Gardens, Bangalore.	Hodgins, Captain
„ „ British Guiana.	Hooper, A. Shelton
„ „ Ceylon.	Humphreys, H.
„ „ Grenada.	„ J. D.
„ „ Hanoi.	Hutchison, J. D.
„ „ Jamaica.	Jardinero, Major, Manila.
„ „ Natal.	Knaggs, S. W.
„ „ Port Darwin.	Mackenzie & Co., Shanghai.
„ „ Royal, Calcutta.	May, F. H.
„ „ „ Kew.	Mons. de Poli, Paris.
„ „ „ Mauritius.	More, Mrs.
„ „ „ Trinidad.	Osborne, E.
„ „ Saharunpur.	Rapp, C. F.
„ „ Townsville.	Rickett, J., Yokohama.
Bowden, V. R., British New Guinea.	Röbelin, C., Bangkok.
Burdon, Mrs.	Shepherd, Mrs. Bruce
Central Police Station.	Stokes, R.
Chapman, Mrs.	Taj Mahal Gardens, Agra.
Cricket Club.	Treseder, John G., Sydney.
Croade, Captain	Veitch & Sons, J., Chelsea.
Denison, A.	Watters, T., Canton.

Plant Sales.

22. Improvements in the nursery have, besides being of much advantage to the Gardens, enabled better and more work to be done in providing plants for the Public. 2,307 plants were sold, the amount realised for them and some seeds being \$612.57. There are increases of, in plants 423, and in money \$268.80 over the sales of the preceding year.

23. It will be remembered that the Gardens do not derive any benefit from the sale of plants, the receipts being paid into the Treasury and not credited to this department, nor is it designed that the Government should derive benefit from the transactions, those who benefit being the Public only; it is calculated that the prices charged for plants shall be about the cost of their propagation and cultivation only.

Loan of Plants for Decoration.

24. Not quite so many plants were applied for as in the previous year. The number of applicants was 16 as against 19 in 1891, and the plants lent 1,688 as against 2,746 in the previous year.

Herbarium and Library.

25. The collections of dried plants and books were transferred to their quarters in the new building in the early part of the year. The herbarium is commodious, and well adapted for the preservation of plants, which can now be examined and studied with comfort and convenience by any one wishing to do so.

26. In consequence of pressure of other work, and of the cramped place where the plants were formerly kept work in the herbarium was almost suspended in 1891, but during the year under review a considerable number of plants were prepared and incorporated, and arrears have been mostly worked up.

27. My thanks are due to Dr. A. HENRY for a valuable collection of 742 species of plants from his Central China collections, and to the Royal Gardens, Kew, for 127 species of miscellaneous plants.

28. Thanks are also due for the various Reports, &c., contributed and named in the following list of additions to the library:—

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|---|---|
| Agricultural Bulletin of Malay Peninsula, 1892. | Forest Administration in Madras Presidency, 1890-1. |
| " Gazette New South Wales, 1892. | Forest Administration in Central Provinces of Bengal, 1890-1. |
| " and Livestock Statistics, South Australia, 1892. | Forest Administration in Upper Burma, 1890-1. |
| Botanical Magazine, 1892. Purchased. | Journal of Botany, 1892. Purchased. |
| Botanicum Sinicum, Botany of Chinese classics, Bretschneider, 1891. Presented by Dr. Bretschneider, St. Petersburg. | Le Tagasaste (<i>Cytisusproleferis</i> Varietas). From Kew. |
| Bibliography of Australian Economic Botany. Part 1, 1892. | List of Medicines exported from Hankow and the other Yangtze ports. Purchased. |
| Bulletin (Brisbane) of the Department of Agriculture, 1892. | Laws of Storms in the Eastern Sea. Purchased. |
| Bulletin, Agriculture in the Straits Settlements, of Miscellaneous Information, 1892. | Manual of Injurious Insects and methods of prevention. Purchased. |
| Bulletin, (Jamaica) of Botanical Department, 1892. | Observations on Botanical Collections made by Mr. A. E. PRATT in Western China. From Kew. |
| Bulletin, (Kew) of Miscellaneous Information, 1892. | Ordinances of Hongkong Vol. i, 1844-1877, and Vol. ii, 1879-90. |
| Bulletin, (Trinidad) of Miscellaneous Information, 1892. | Proceedings of the Agri-Horticultural Society of Madras, 1891. |
| Catalogo de las Plantas del Herbario, from Manila. | Report Botanic Gardens, Grenada, 1891. |
| Flora of British India, Part 18. From Kew. | " " " Natal, 1891. |
| Gardeners' Chronicle for 1892. Purchased. | " " " Saharunpur, 1891-2. |
| Hookers' Icones Plantarum Vol. i part. IV. Vol. ii part i, Vol. iii parts i and ii, 1892. From Kew. | " " " Royal Calcutta, 1891-2. |
| Hygrometrical Tables adapted to the use of the Dry and Wet Bulb Thermometer. Purchased. | " " " " Ceylon, 1891. |
| | " " " " Mauritius on the Cyclone of 1892. |
| | Report Botanic Gardens, Royal, Trinidad, 1891. |
| | " " " and Forest Department in the Straits Settlements, 1891. |
| | Report of the Conference of Fruit Growers, Department of Agriculture, New South Wales. |
| | Report of the Conference on Rust in Wheat. |
| | " " " Department of Agriculture, Brisbane, 1890-1. |
| | Report of the Department of Agriculture, Cape of Good Hope, 1891-2. |
| | Report of the Government Botanical Gardens and Parks, Dewan of Mysore, 1890-1. |
| | Report of the Pomologist, United States Department of Agriculture, 1891. |
| | Report of the Queensland Acclimatisation Society, 1892. |
| | Report of State Forest Administration in New South Wales, 1891. |
| | Statistical Register of the Province of South Australia, 1890. |
| | Transactions and Proceedings of South California Horticultural Society. |
| | Weather Warnings for Watchers. Purchased. |

Indian Forest Reports.

- Forest Administration of the Forest Survey Branch in India, 1890-1.
- Forest Administration of Imperial School in Dehra Dun, 1891-2.
- Forest Administration in Andamans, 1891-2.
- " " in Ajmere-Merwara, 1890-1891.
- Forest Administration in Baluchistan, 1890-1.
- " " in Bombay Presidency including Sindh, 1890-1.
- Forest Administration in Coorg, 1890-1.
- " " in Hyderabad Assigned Districts, 1890-1.
- Forest Administration in Lower Provinces of Bengal, 1890-1.
- Forest Administration in Lower Burma, 1890-1.

FORESTRY.

Planting Operations.

29. In this branch of the department's operations, as in the Gardens, a great deal more work was accomplished than in the previous year. The total number of trees placed in permanent positions was 356,663 as against 115,081 in the previous year, that is upwards of three times the quantity. Appendix A. gives a tabular statement of the kinds and numbers of trees planted and the localities where they were planted.

Protective Service.

30. The number of offenders brought before the Police Magistrates by Forest Guards was 101, out of which 92 convictions were obtained. This is an increase in the number of cases of 22 and of convictions of 15 as compared with the year 1891. Out of the 92 convicted persons 29 paid fines amounting to \$87.50, the remainder, 63, were imprisoned for terms ranging from three days up to two months each. The lowest fine was 50 cts., and the highest \$10.

31. The service was worked with the usual number of Forest Guards, but arrangements have been sanctioned for a slight increase this year.

32. The majority of offences are in each case trivial, but if these slight offences were overlooked they would undoubtedly quickly develop into more serious damages to trees.

Grass Fires.

33. There were 63 fires recorded, which destroyed about 2,000 trees.

34. I have again to thank the Police Officers at various out-stations for valuable services in reporting and extinguishing grass fires.

35. The system of fire barriers throughout the Colony was efficiently maintained, 41 miles of old barriers having been cleared and 2 miles of new ones made just before the approach of the dry season.

36. For the purpose of repressing grass fires which to a large extent are caused by people conducting ancestral worship at tombs scattered all over the hills, a Register of Graves has been obtained for the use of this department, so that in the event of the origin of fires being traced to certain graves the worshippers may have the responsibility fixed on them. The Register affords information of the locality of each grave and the address of the person or persons interested in its maintenance and accustomed to pay the annual tribute to ancestors. Tomb-worshipping takes place in the autumn and spring of each year, when this department stations men in the vicinity of cemeteries and graves to extinguish fires which may occur. The Register was obtained just before the late autumnal festival, and the people were acquainted with its object and admonished to exercise greater care in the use of fire. These efforts had a very happy result, very few, and they are insignificant, fires having taken place, which went far to prove that grass fires may be prevented with ordinary care.

37. I have to thank the Honourable the Registrar General, and the late Major-General GORDON, Captain Superintendent of Police, and the Officers acting under him, for this Register, the Officers in charge of out-stations having collected the information for me.

38. The Register records contain 1,164 graves in Hongkong and Kowloon. The localities, and number of graves in each, will be found in Appendix C.

39. Fortunately, no graves are now allowed to be made outside cemeteries, but it will be a long time before all interest has ceased in those which remain, therefore vigilance must not be relaxed in exercising efficient control over them.

Thinning of Plantations, &c.

40. The total number of trees removed from plantations during the year was 31,108 which realized \$492.33. The total revenue for forestry products was \$534.40. That for 1891 was \$601.31.

41. Appendix B. gives the statistics of this work.

I have the honour to be,

Sir,

Your most obedient Servant,

CHARLES FORD,
*Superintendent,
Botanical and Afforestation Department.*

Honourable G. T. M. O'BRIEN, C.M.G.,
Colonial Secretary, &c., &c., &c.

Appendix A.

STATISTICS OF PLANTING OPERATIONS.

LOCALITY.	DESCRIPTION AND NUMBERS OF TREES AND AREA IN ACRES.											Grand Total of Trees.	
	Pinus sinensis planted.	Pinus sinensis sown <i>in situ</i> .	Cunninghamia sinensis.	Cryptomeria japonica.	Celtis sinensis.	Aleurites triloba.	Camphor.	Tristania conferta.	Bamboos.	Albizia Lebbek.	Miscellaneous.		Area in Acres.
Kowloon,	18,512	1,265	1,322	...	41	...	...	...	...	...	28	18 $\frac{1}{4}$	...
Causeway Bay,	17,200	...	477	1,519	...	...	...	...	...	...	...	16	...
North Point,	28,299	5,620	...	...	...	...	...	...	...	...	...	28	...
Quarry Bay,	9,061	29,988	...	...	...	...	...	...	...	...	...	32 $\frac{1}{2}$	...
Deep Water Bay,	30,862	...	...	...	...	...	...	...	...	...	...	25 $\frac{1}{2}$	...
Pokefoolam,	2,342	...	...	...	...	...	...	...	...	...	...	2	...
Sandy Bay,	6,880	...	...	...	...	...	...	...	...	...	...	5 $\frac{1}{4}$	...
East of Aberdeen and Wanchai Road,	12,144	...	...	...	520	...	...	...	...	...	...	10	...
Aberdeen,	9,799	...	...	...	...	...	...	...	...	...	...	8	...
Near Military Sanitarium,	3,230	...	...	...	...	...	...	...	...	...	...	2 $\frac{1}{2}$	...
Above Bowen Road, Happy Valley,	18,082	...	...	...	...	...	...	...	...	...	...	10 $\frac{1}{2}$	...
Above Pokefoolam Road,	5,097	...	...	...	...	...	...	...	...	...	...	4 $\frac{1}{4}$	...
Near Mount Kellet Cemetery,	1,173	...	...	...	...	...	...	...	...	...	...	1	...
Near Tytam Reservoir,	2,358	...	...	...	...	...	...	...	...	...	...	2	...
Tytam, .....	...	89,734	...	...	...	...	...	...	...	...	...	74 $\frac{1}{2}$	...
Mount Kellet, .....	...	20,297	...	...	...	...	...	...	...	...	...	16 $\frac{1}{2}$	...
Mount Davis, .....	...	23,470	...	...	...	...	...	...	...	...	...	19 $\frac{1}{2}$	...
Chaiwan, .....	...	27,525	...	...	38	...	...	...	...	...	12	23	...
Richmond Road, .....	...	...	...	...	...	...	20	...	...	...	...	...	...
Robinson Road, .....	...	...	...	...	...	...	...	12	...	...	...	...	...
Lunatic Asylum, .....	...	...	...	...	...	...	...	24	...	...	...	...	...
Magazine Gap Road, .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Near Bowen Road, .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous, .....	...	...	...	...	...	...	...	...	...	...	47	...	...
	154,589	197,899	1,799	1,519	599	96	45	20	86	24	87	295 $\frac{1}{2}$	356,663

CHARLES FORD,
Superintendent,
Botanical and Afforestation Department.

Appendix B.
SALE OF FORESTRY PRODUCTS.

Localities.	Quantities.	Amount Realized.
PINE TREES FELLED.		
Mount Davis,	16,721	286.99
Chaiwan,	5,330	5.33
Aberdeen and Wanchai Road,	3,316	86.04
Kowloon,	2,084	40.35
Green Island,	1,851	28.10
Sandy Bay,	1,797	43.89
Above Bowen Road,	9	1.63
Total Number of Trees,	31,108	492.33
	Piculs, Catties.	
Tree Prunings,	282 ...	11.47
Pine Seeds,	2 20	30.60
Total Revenue for Forestry Products,		534.40

CHARLES FORD,
Superintendent,
Botanical and Afforestation Department.

Appendix C.
LOCALITIES AND NUMBERS OF GRAVES REGISTERED
OUTSIDE CEMETERIES.

LOCALITY.	Number.
Aberdeen District,	519
Hung Hom,	186
Kowloon,	200
Shaukiwán,	20
✓ Stanley,	181
Wanchai,	50
Western District,	8
Total,	1,164

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