

Invests, Malacca.

and possible garden

Full p. 19  
86

Malacca 1819  
86

From whom

Place

Date

11. 3. 86

8 letters  
on top

*[Faint handwritten text, possibly a list or notes]*

Former Papers.

MINUTES.

Final Paper.

*[Faint handwritten text, likely the minutes of a meeting]*

June 1865

The ... ..

I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the ... ..

The ... ..

I am, Sir, very respectfully,  
Your obedient servant,

Wm. H. ... ..

No minutes should be written on this page. A separate half sheet to be used if required.

C. S. O.  
01880  
REGL 12 FEB 20

Forest 445/90

Resident Councillor's Office  
Malacca 11<sup>th</sup> February 1890

Sir,

I have the honour to forward  
Annual Report of the Forest Depart-  
ment for the year 1889.

I have the honour to be,  
Sir,

your most obedient servant,

*[Signature]*

Resident Councillor.

The Honble

The Colonial Secretary, S. S.  
Singapore

C. S. Annual Report of the Forest Department  
in the Settlement of Malacca for  
the year 1889.

01880

REG 12 FEB 1900

Bukit Sabukur Experimental Garden.

1. The garden has been maintained in good order throughout the year, and much propagating and preparing trees for road-side and general planting has been done.

2. Altogether 12,000 young trees - consisting of 30 kinds - have been prepared for planting and distribution.

The principal kinds are :-

Tembusu,	<i>Fagraea peregrina,</i>	4400
Sena,	<i>Pterocarpus indicus,</i>	2500
Mirebau,	<i>Alzelia palumbanica,</i>	1000
Bentangor,	<i>Chrysophyllum mophyllum</i>	460
Chemradak,	<i>Artocarpus chemradak,</i>	300
Pilai,	<i>Alstonia scholaris,</i>	230
Mahogany,	<i>Swietenia macrophylla,</i>	700
Limpas,	<i>Rumponia malaccensis,</i>	120
Bentangor bunut,	<i>Chrysophyllum sp,</i>	150
Potan Manau,	<i>Calamus sp,</i>	300
Miscellaneous,	-	1780

3. Fruit trees and other economics have also been propagated largely, but the failure of the fruit-crop during the year has prevented

presented so large a stock being prepared as might be considered necessary.

4. A collection of ornamental and flowering shrubs has been maintained for supplying government buildings and for distribution.

5. Besides the work specified, the nursery staff have been employed in clearing and preparing new ground for planting as much as possible.

6. The ground adjoining the lake has been planted temporarily with Annatto, Assam Tea, and Patchouly.

7. About two-thirds of an acre has been cleared, and holes dug, for planting Liberian coffee. 203 plants have been planted, and a stock prepared ready for the next rainy season.

8. Altogether two acres have been cleared, and holes dug, for the reception of timber and other trees.

9. It is intended to plant up the poor soils of the garden with timber-trees, mahung, and bambusa.

10. The following notes are made on economic plants which are growing in the garden.

11. *Irakozany* (*Sweetenia mahogany*).

has proved a failure, but another species, (*S. macrophylla*), - a valuable timber, and apparently a more robust tree - has grown vigorously.

Seeds were received from Calcutta botanic gardens in March, and most of the seedlings are now two feet high.

12. Camphor (*Cinnamomum Camphora*)  
A small stock has been raised from seeds received from ~~the~~ Hong-Kong botanic gardens in February. The seedlings have grown rapidly and many are now two feet high.

13. Crab-oil tree (*Carapa guyanensis*)  
Three plants were received from Singapore at the commencement of the year and have grown rapidly.  
A useful oil is extracted from the seeds, and the wood is highly valued for cabinet work, it takes a good polish, and is almost equal to mahogany.

14. Cloves (*Eugenia caryophyllata*)  
Grow vigorously. Most of the seedlings planted eighteen months ago are now five feet high, and are exceedingly healthy.  
Two young trees that were in the garden at the time of its transfer are now fruiting.

15. Cloves require no special cultivation, and might be grown profitably in the settlement.



16. Nutmegs (*Myristica fragrans*)  
A large stock of seedlings has been raised from seeds purchased in the settlement. Nutmegs fruit well in Malacca on the poorest soils if manured liberally.
17. Maltese lemons (*Citrus medica*, var.)  
Are growing well. Two young trees have fruited. The fruits were very fine.
18. Liberian Coffee. A stock has been prepared for planting and distribution. Liberian coffee grows well in the settlement with ordinary treatment.
19. Assam Tea (hybrid) (*Thea chinensis* - var. *assamica*) seeds were received from Singapore in October 1888. Many of the seedlings are now two feet high, and have been planted for experiment.
20. Castor-oil (*Ricinus communis*)  
seeds were received from ~~the~~ Calcutta botanic garden. The plants have grown well and fruited freely, and a stock are now being raised for more extensive planting.
21. Cotton (*Gossypium arboreum*)  
seeds were received from Sungei Ujong. The seedlings are not very strong but this may be due to the dry season.
22. Mauritius hemp (*Turera gigantea*)  
Planted on the stiff clayey soil in the garden

Isauritus hemp grows well but slowly. It would appear to take about five years to become full grown.

23. Patchouly (*Pogostemon patchouli*) grows as readily as a weed, but the demand for the oil is too limited to recommend the plant to be cultivated.

24. Kurma Luru (*Euphorbia pillulifera*) Some plants received from Singapore have grown well, and the plant has since been found wild near Bukit Bruang in a thriving condition.

25. Annatto (*Bixa orellana*) Has been planted extensively in the garden, and is growing freely. Annatto is now naturalized in the settlement, although of South American origin.

Some experiments will be made during the ensuing year in preparing the seeds for export.

26. Saproca (*Jatropha manihot*) Six varieties were received from Singapore about fifteen months ago, and are being propagated as largely as possible. All are growing well, but it is too early to form an opinion as to their utility.

27. Black Pepper (*Piper nigrum*) a stock are being prepared for planting

in the

in the garden. Pepper grows well in the Settlement trained on posts.

28. Some cuttings of dadap (*Euphorbia umbrosa*) planted in the garden for the pepper vine to grow on, were all destroyed by white ants, although dadap trees grow successfully in the Settlement.

### Roads and Drives.

29. The main drive through the garden has been maintained in good order by the garden staff.

30. A drive round the extent of the garden is in contemplation, and can be opened by the garden staff when a dam has been erected across the lake.

31. A cutting of some feet which would be necessary is now being done by the P. W. D. to supply material for the roads in the neighbourhood.

32. The entrances to the garden from the Bukit Bruang and Batu Berendam roads, have been much improved by the erection of pillars.

### Formation.

33. Nothing has been done to the lake during the year, but it is hoped a vote will be sanctioned next year, as the formation of the garden cannot proceed until the

7

the completion of this work, and the want of a proper water supply has been felt.

Forest Reserves.

34. Several applications have been received from intelligent and leading Malays during the year, for employment as forest watchmen, and the work has become popular, but much difficulty still exists in keeping the men from frequently absenting themselves from their stations, owing to their quarters not being large enough to accommodate their families, and in one instance two men were dismissed.

35. Sanction has been given to enlarge the quarters at three stations during the ensuing year, and it is important for the proper supervision of all the reserves, that the remaining stations be enlarged at an early date.

36. Two cases of illicit wood cutting have occurred during the year, in one instance a fine of \$10<sup>00</sup> was inflicted, and the other was settled by the defendant paying \$4<sup>00</sup>, the value of the wood, which had been taken by mistake.

37. A fire broke out in the early part of the year on some waste land at

Surgei-udang, but no damage was done.

Bukit Bruang Reserve.

38. Since the commencement of the year the boundaries of the reserve have been recleared, and the swampy places made passable, by the watchmen in charge, and are now in good order.

39. A path from the foot of the hill over the highest spur has also been opened by the watchmen.

40. In November planting on a small scale was commenced on some waste land shown on plan a.

41. Altogether 1099 trees have been planted as follows:-

Miribau,	<i>Azelia palembanica,</i>	373
Bentangor,	<i>Chrysophyllum inophyllum,</i>	318
Chempadak,	<i>Artocarpus chempadak,</i>	107
Bentangor bunt,	<i>Chrysophyllum sp.,</i>	63
Pulai,	<i>Aletonia scholaris,</i>	147
Kempas,	<i>Kumpunia malaccensis,</i>	64
Kayu Malaka.	<i>Phyllanthus emblica,</i>	27

42. A commencement has also been made on the swamp adjoining, for planting Sago, an area of three acres has been cleared, - and the soil thrown into ridges - as the swamp is deep at this point - and 45 root cuttings.

of ruge have been planted.  
 43. The total cost of these operations was \$157.<sup>25</sup>/<sub>100</sub>.

### Sungai Udang Reserve

44. A band of six coolies have assisted the watchmen for seven months reclearing the boundaries which had become over-grown, and opening inspection paths. Boundaries extending fifteen miles have been put in order, and inspection-paths amounting to six miles have been opened, at a total cost of \$199.<sup>50</sup>/<sub>100</sub>.

45. The central compartment of the reserve has been marked into blocks, by means of inspection-paths - as shown on plan b. - About a mile remains to be opened to complete the work.

It will be seen on the plan, that as the remaining compartments of the reserve are chiefly young forest, no further demarcation need be considered urgent.

### Merlimau Reserve.

46. The western boundary (plane) - two miles long - has been opened during the year, and an inspection-path two miles long, has also been opened.

47. The southern boundary running westwards, which is about two miles long

long, and entirely swamp, has been made passable.

48. In these operations the watchmen were assisted by a band of coolies for two months at a total cost of \$105 <sup>25</sup>/<sub>100</sub>.

49. The boundaries west of the Chin-chin road are now in good order, those of the eastern compartment, in the direction of the river, are swampy, and still require to be made passable. This will be attended to as early as possible.

~~The~~ 50. The demarcation of the western compartment into blocks, so that a valuation survey can be made - as well as for practical working - will be continued during the ensuing year.

Ayer Panas Reserve.

51. The boundaries of the new reserve have been maintained by the watchmen. An inspection-path (plan d) was commenced by a band of coolies in December, and about three-quarters of a mile opened, at a cost of \$26 <sup>75</sup>/<sub>100</sub>.

52. The demarcation of the new reserve into blocks, by means of inspection-paths, will form part of the first operations for the year 1890.

11

## Bukit Panchar Reserve.

53. The maintenance of boundaries in this district is particularly heavy, owing to the extent of lalang and swamp.

54. Towards the latter end of October, a band of coolies were engaged until the close of the year, to assist the watchmen in getting the boundaries in good order.

55. The whole of the boundaries - about eleven miles - have been recleared or made passable, by felling trees to <sup>walk</sup> on, and are now in good order.

The total cost of this work was \$125 <sup>00</sup>/<sub>100</sub>

56. It is not considered urgent to demarcate this reserve into blocks, except the compartment north of the Inakap road. (Plan 6)

57. Some timber has been supplied for building government quarters in the district, from this compartment, which is well wooded with a rich young forest.

## Briser Reserve.

58. The demarcation of private rights, and of an extension of the reserve, have been the principal operations in this district.



59. The private rights within the reserve have been demarcated by the watchmen, and a small band of coolies, and boundaries extending six miles have been opened.
60. An addition to the reserve by 1000 acres, has also been demarcated. This area is situated between the Brissu and Sungai Siput main road, and the frontier - between Bukit Jelutong and Bukit Putus - as shown on plan f.
61. The total cost of both works was \$258 <sup>50</sup>/<sub>100</sub>.
62. The extension is well wooded, and includes some large timber, especially near the frontier. Seraya and keranti are the most abundant.
63. Owing to the area which has been excluded by demarcating private rights, it is possible that the extension has not increased the area of the reserve.

### Jus District

64. The forest lands in this district have been divided into three reserves, viz: - Bukit Sadanan, Bukit Batu Tiga and Batang Malaka.
65. During the year the demarcation of Bukit Sadanan reserve has been completed,

and Bukit Batu Tiga reserve commenced.

Bukit Sadayan Reserve.

66. This reserve is situated between the districts of Machap, Lebong, Batang-Malaka and Selandau, and comprises about 9000 acres (Plan 3)

67. The land is undulating, and (Bukit Sadayan) reaches an elevation of 1094 feet. It is well watered with several small streams, the soil is fertile, and for the most part the reserve is exceedingly well wooded, and includes a fair abundance of rotans.

68. On the western side, the reserve is demarcated by the Machap-Lebong road, and on the eastern side, by the Batang-Malaka-Selandau road.

The north and south boundaries - a distance of eight miles - have been demarcated by the forest watchmen and a band of coolies, for the small cost of \$185 <sup>25</sup>/<sub>100</sub>.

69. The most notable kinds of timber are :-

Siraya,	<i>Hopea cernua,</i>	abundant
Gombang,	<i>Dipterocarpus crinitis,</i>	do
Meranti,	<i>Hopea meranti,</i>	do
Kelat merah,	<i>Bugenia zeylanica, var,</i>	do

Taiyu minyak,	<i>Dipterocarpus laevis</i> ,	fairly abundant
Tembusu,	<i>Fagraea peregrina</i> ,	do do
Kambang sa-mangko,		do do
Jelutong,	<i>Dyera costulata</i> ,	do do
Berombong,		do do
Pinaga,		do do
Kempas,	<i>Rumposia malaccensis</i> ,	do do
Rambai damu,	<i>Shorea acuminata</i> ,	do do
Meribau,	<i>Azelia palumbanica</i> ,	rare
Resak,	<i>Datica rassak</i> ,	do
Petalung,	<i>Strombosia javanica</i> ,	do
Krangji,	<i>Alum indicum</i> ,	do
Bilian wangi,		do

Batu Liga Reserve.

70. Towards the close of the year the Bukit Batu Liga reserve was commenced, and a line four miles long opened at a cost of \$84 <sup>10</sup>/<sub>100</sub>.

71. When completed it is estimated that this reserve will contain about 6000 acres.

72. It will not be possible to place watchmen in charge of the reserve until accommodation can be provided, but it is intended to complete the demarcation, - as well as of the Batang Malaka reserve during the year 1890, - and if quarters can be built at Gapis, a central position for both

reserves, both can be supervised from the one station.

General Remarks.  
Distribution of Reserves.

73. The original plan of distribution of the reserves has been carried out, and when the Bukit Batu Tiga and Batang Malaka reserves have been demarcated, the requirements of the settlement will doubtless be met.

74. The larger area is in the southern division of the settlement, but it may be possible to balance this, or at least to bring up the area of the northern division, by adding to the Briau reserve, a part of the settlement where a much larger area is required; and considering the importance of having firewood reserves near to the town of Malacca, as well as the open country between the town and Alor Gajah. it is worth consideration, whether the available forest land on the Cheng hills should not be reserved.

Transport of Timber.

75. This question need scarcely be considered. at the present time much of the dressed timber used in the settlement is brought in from Sumar, and the

transport from the jungle to the timber depot in that State, must be equal to any transport in Malacca, besides being plus the sea-passage, and timber in the town of Malacca is far from being in a central position, whereas, when all the reserves in Malacca are capable of supplying timber, each district can be supplied within the district, and the transport will be comparatively slight.

Scarcity of Timber within the Settlement.

76. The best idea will be conveyed on this point by considering the price of timber in Malacca, and by referring to the plans of the reserves appended.

77. The present price of timber is excessively high, and very little hard wood is obtainable. A log of bilian wangi 12' x 10" x 10" is worth \$13<sup>00</sup>/<sub>100</sub>, a similar log of prangi, \$8<sup>00</sup>/<sub>100</sub>, miriban and Tampines, \$6<sup>00</sup>/<sub>100</sub> to \$8<sup>00</sup>/<sub>100</sub>, and resak too is equally valuable.

A beam 24' x 6" x 6" of the cheapest timber suitable for construction is worth fifty cents.

78. By referring to the plans attached it will be seen that there is a very large area of secondary growth included

in the reserves, and only a portion of the high forest shown on the plans could be worked at the present time.

It is only at Bukit Sadinaran, some parts of Merliman, Sungai Udang, and Ayer-Panas, that the reserves are up to a proper density, the remaining high forests are far too open.

Conservation and Reproduction

79. In view of the demand for timber - and there is a demand - no time should be lost in dealing with the production of timber within the reserves. The area of Lalang is not very large, and I do not think it could be dealt with immediately, neither would it be practicable, as waste lands become covered with a spontaneous vegetation in a few years, and such lands, by the fall of leaves, decaying matter, and the shelter afforded, would have prepared a rich vegetable humus ready for the reception of seeds or seedlings, whereas, planting such lands would involve a heavy expenditure, and possibly nothing would be gained, as the growth of young trees planted through lalang is very slow, and may not be successful.

80. There is however at the present time

much land covered with secondary growth, as well as older forest, ready to be dealt with, and for first class timbers to be reproduced by conservation, is the slowest, and most expensive method.

On such lands, where the soil is good, seeds of such timbers as Meribau, Kempas, Inranti, and Peraga, could be planted, while seedlings of Gombang, ~~Hanya~~ <sup>Hanya</sup> ~~mingak~~ <sup>lipite</sup>, transplanted singly, would answer best. Other timbers, such as Petating, Munggi, Seraya, and Lampines, would have to be planted in the ordinary way.

On poor soils or where the soil was gravelly, and the forest light, it would also be necessary to plant.

81 It should be remarked, that at the present time we are dealing with jungles, and not with forest lands which have been conserved for years, and consequently in open forest, the jungle is likely to make equal progress with the forest. This is particularly noticeable where *Secam* (*Gleichenia dichotoma*) flourishes, although this fern does not grow in dense forest, in light forest it chokes out any other vegetation.

A special vote for planting.

82. To meet the requirements a special vote for planting is necessary. The present staff are not able to deal with the large area that requires planting, and I would suggest a vote which would cover the whole of the planting required, and as many of the chief forest trees only fruit periodically, the vote would be available until the work was completed, or in the event of an exceptionally heavy crop, as much seed could be collected, and planted, as possible.

83. And although the planting required is a matter bearing on the future of the reserves, some return for the money expended might be expected to commence from 4-6 years. Lands which have been planted thickly would in that time require thinning, and this class of timber is essentially a marketable article. The demand for stakes, poles, posts, and beams, is greater than for boards or planks.

84. It should be mentioned, that the available high forest cannot safely be worked, where there are large areas of secondary growth, unless the proposed planting is put in hand, as it would be



necessary to conserve the high forest,  
for the natural reproduction of trees in  
the reserve.

85. I would add that under any  
circumstances the reserves cannot do more  
for some time than supply the wants of  
the Settlement, but it is essential that  
this much should be done. A supply of  
timber is necessary in all agricultural  
pursuits, and especially in any new  
industry. The present high price of  
pepper might induce planters to take up  
the cultivation, but pepper could not be  
grown profitably, unless posts could be  
supplied in the district, as otherwise,  
the transport alone would be too great,  
and in fact, the agricultural prospects  
of the Settlement may be made or  
marred by the supply or want of  
cheap timber.

### Appendices.

86. Appendices are attached showing  
the expenditure of the year, the revenue  
collected, and the value of timber  
supplied for government uses.

R. Perry  
Asst Supt Forests  
5. 2. 90

Appendix A.

Expenditure of the year 1889.

Government Vote -			5500	00
Expenditure (Reserves)				
Salaries of Forest Watchmen	1457	13		
Demarcating Bukit Sadanan Reserve	185	25		
" " Bukit Reserve	258	50		
" " Sungai Udang Reserve	199	50		
" " Bukit Bruang Reserve	157	25		
" " Inerliman Reserve	105	25		
" " Bukit Batu Tiga Reserve	88	10		
" " Bukit Panchor Reserve	125	00		
" " Ayer Panas Reserve	26	75		
Uniform for watchmen	120	00	2722	73
<u>Bukit Sabukir garden</u>				
Salaries of Kelunns	1350	08		
Purchase of plants and seeds	41	46		
Purchase of Tools and Implements	61	39		
General upkeep	31	75		
Herbarium expenses	75	10		
Building plant houses	35	80		
Manure	100	00		
Cartage	257	92		
Incidental expenses	37	49		
Transport	21	00		
Personal allowances	38	00		
Pony allowances	387	18		
Field allowance	166	50		
Directors travelling expenses	99	75	2703	42
Total Expenditure			\$5426.15	
Balance			\$73.85	
Including Crown agents \$50 <sup>00</sup> / <sub>00</sub>				

Appendix B.

Revenue collected during 1889.

Sale of seedling fruit trees.

" " Minor produce from Reserves.

Total

46	70
11	95
\$ 58	65

H. Derry  
Asst. Supt. Forests  
5. 2. 90.

Appendix C.  
Value of timber supplied for  
government uses.

Timber supplied for -

Government quarters at allor fajal -	182	60
do do -	100	00
Repairing Langong Kling bathing shed. -	25	00
	<hr/>	
	307	60

R. D. Dwyer  
Asst. Supt. Forests  
5. 2. 90