

## FEDERATED MALAY STATES.

### REPORT OF THE SECRETARY, MALARIA ADVISORY BOARD, FOR THE YEAR 1923.

The activities of the Board have continued during 1923 and, although the number of meetings held during the year were less than the number held in 1922, the amount of business conducted by the Board did not diminish.

2. Six meetings were held during the year, and on the following dates: 20th January, 24th February, 7th April, 28th May, 22nd August and 5th November, 1923.

Copies of minutes of each meeting have been sent to the local press for publication, and printed copies have been sent to all the members of the Mosquito Destruction Boards throughout the Federated Malay States. Fifteen copies each of all these minutes have been sent to the Under Secretary for transmission to the Colonial Medical Advisory Board. Copies were also sent to the Secretary, Planters' Association of Malaya, Kuala Lumpur.

3. The following are the principal subjects which came before the Board for consideration during the year. The Board's views and decisions on the various matters are appended under each heading.

#### MALARIA IN RICE FIELDS.

4. A paper on the control of malaria in rice fields, published in the *Review on Applied Entomology*, October, 1922, was discussed by the Board at a meeting held on the 20th January, 1923. This paper dealt with experiments on the life of mosquito larvæ when rice fields are temporarily drained for a few days and showed that larvæ quickly die under such conditions. This subject had been previously discussed by the Board at a meeting held on the 25th February, 1922, at which the Board was of the opinion that the services of an expert investigator should be engaged for this work. The Board recommended Government to engage an expert to investigate this matter; unfortunately it has not yet been possible to obtain the right man.

#### MOSQUITO-PROOF ROOMS AND BEDS.

5. The Board very seriously considered the best type of mosquito-proof rooms and mosquito-proof beds. With regard to mosquito-proof rooms the difficulty of inexpensive but effective openings other than doors has always arisen. The Director of Public Works had a model room prepared in which various kinds of openings were shown. The model is now in the Malaria Bureau, Bukit Nanas.

Models of beds showing the correct way in which mosquito nets should be used were sent to the principal firms for exhibition.

#### MALARIA PREVENTION AND FARMING.

6. A paper on this subject prepared by Mr. C. N. Maxwell was put before the Board for discussion. The Board agreed with the Director of Government Laboratories that the subject was one of great public interest and importance and that it would be appropriate if these observations of a layman, distinguished in another branch of biology, should be published in the *Medical Bulletin* and suggested that Mr. C. N. Maxwell's paper be recommended by the Principal Medical Officer for publication as *Medical Bulletin* No. 3 of 1923. The bulletin was duly published as suggested.

#### PROCEDURE OF SUBMITTING MOSQUITO DESTRUCTION BOARDS' ESTIMATES.

7. This question formed one of the subjects for discussion at several meetings of the Board. The Board felt that to ensure uniformity some definite procedure should be laid down and it invited the following gentlemen to form a sub-committee to carefully consider this question: Dr. Wellington (Chairman), Dr. Malcolm Watson, Dr. Stanton and Mr. Evans.

The sub-committee met on several occasions and put up its recommendations to the Board which agreed with them. The recommendations of the sub-committee are given below.

(1) The problem of the procedure which should be adopted in connection with the submission of estimates of anti-malarial measures for consideration of the Malaria Advisory Board is not so simple as at first sight it appears to be. It cannot be condensed and expressed in a simple graphic formula. It is necessary to lay down in detail what is to be done.

(2) It is the duty of Health Officers to put before Mosquito Destruction Boards details showing the measurement of malaria in areas under consideration and maps showing the distribution of malaria and the breeding grounds of anophelines concerned.

(3) The proceedings of the Mosquito Destruction Boards should be based on the investigations and recommendations of Health Officers, who should be responsible to the Senior Health Officer for advice given.

(4) The members of the committee consider it essential that Health Officers should departmentally keep the Senior Health Officer fully informed as to what is being done by the Mosquito Destruction Boards in their districts.



(5) Mosquito Destruction Boards should send the Malaria Advisory Board a copy of their annual reports on the work done in each year. The reports should be accompanied by maps and statistics, information on the scope of the work undertaken and results, information as to proposals for work in future, and information as to progress of any scheme of work proposed or approved.

These reports should reach the Malaria Advisory Board in February, and will enable the Board competently to consider proposals for expenditure when submitted later.

(6) All provisions to be made in the printed Estimates shall conform to General Orders and regulations applicable.

(7) The draft Annual Estimates of Mosquito Destruction Boards should be sent to the Malaria Advisory Board before 31st March in respect of following year, to permit of their being returned with comments by the end of April.

The draft Annual Estimates of Mosquito Destruction Boards should be accompanied, for the information of the Malaria Advisory Board, by a statement of proposals sent by Boards for entry in draft Estimates of Public Works Department, and including the proposed items for such items as "Minor Works" and "Maintenance of Anti-malaria Works" under Annually Recurrent heading, in Public Works Department draft Estimates.

(8) All items in the Public Works Department draft Estimates affecting the work of Mosquito Destruction Boards or drainage work shall be inserted at the instance of Mosquito Destruction Boards or with their approval.

(9) The Public Works Department draft Estimates for "Annually Recurrent Services" and "Revenue Account—Special Services" shall NOT be submitted to the Malaria Advisory Board save that:

(a) New items exceeding \$5,000 in estimated cost,

(b) Increases in items previously appearing exceeding \$5,000 in estimated cost,

shall be submitted through the Mosquito Destruction Board to the Malaria Advisory Board for comment before they are forwarded to the Residents.

The Malaria Advisory Board will be informed as to all proposed provisions for items estimated to cost less than \$5,000, by Mosquito Destruction Boards when submitting their estimates.

(10) (a) All proposals for Special Services estimated to cost more than \$5,000,

(b) All proposals covering programmes of work which will extend over more than one year,

(c) Proposals previously considered by the Board more than two years prior to provision being made for their execution,

shall be submitted through the Mosquito Destruction Board to the Malaria Advisory Board for comment.

(11) Proposals submitted to the Malaria Advisory Board for works in respect of Special Services which are to be put in hand if funds can be provided, must be accompanied by plans, estimates, and sufficient information to enable the Board fully to judge the suitability and effectiveness of such proposals.

(12) When the sum available under the heading of "Loan Account—Anti-malarial Works" is known, the Director of Public Works should inform the Malaria Advisory Board of the works he recommends should be proceeded with and the amount to be allotted in respect of each.

(13) The Health Officers, Railways, should submit to the Senior Health Officer an annual report in the form referred to in paragraph 5, above.

(14) The Health Officers, Railways, should submit their draft annual estimates to the Senior Health Officer, who should bring them before the Malaria Advisory Board for comment.

(15) C.S.O. Circulars No. 19/1914 and No. 3/1916 should be amended to meet the new procedure adopted and otherwise as may be considered desirable.

These recommendations were approved by Government and were circulated to all Mosquito Destruction Boards.

#### CONCRETE PIPES.

8. At a meeting held on April, a question was raised by Dr. Malcolm Watson as to the efficiency of concrete pipes when used for subsoil drainage and Mr. Evans stated that in many cases concrete pipes have disintegrated after a period underground and that investigations and experiments are being made by the Public Works Department and the Government Chemist. In the meantime the use of concrete pipes has been discontinued.

#### CAMERON'S HIGHLANDS.

9. The Hon'ble British Resident, Perak, drew the attention of the Board to the danger of introducing malaria to the Cameron's Highlands. He considered it very necessary that measures should be undertaken to prevent malarial infection of the anopheline population of the Highlands from the very start, and that all public works on the way to, and at the Highlands, should also be undertaken with a clear anti-malarial outlook. The Resident was of the opinion that great care should be exercised in preventing the employment of infected labour in this area. After discussion by the Board this matter was referred to the Senior Health Officer for action.



## GOVERNMENT'S POLICY IN REGARD TO ANTI-MALARIA MEASURES.

10. The question of what the policy of Government in regard to anti-malaria measures should be was discussed by the Board and the Board suggested that Government be asked to declare the following as its policy:

- (i) In dealing with anti-malaria measures, Mosquito Destruction Boards and Health Officers should act upon the principle that every land proprietor is under the burden of carrying out proper and reasonable anti-malaria measures upon his land: provided however that (i) in the case of small holdings (i.e., holdings not exceeding 25 acres: *see* section 159 of the Labour Code, Enactment 18 of 1923) and (ii) in the case of all areas in any Sanitary Board area, the Mosquito Destruction Board may assume the burden of carrying out all proper and reasonable measures, and if it desires to do so can recommend the imposing of an assessment to recover the cost.
- (ii) In all railway reserves, the proper and reasonable burden lies upon the Railway Department, and in respect of all Government reserves and State lands, the proper and reasonable burden lies upon the Mosquito Destruction Board.
- (iii) Should a land proprietor feel aggrieved by any orders issued to him by a Mosquito Destruction Board or any other authority in respect to anti-malaria measures, he should have the right to appeal against such orders to the British Resident of the State in which the land is situated.
- (iv) In order that anti-malaria measures may be effectual there should be co-operation of proprietors of contiguous estates amongst themselves and with the Mosquito Destruction Boards, and the Health Officers.

## THE RESPONSIBILITY OF DISTRICT HEALTH OFFICERS AND THE RAILWAY HEALTH OFFICER IN REGARD TO ANTI-MALARIA MEASURES ON RAILWAY RESERVES.

11. Arising out of a report on malaria and mosquito breeding at Bidor the question of the responsibility of District Health Officers and Health Officer, Railways, in regard to anti-malaria measures on railway reserves, and the relation of the Railway Health Staff and the Mosquito Destruction Boards, was raised at a meeting held on the 5th November. After discussion the Government was informed that the Board was of the opinion "that where the Railway passes through an area controlled by a Mosquito Destruction Board the anti-malaria measures necessary on Railway Reserves should be carried out by the Mosquito Destruction Board and the cost recovered from the Railway.

## MALARIA AT SABAK BERNAM.

12. The Malaria Research Officer (Dr. H. P. Hacker), investigated an outbreak of malaria at Sabak Bernam. The results were not available at the end of the year as the investigation was still proceeding.

## PORT DICKSON AS A HEALTH RESORT.

13. At a meeting held on the 5th November the Chairman informed the Board that he considered that every reasonable precaution should be adopted to prevent the breeding of mosquitoes and thereby the possibility of malaria infection in the Coast area. Every one does not care for hills. He expressed the opinion that land along the coast should be carefully reserved, and that too much had already been alienated. He considered that in some cases malaria alleged to have been contracted at Port Dickson was either contracted by visitors going inland or caused by mosquitoes being carried to the coast by exceptionally strong breezes. After discussion the following resolution was adopted by the Board: "All precautions should be taken to free the Coast area of Port Dickson of malaria. If Government allows people to go to a recognized health resort and sanatorium and become infected with malaria it assumes a very grave responsibility."

The attention of the Secretary to Resident, Negri Sembilan, was drawn to the above and the Board was informed in reply that provision of \$5,500 has been entered in the 1924 Estimates for carrying out anti-malarial drainage of the coast area and that the drainage work will be proceeded with as soon as possible.

## FISH-PONDS AND MALARIA.

14. The Malaria Advisory Board was asked by the Secretary to Resident, Perak, for its views on the following resolution proposed by the Health Officer, Kinta, and passed by the Kinta Sanitary Board:

"That all fish-ponds, pools and other unauthorised excavations within the Sanitary Board area of Ipoh as per schedule submitted, be closed, filled in or drained so that they are unable to retain, collect or form pools of water in all or any season of the year, under the powers conferred to the Board under by-law 192."

After discussion, the Board decided to inform the Secretary to Resident, Perak, that the Malaria Advisory Board agreed with the Senior Health Officer in his opinion that every fish-pond should be considered on its merits, and it does not agree with indiscriminate closing of fish-ponds.



## PROPAGANDA.

15. Posters on malaria have been printed in the various languages and copies have been sent to all the hospitals, travelling dispensaries, schools and estates throughout the Federated Malay States. Pamphlets on malaria, in book form, in English and Jawi have been printed and were freely distributed to the public at lantern lectures. Lantern lectures on malaria have been prepared and were delivered in English, Malay and Chinese in almost all of the English and vernacular schools throughout Selangor. During the lantern lecture tour in Pahang, 33 towns and villages were visited, and nearly 10,000 people, mainly Malays, attended these lectures. All the large towns, villages and a large number of kampongs in Selangor were visited and lectures were given. It is hoped to visit Negri Sembilan and Perak during the coming year.

In June the Malaria Advisory Board put up an exhibit at the Malayan Agri-Horticultural Show held in Kuala Lumpur at the Race Course and the following exhibits were shown:

- (i) By means of photographs, charts, models, etc., the method of reducing malaria by drainage.
- (ii) Personal prophylactic measures to be taken by the individual to prevent being bitten, such as screening, etc.
- (iii) Mounted specimens of Malayan Anopheles (adults and larvæ), live specimens of Anopheles and Culex, adults and larvæ. A microscope was arranged for the use of visitors.

It is estimated that between 15,000 and 20,000 people visited the Malaria Advisory Board stall from 30th June to 2nd July, 1923. The great majority displayed a very keen interest and very much appreciated what they saw. That the Exhibition proved a great success is shown by the fact that several of the leading representatives of the various communities have requested that permanent exhibits of the Malaria Advisory Board be put up at all the museums in the Federated Malay States for the education of the public. It has been decided to again exhibit in 1924.

Advertisements on malaria have been inserted in the local press from time to time by the Board. Advertisements have also been inserted in the monthly issue of the "Planter" magazine throughout the year.

16. On the recommendation of the Director of Public Works, Federated Malay States, Executive Engineers in charge of districts were appointed members of Mosquito Destruction Boards in their respective districts.

## MEMBERS OF THE BOARD.

17. During the year the personnel of the Board was as follows:

- The Hon'ble Mr. W. George Maxwell, C.M.G., Chairman.
- The Principal Medical Officer, F.M.S., Vice-Chairman.
- The Senior Health Officer, F.M.S.
- The Director of Public Works, F.M.S.
- The Hon'ble British Resident, Perak.
- The Hon'ble British Resident, Selangor.
- The Hon'ble British Resident, Negri Sembilan.
- The Hon'ble British Resident, Pahang.
- Dr. A. T. Stanton.
- Dr. Malcolm Watson.
- Dr. W. Fletcher.
- Dr. W. T. Quaife.
- Mr. F. D. Evans.
- Capt. J. W. Hoffin, Secretary.

In April the Hon'ble the Chief Secretary to Government resigned from the Chairmanship of the Board and in May the Principal Medical Officer, Federated Malay States, was appointed ex-officio Chairman and the Senior Health Officer, Federated Malay States, ex-officio Vice-Chairman, respectively.

In May Dr. W. T. Quaife resigned and Dr. Macaskill was appointed in his place.

Dr. Fletcher went on leave early during the year and resumed his seat on the Board on his return from leave on the 26th October, 1923.

In December Dr. Malcolm Watson resigned as he was going on long leave; no successor was appointed in his place.

KUALA LUMPUR,  
26th July, 1924.

J. W. HOFFLIN,  
Secretary, Malaria Advisory Board, F.M.S.