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DISCUSSION GROUP REPORTS  
ON  
MALARIA ERADICATION

Monday, 29 September from 9.00 a.m.  
to 12.00 noon and 2.00 to 5.00 p.m.

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REPORT OF GROUP A

Chairman: Dr. C.K. Chang

The topics discussed were as follows:

1. Notification of cases
2. Intra- and inter-regional training and mutual assistance
3. Health education in malaria campaigns
4. Progress and results of malaria eradication in the Philippines
5. The disposal of eradication staff after closure of campaign  
in Taiwan

1 Notification of Cases

In malaria case-finding activity, we need to have a survey team which consists of:

- (a) a parasitologist
- (b) epidemiologist
- (c) technicians

The malariologist should be the head of the survey team. The fully-trained practical technician could be accepted as a member of the team. The training depends upon the locality where the trainees come from. Essential things and equipment should be made available. The survey method should depend upon the kind of locality.

Malaria eradication should not be confused with mosquito eradication. Vector eradication is very seldom possible.

The malaria eradication programme in Cyprus, which has one-half million people, was given as an example. The amount of money spent for malaria eradication in three years is £140 000, and the current expenditure is £40 000

yearly.

### Recommendations

It was recommended that Member Governments should increase their budgets in malaria eradication in order to keep up the maintenance programme.

It was suggested that the vigilance programme is also very necessary in malaria eradication.

Technical assistance is also essential because the personnel should know the basic principles of malaria eradication.

## 2 Intra- and Inter-regional Training and Mutual Assistance

It was proposed that a regional malaria training centre in the Philippines be established. The operation of this proposed centre will start in January 1959. This centre will also train malaria workers for South-East Asia. It was agreed that the training of these health workers should not be too academic but should be made very practical. For example, trainees coming from Viet Nam may study species of mosquitoes coming from their region. A well-staffed, well-equipped and well-supplied regional malaria training centre should be provided. Mutual assistance from international health agencies is justified in the opinion of the members of the group because this training project now represents the most important undertaking in the health field. The project is consonant with the major objectives of ICA, WHO and other international agencies.

### Recommendations

The group recommended the operation of the proposed regional malaria training centre in the Philippines as soon as possible.

It was also suggested that if malaria has been entirely eradicated in a country the malaria project personnel may be shifted to other health services. For example, they can do some work in connection with insect-borne

diseases.

### 3. Health Education in Malaria Campaigns

The important points discussed were:

- (a) the indispensability of health education in malaria eradication programmes
- (b) the necessity of reporting cases of malaria by physicians
- (c) the inculcation of responsibilities of individuals
- (d) the establishment of propaganda teams
- (e) the training of sprayers and canvassers (who are the spearheads of the eradication) as health educators
- (f) the responsibilities of the health educator in carrying out the best techniques for malaria eradication.

### 4. Progress and Results of Malaria Eradication in the Philippines

The malaria eradication programme in the Philippines started as a malaria control project in 1953. Intensive spraying and checking of the incidence of malaria were accomplished. In 1952-1953 WHO assisted the Government by sending two malaria experts to Mindoro. DDT residual spraying was performed in the malarious areas of Mindoro. This malaria project demonstration resulted in the following:

- (a) The lands in Mindoro were improved.
- (b) The people were satisfied with malaria eradication.
- (c) More crops were produced in Mindoro.
- (d) The people contributed free labour in malaria eradication.
- (e) More roads were constructed.

The malaria eradication programme in the Philippines was in full swing in 1955-1958. According to Dr. Ejercito of the Division of Malaria Control

Projects, 68% of malaria in the Philippines was reduced in 1955; there was a 95% decrease in 1956, a 97% decrease in 1957, and in 1958 almost all regions are cleared of malaria.

Recommendation

It was suggested that voluntary working groups should be encouraged to assist developing malaria eradication programmes in communities.

5 The Disposal of Eradication Staff after the Closure of the Campaign in Taiwan

The Government established a malaria institute for the eradication programme headed by a director. Spray-men were employed locally to help in the eradication campaign. Many of them were members of the local authority health staff. The success of the malaria eradication programme in Taiwan is due to well-trained personnel.

Recommendation

It was unanimously recommended that the personnel of the institute should be employed in the control of other communicable diseases.

REPORT OF GROUP B

Chairman: Dr. R.L. Cherry (United States of America)

Rapporteur: Dr. C.H. Yen (China)

The group decided to consider the administrative aspects of the subject because the members of the group felt they were more qualified to deal with this phase rather than the more technical details of the matter. As the result of lively discussion the following main points of observation were made:

- 1 It is important that when the malaria eradication programme is being implemented that aside from a central organization responsible for directing this, especially in the surveillance stages, the practitioners and all other medical facilities must be brought in to co-operate in the programme.
- 2 To assure the success of a malaria eradication programme, it is advisable to start with a pilot project with proper emphasis on research on local problems.
- 3 Health education regarding the eradication project must be given continuously, not only to the general public and administrators, but also to the medical profession as well as the medical and nursing undergraduates. The effort perhaps has to be intensified as the project is progressing nearer and nearer to its goal.
- 4 The group thought that it was desirable to make "malaria" as a notifiable disease, especially when the eradication programme is approaching its final stage.
- 5 In an area where multiple agencies are concerned in the promotion of an eradication programme, an integrated plan should be agreed upon and a competent director should be designated to discharge it without any interference.
- 6 Aside from the importance emphasized with the use of residual DDT spraying in the eradication programme, the general sanitation such as proper refuse disposal and drainage, should not be neglected.

7 The staffing of workers and organization set-up in an eradication programme is extremely important. While it is difficult to have one general pattern that would apply to all areas, due to diversity of conditions, it is important that local personnel be recruited as far as possible and a permanent agency within the health administration be designated to follow through this activity even after the project has come to a successful conclusion.

8 As the eradication project itself is striving to eliminate the problem it is set to, the staff in the project must be given the feeling of security for their future jobs. Certainly, in most countries, the same staff can be utilized without much difficulty on new assignments such as other insect-borne diseases (filariasis, encephalitis, etc.) and in other areas they can be given any other public-health duties. It is also desirable to encourage the staff in the programme by giving travel per diem and living accommodations.

9 Attention was also drawn to the fact that vector control by insecticide on airflight deserves some improvement. The pre-flight and in-flight spraying have in many instances been in practice a matter of "token".

10. In the fieldwork in certain areas many health programmes are apt to be carried out independently. It is strongly recommended that the malaria eradication programme and all other health programmes should be co-ordinated, synchronized and integrated as far as possible.

11 The group also observed that the working document WP/RC9/TD1 (English) is an excellent reference. However, in some of the passages perhaps it is a little over optimistic. For instance -

(a) whereas, it is recommended (page 3) to set up an organization to prevent recurrence of transmission from imported cases of malaria, it also said (page 4 - item economical aspects) the expenditure of eradication programme was labelled as capital investment only;

(b) it is stated in this document that the duration for Vivax infection may not die out in two and a half to three years instead of five to seven years as it was the case in some instances;

(c) in pointing out the difficulty one encounters in the implementation of eradication programmes, the paper stressed that "there are rarely insurmountable problems presented by parasites or anophelines ..... Both obstacles stand on the human side." The group thought perhaps this is an overstatement.



REPORT OF GROUP C

Chairman: Dr. Eung Soo Han (Korea)

The following subjects were discussed by the group:

1 The role of a malaria eradication project in a public-health programme

1.1 It was considered by some that a malaria eradication project should be integrated into the public-health programme from the beginning. In the last ten to twelve years, there have been several special campaigns organized by WHO and it was suggested that this system should not be perpetuated. The best way to set about a new project is to set up a special section within the health department to deal with it. Field workers are brought for special training when necessary, and there is then no problem of integration to be faced at some time in the future.

1.2 Other members suggested that during the preparatory and active phases, the work should be done by special teams without integration. Integration should only take place during the surveillance stage.

1.3 The question of conducting campaigns against other diseases at the same time as a malaria eradication scheme was discussed. While the dangers of attempting too much at once were recognized, it was suggested that more might be done in this direction provided that it was always kept in mind that the malaria eradication scheme had priority. Although WHO expert personnel are opposed to any multiplication of effort, it may be that they are too specialized in their outlook, and an opportunity is being lost to save considerable time and money.

2 Malaria eradication projects in various countries

2.1 Brief descriptions of the phases and difficulties of schemes at present in operation in various countries were given. Generally the projects have begun with a period of research and study. This has been followed by a phase of active operations by spraying with or without mass drug administration, and finally the surveillance stage was entered. The stage presently reached in the various countries varied considerably.

2.2 Among the difficulties encountered were:

(a) During an eradication campaign the number of malaria cases dropped to such an extent that the government concerned considered that the problem had already been dealt with satisfactorily, and was unwilling to provide sufficient funds to complete the project.

(b) There are sometimes too many interests involved in a malaria eradication problem. Where for example WHO, UNICEF and the national government all have an interest in a project, they must all agree before extensions are made. Securing such agreement may involve considerable time and trouble.

(c) The use of the terms malaria control and malaria eradication is overdone, and unnecessary argument arises over the conversion of what is called a malaria control project to what is called a malaria eradication project. It was suggested that to make long lists of differences is to overstate the case and suggest there are fundamentally two ways of dealing with the problem of malaria. In fact the technical methods used are the same in either case, i.e., by larvicides, insecticides or drugs, and a better concept would be to regard an eradication campaign as a perfect control scheme, or alternatively to regard a control scheme as a bad eradication campaign.

### 3 The approach to a malaria eradication campaign

3.1 Initially the government of the country must be convinced of the benefit of such a campaign. Generally it is necessary to stress the financial implications and endeavours to have the campaign regarded as an investment which will pay dividends within a comparatively short period. The importance of educating and securing the co-operation of the most senior officials was emphasized, and the possibility of using WHO experts as a lever was mentioned.

3.2 Apart from any government contribution, it will normally be necessary to secure outside help at the beginning. This would be a comparatively large amount in the early stages, decreasing steadily as the campaign progressed.

3.3 Once the campaign is under way, it was found in one country that roads and dams could be built much more cheaply than before, and areas settled by farmers which were previously almost uninhabitable. Such results obviously greatly facilitated the obtaining of funds to continue the campaign.

3.4 It was stated that difficulties arise when local government is rapidly developed. Funds which are allocated to local councils for antimalarial work may be directed by them to other projects.

#### 4 Obtaining the co-operation of the people

4.1 Preliminary education was stressed. Health staff, school teachers, religious and other community leaders can all play a part. Among primitive peoples the necessity of educating and securing the co-operation of community leaders was emphasized.

4.2 It was suggested that as far as possible local people should be brought into the campaign. This can be done firstly by recruiting all semi- and unskilled workers from within the area to be sprayed; secondly, by encouraging the formation of local committees of prominent people to form a malaria working group. Such committees can, among other things, greatly help with the dissemination of knowledge and propaganda among the people themselves.

4.3 Apart from the destruction of malaria mosquitoes, the eradication of other insects has greatly helped in securing co-operation.

4.4 The possibility of passing laws which would compel people to have their houses sprayed was discussed. It was strongly suggested that such action would only breed hostility and that education and exhortation should be relied on. The importance of the original briefing and approach of the spraying teams was emphasized.

4.5 In more advanced areas the possibility of raising hostility because of spoiling of articles within houses was considered. It was suggested that older methods of larval and general environmental control should not be forgotten in such cases.

4.6 Among really primitive people it was suggested that more use might be made of very simple films with a commentary in the local dialect, and that at present such films were not made. During discussion the use of flannel-graphs and filmstrips was also suggested, but it was also considered that comparatively little reliance should be placed on visual aids unless the greatest care was taken in the production and presentation of material. Primitive people might interpret visual aids in a way completely different from what people experienced in more modern conditions would expect.

4.7 It was pointed out that eradication schemes have started without anyone knowing who is to be responsible for the education side. If the scheme had been integrated from the beginning, such a situation could not arise.

#### 5 The use of drugs in a malaria eradication scheme

5.1 It was suggested that in recent years drugs were assuming more and more importance, and that statements in document WP/RC9/TD1 that drugs were of very secondary importance might not be fully justified. The cost of mass administration of the most modern effective drugs was less than half that of a spraying campaign, apart from any economies which might be effected in the central organization.

5.2 The difficulties in securing complete coverage of a population by drugs were emphasized, and it was considered that protection by drugs in tablet form could only be assured for individuals and not for communities as a whole.

5.3 While spraying is of primary importance in eradication, it was suggested that drugs could play a big role in hyperendemic areas. Also drugs would be particularly important during the surveillance stage.

#### 6 Use of Insecticides

6.1 DDT was found to give a good result in the first two years, but thereafter caused a heavy deposit which led to hostility.

6.2 Dieldrin caused very little deposit, but after one year, did not prove so successful, and it proved necessary to return to DDT. No members of the group

reported resistance among malaria mosquitoes to DDT up to the present.

6.3 The actual method of spraying in various countries was described. Sleeping quarters and various surfaces facing inside the house, especially those near the floor, were considered the most important. It was said that in Chinese houses it was unnecessary to spray kitchens as the method of cooking was repellent to mosquitoes.

6.4 Aerial spraying was generally considered uneconomical and ineffective.

REPORT OF GROUP D

Chairman : Dr. Le-Van-Khai (Viet Nam)

Group D of the Technical Discussions met on 29 September 1958 from 9.00 a.m. to 12.00 noon and from 2.00 to 5.00 p.m.

The Group agreed to divide the working plan into three parts :

- (1) technical part
- (2) psychological part
- (3) administrative part

1 Technical part

The group studied Table I, Document WP/RC9/TD1, and the question of the use of curative medicaments.

The group made two proposals as far as Table I was concerned :

- (a) compulsory declaration of malaria cases starting with the third phase of eradication;
- (b) complementary protective measures on frontiers against the passage of malaria cases from one country to another.

These measures will be implemented in adjacent countries.

The Group proposed the use of medicaments at the beginning of the phase of attack, especially in countries with a very high endemicity, with a view to reducing the infection rate and to obtain the confidence of the population provided a regular distribution of medicaments was guaranteed. During the surveillance phase, treatment by medicaments is obligatory.

The Group does not agree on the use of a sole and mass dose because of possible accidents.

2 Psychological part

The Study Group believes that basic training is necessary to obtain successful eradication programme and recommends the establishment of a propaganda service within the malaria eradication programme in order to prepare the population to this programme.

The Group believes in the persuasive rather than the authoritative method.

3 Administrative part

The Study Group recognizes the importance of collaboration between the malaria eradication programme and the other governmental activities. It recommends close co-operation between these various activities.