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UNITED NATIONS

NATIONS UNIES

WORLD HEALTH
ORGANIZATION
INTERIM COMMISSION

ORGANISATION MONDIALE
DE LA SANTÉ
COMMISSION INTÉrimAIRE

WHO.IC/159
WHO.IC/Mal/12
26 January 1948

FIFTH SESSION

MALARIA PROGRAMME

Following the proposals of the United States Delegation on "Malaria Programme" (WHO.IC/152) the Secretariat submits the following note with a draft resolution and tentative budgetary estimates.

1. Malaria as a disease of rural populations is probably the disease that most affects natural resources and thereby impoverishes the world.

It is not enough to quote that about 3,000,000 deaths are caused yearly by malaria in the world, or that every year about 300,000,000 cases of malaria occur; we must bear in mind that malaria is generally not a disease affecting just a number of individuals, as tuberculosis or V.D., but a disease of the community and a rural disease par excellence; that malaria is prevalent in tropical and sub-tropical areas where food production and agricultural resources are potentially very high, and that, by affecting the mass of rural workers, it decreases their vitality and reduces their working capacity and thus hampers the exploitation of the natural resources of the country. At a time when the world is poor, it seems that control of malaria should be the first aim to achieve in order to increase agricultural output.

Man is the principal "natural resource" of the world; and since the dawn of history malaria has affected him. Potentially very fertile lands have been abandoned on account of malaria or are yielding a bare living to populations who, were they immune from malaria, could be great producers. The Mediterranean countries, India, China, Indonesia, large territories of South America, not to mention Africa, cannot contribute their full share to the needs of the world on account of malaria; and everybody knows what has been achieved in selected areas of such countries once malaria has been controlled.

2. To-day there exists at last a method for the control of rural malaria in most countries.

Until a few years ago control of urban malaria, or of malaria in industrial undertakings was practicable, but to control malaria in villages was not economically feasible.⁽¹⁾ To-day, in countries where DDT house-spraying is effective against the local vector species, malaria control can be applied to extensive agricultural regions at a cost which is insignificant when compared with the expected increase in labour output, even without taking into account the liabilities caused to the individual by malaria, or the reduction of human suffering. "While it is not possible to evaluate with any degree of accuracy the immensity of the direct and indirect losses, there is little doubt that they must run (for India) into unbelievable millions of pounds sterling each year". (SINTON, 1939). And on the basis of VISHWANATHAN's figures⁽²⁾ even admitting that malaria control should be extended to 400 millions inhabitants, which is not the case, the total expense would amount to some 60 millions dollars, as compared with 800 million by individual losses, not counting the loss of production.

3. The populations of the largest malaria areas of the world have not yet appreciably benefited from modern methods of malaria control.

Except for a few countries in which DDT has been applied on a nation-wide plan, such as the United States, Greece, Italy, Venezuela and Argentine, areas in which actual eradication of anophelines is on the way, (Cyprus and Sardinia and part of Egypt) DDT applications in the largest malaria-affected countries are still in the experimental stage; their malaria situation as a whole is probably the same as in 1939, and in some of them it is certainly worse as an aftermath of the war.

4. Part that the WHO could play.

It seems that both from the standpoint of attacking one of the major health problems of the world and from the standpoint of rehabilitating populations who could greatly contribute to the

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- (1) It might be noted that in India - just to mention one of the most malaria-stricken countries, 90% of the population live in 600,000 villages of less than 5,000 inhabitants.
- (2) In India, VISHWANATHAN has shown that the cost of DDT house-spraying can be brought down to 15 U.S. cents per capita per year, while according to calculation made 7 years ago by RUSSELL & MENON in Southern India, malaria costs (expenses for doctors or quacks and loss of wages without taking into consideration the decrease of production) amounted to \$2.04 per capita per year; which multiplied by 400 millions would amount to \$800 millions.

reconstruction of world economy, the World Health Organization should offer assistance to governments of malarious countries. It must not be forgotten that malaria control in Greece and Italy - the two outstanding examples of countries affected and physically and socially debilitated by the scourge since the times of Hippocrates and the Punic Wars - has been achieved, but thanks to outside help.

The assistance of the World Health Organization might be direct or indirect.

Direct assistance: a) Field operations: area control. This should aim at obtaining a full control of malaria in a chosen area in order to show: (i) that malaria can be controlled; (ii) the cost of such control; (iii) the economic benefits arising out of malaria control. This should be a demonstration that malaria control pays, not only in terms of human life and health, but also of economics. Therefore, any programme of this kind should be preceded by a "malario-economic" survey; during the carrying out of the programme and after it, results should be assessed in "malario-economic" terms. Obviously, a scheme of this nature would imply the collaboration of FAO and possibly of ILO; last but not least, general health surveys should complete the programme in order to show the collateral benefits of house-spraying, on other communicable diseases and on infant mortality. Such programmes should be carried out in selected areas of high malaria endemicity and of great agricultural interest, in India, China, South America, and in some countries of the Balkan Peninsula or the Near East. If such programme could demonstrate to the Government concerned and convince public opinion in the country that malaria disappears, that agricultural output is increased, that fly-borne morbidity is lessened and that, for instance, even the cows produce more milk (as shown in various countries following control of flies), very likely malaria control would soon be applied all over the country concerned.

Further direct assistance on the part of the World Health Organization could consist: (b) in offering experts to Governments desirous of carrying out malaria control by modern means. It should not be forgotten that besides insecticides, the new chemotherapeutics, such as paludrine and chloroquine, are very valuable adjuncts in malaria control; and circumstances may arise in which combined efforts, i.e. house-spraying and chemotherapeutical control, would hasten results. Besides, experts, in training local personnel, will not only ensure the best methods of application, but would also achieve a greater economy in material and labour; (c) in offering fellowships abroad to men in charge of malaria departments or field work.

Indirect assistance can be offered:

1) by stimulating research on problems bearing upon the use of modern methods of control. DDT is probably not the last word in the field of residual insecticides. In many countries, after a year or two of DDT house-spraying, DDT-resistant populations of house-flies have developed, replacing the susceptible strains. These findings should warn us to be on the alert in case any resistance of this kind should develop in the anopheline species, in order to be ready to replace DDT by other insecticides, if need be.

- 2) by attempting to lower the prices of insecticides. Today DDT is a heavy item on the budget of any house-spraying campaign. In countries where labour is cheap, as for instance in South Africa (Natal), the cost of DDT and solvent amounts to about 90% of the total expenses of the campaign.

5. Draft Resolution

On the basis of the proposals of the U.S. delegates (WHO.IC/152) and of what has here been said, the Secretariat submits the following draft resolution:

"THE INTERIM COMMISSION,

"Considering that in spite of recent progress in malaria control, only a few scattered countries have been in a position to employ recent methods on a nation-wide scale, and that therefore malaria continues in a very large portion of the world to cause a high mortality, enormous morbidity, and to affect the vitality of populations of major food-producing countries,

"THE INTERIM COMMISSION is of opinion that malaria control should be one of the first steps in the rehabilitation of many countries in regard to the exploitation of their natural resources, and

"RECOMMENDS that a major share in the WHO's energy and resources during its first years be directed to the application of malaria control measures to large areas, with special reference to the major food-producing countries affected by malaria.

"THE INTERIM COMMISSION entrusts to its Expert Committee on Malaria the study of a general plan for world malaria control, outlining the part that the WHO could play in its carrying out; decides to invite the co-operation of FAO with a view to ascertaining in what countries rehabilitation of the health of malarious populations would lead to an increased food production; decides to insert in the 1948 and 1949 budgets a tentative appropriation for assistance to Governments in the matter of malaria control, to cover the lending of experts to Governments, fellowships in malaria, and the setting up of operational demonstration teams, intended to carry out preliminary malario-economic surveys of the area, and then to control malaria and assess results and costs in terms of malaria, general health and economics. For such plans, the collaboration of FAO will also be necessary and the Interim Commission decides to invite a representative of FAO to participate in the next meeting of the Expert Committee on Malaria in Washington."

"THE INTERIM COMMISSION instructs the Secretariat to include in the Agenda of the Second Meeting of the Expert Committee on Malaria the following items, upon which the Expert Committee is also asked to consult with the Fourth International Congress on Malaria:

AGENDA

1. Planning malaria control in the world;
 - a) areas where mass attack is most needed from the standpoint of incidence of malaria and/or from the standpoint of the development of agricultural and economic productivity;
 - b) methods by which the WHO could foster malaria control and/or eradication in such areas (Expert advice, training, fellowships, demonstration and operation programmes);

2. Technical problems;
 - a) Can recently introduced insecticides be relied upon as a basis for a widespread attack on malaria, with expectation of a significant reduction of morbidity in areas where they are properly used?
 - b) Are these insecticides available in sufficient quantities for a widespread attack? if not, what steps might be taken to ensure their increased production;
 - c) What are the insecticides preferred, and how can they best be employed on a mass-basis?
 - d) How does the price of insecticides affect malaria control campaigns?"

It is of course realized that if the Interim Commission agrees with the proposal of the United States Delegation (WHO.IC/152) "that the WHO should direct a major share of its energy and resources during its first years to the application of measures of malaria control to large areas, with particular attention to the major food-producing countries afflicted by malaria" precise and detailed proposals will be brought forward by the Expert Committee on Malaria in May 1948; but tentative budgetary appropriations for a WHO programme are here appended.

REVISED PROPOSED BUDGET ESTIMATES FOR 1948 AND 1949
CONCERNING

M A L A R I A

	1948		1949
	Jan.--June	July--Dec	Whole year
	\$	\$	\$
(1) Meetings of the Expert Committee, 1 in 1948, 2 in 1949 (nine members plus secretary in 1949, as com- pared with seven in 1948)	7,000		16,000
(2) Publications			2,000
(3) Fellowships and interchanges:			
(a) full malaria training, average duration 6 months, average cost \$2,500			
Five in 1948		12,500	
24 in 1949			60,000
(b) Insecticide spraying tech- nique, average duration one month, average cost \$500	1,000	2,000	6,000
(4) Experts lent to Governments request- ing them: average duration one year, average cost \$11,000			
Two for six months in 1948		11,000	
Three for a year in 1949			33,000
(5) Specialist teams for demonstration and operations, to carry out malaria control in areas of about 100,000 population. (It is assumed that subordinate staff work about 4,000 man-days twice a year). Laboratory facilities and means of transport will be offered by the country concerned). Teams com- posed of a malariologist, an ento- mologist and two sanitary engin- eers (Average cost of salary, tra- vel and subsistence for each mem- ber \$7,800 + equipment \$5,000. Total \$36,200 (3 such teams)			108,600
(6) Material and equipment for operations In terms of			
(a) DDT 26 per cent concentrate at a maximum price of 2.50 per gal. Gal. 8,000 for one spraying for 100,000 population Two sprayings a year for three programmes			120,000
(b) Hand spray-pumps: 80 for each project + 15 per cent spare, i.e. 276 at \$11.00			3,036

	1948		1949
	<u>Jan.-June</u>	<u>July-Dec.</u>	<u>Whole year</u>
	\$	\$	\$
(7) Personnel required in the Secretariat: a lay technical assistant to the medical officer in charge of malaria		1,275	2,550
(8) Travels of Secretary to maintain liaison between field programmes		1,500	2,000
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Totals	8,000	39,275	353,186
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