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Programme Committee

IRAQ

Recommendation of the Executive Director
for an Apportionment for Continuation of a
Malaria Control Programme

1. In this paper the Administration recommends, subject to the availability of funds, an apportionment to Iraq of \$73,000 from the Eastern Mediterranean Area allocation for the provision of insecticides, vehicles and insecticide sprayers for the malaria control programme in that country. This recommendation is for an extension of a programme already in operation, for which the Board approved an apportionment of \$ 85,000 (exclusive of freight) in April 1952 (E/ICEF/198, paras 354-367). In a separate paper the Administration is reporting a saving of \$ 13,800 from the previous apportionment which is being returned to UNICEF's general resources.

Control of Malaria in Iraq

2. The basic information on the incidence of malaria in Iraq and its effect upon the child population has already been given in the Executive Director's recommendation of 24 March 1952 (E/ICEF/R.321). Out of a total of five million population, approximately three million live in areas with a very high to moderate danger of malaria infection. Foci of high endemicity are found in various parts of the country including the northern Liwas (provinces) of Mosul, Erbil, Kirkuk and Sulaimaniyah. Many of the worst infected communities in this northern area are so located that access by modern means of transport is not possible during the optimum period for residual spraying. When climatic conditions are at their best certain communities are three or four days journey by mule or donkey from the nearest point accessible to motor vehicles.

3. The control of malaria in Iraq has a high priority in the planning of general public health work of the Government. A Malaria Institute established in 1947 to undertake control measures was reorganized in 1950 as an Endemic Diseases Institute under the jurisdiction of the Ministry of Health.

The Institute at first concentrated upon larvicidal operations, independently and in cooperation with the authorities concerned with irrigation. Residual spraying with DDT was introduced in 1948 and continued on a minor scale as a supplement to larvicide measures until 1952, when the portion of population thus protected appreciably increased. Due to a number of restricting factors existing at the time, the selection of areas to be controlled was limited. Criteria for such selection were the degree of endemicity, economic importance of the area and the degree of accessibility. With comparatively small resources, areas in most malarious regions of the country were reached but residual spraying could only be undertaken in scattered localities of relatively small area.

4. The Government's larvicidal operations have been carried out principally in urban and more heavily populated areas, with 1.1 million protected in 1947 and 1.3 million in 1953. Government expenditures per person protected over this same period increased from 15¢ in 1947, to 24.5¢ in 1953. By 1952/53 only 150,000 persons were protected by residual spraying.

First phase of international assistance

5. An assessment of the results of residual spraying brought to light that in Northern Iraq it was considerably less effective than in other areas in central and south Iraq where similar procedures were followed. The Government also felt that there was a specific need for facilities for the demonstration and training in modern methods of malaria control to Iraqi personnel for field operations. In consequence of a request from the Government, WHO sent its regional malaria adviser to Iraq, and in 1952 provided a team of three and supplies for the establishment of a training and demonstration area in Sulaimaniyah in northern Iraq. Simultaneously a plan for the gradual extension of malaria control was worked out, including a period of assessment of methods used in the Sulaimaniyah area, the commencement of a rural mass campaign through residual spraying in 1953 with UNICEF and WHO assistance, and the continuation of control work through the Government's own resources beyond 1956.

6. Due to unforeseen factors, the period during which the WHO team was to assess the best methods of residual spraying in the demonstration area was longer than initially anticipated. In 1953 it was therefore felt that the commencement of a large scale mass campaign in the northern region could not be undertaken, and in the demonstration area only some 15,000 population came under direct protection.

/During the same year,

During the same year, however, operations undertaken in other parts of the country by teams of the Endemic Diseases Institute provided protection, in rural and urban areas, to an additional 1.45 million population - 1.3 million by larvicide measures and 150,000 through residual spraying.

7. Early in 1954 when the organization in the Sulaimaniyah area was also brought into a more direct relationship with the Endemic Diseases Institute, a re-assessment of the situation in the north permitted the formulation of a detailed plan of operations for a mass campaign in that region in 1954. A residual spraying campaign in the rural areas of Sulaimaniyah Liwa and parts of neighbouring Liwas commenced at the end of March, 1954, aimed at protecting 200,000 people. This goal has been reached, in addition to the 1.45 million which Government teams again were able to reach in larvicidal operations in other regions.

8. Aside from the direct control work thus carried out during the period of international assistance, training of national field staff was started in the demonstration area. By the middle of 1954 some fifty field staff, including laboratory assistants and spraying supervisory staff had been trained, and some of these given advanced instruction in entomological and parasitological techniques.

Proposed expansion of malaria control

9. On 14 June 1954 the Minister of Health addressed a letter to the UNICEF Representative in Iraq outlining the progress of malaria control work proposing a detailed plan for the extension of the programme of control on a long-range basis, and requesting further UNICEF assistance for the two years 1955 and 1956, after which the Government would take over all further costs. The present recommendation is based upon this plan which has been worked out with the cooperation of the senior Government malariologist, the WHO malaria adviser and the UNICEF representative. The Deputy Executive Director (Programmes) during his recent tour to the Eastern Mediterranean studied the fieldwork of malaria-control in Iraq and took part in the overall planning.

Objectives and plan of action

10. It is the objective of the Government to carry out systematic control of malaria in all regions of Iraq with a target of protecting three million people in areas where risk of infection is moderate to high. Blanket residual spraying with DDT and possible other insecticides will be carried out over an increasing area, while other measures of malaria control, including anti-larval methods, will continue in urban or semi-urban areas at approximately the same rate as at present.

/11. In view of

11. In view of the particular difficulties experienced in reaching the malarious upland regions along the northern boundaries of the country, as well as the need for training additional staff for control and supervision of the mass campaign, the expansion programme is to be carried out in two stages as follows:

Stage One - 1955-1958:

1.8 million people will be protected through residual spraying, and larvicide measures will be carried out in areas with a population of 1.2 million people. Residual blanket spraying will be employed wherever this is practicable, with only very limited attempts to reach the remote upland communities or the large marsh areas in the south.

Stage Two - 1959-1963:

In 1959, a re-grouping of the available manpower will take place for the purpose of concentrating all efforts on control of malaria by residual spraying at the remaining endemic foci. This work would continue until 1963.

Also in this period, those areas which during the first stage were the subject of blanket spraying will be placed under surveillance so that sudden and sporadic outburst of endemic malaria could rapidly be brought under control.

12. The Government appreciates that its control programme will form part of inter-state efforts to bring malaria under control in the whole Middle East belt stretching from the Mediterranean to the Caspian Sea and the Gulf of Oman. The Minister of Health of Iraq has proposed, in consideration of the topographical features of the border areas, that the practicability of cooperation with neighbouring states - including Iran and Turkey - be assessed by joint teams of experts touring the areas concerned.

Plan for the First Stage of Extension:

13. The schedule for the period 1955-1958, in terms of population to be protected is the following:

	<u>Population to be protected (in thousands)</u>		
	<u>Spraying</u>	<u>Larvicide</u>	<u>Total</u>
1955	800	1,200	2,000
1956	1,200	1,200	2,400
1957	1,550	1,200	2,750
1958	1,800	1,200	3,000

14. Mass campaigns by residual spraying will be carried out in the following areas:

	<u>Population to be protected</u>
<u>In 1955:</u> Respraying of areas reached during the previous year, including Sulaimaniyah Liwa.	350,000
First spraying in Erbil and Kirkuk Liwas (200,000), Baghdad Liwa (100,000), Kut and Dulaim Liwas (80,000) and in part of Basrah Liwa (70,000)	450,000
<u>In 1956:</u> Respraying of areas protected in 1955	800,000
First spraying in unprotected part of Mosul Liwa (300,000) and in Diyalah Liwa (100,000)	400,000
<u>In 1957:</u> Respraying of areas protected in 1955/56	1,200,000
First spraying in Euphrates alluvial plain - Hilla and Kerbala Liwas (300,000) and a portion of Diwaniyah Liwa (50,000)	350,000
<u>In 1958:</u> Respraying of areas protected 1955-57	1,550,000
Spraying of remaining areas in Diwaniyah (200,000) and Basrah (50,000) Liwas	250,000

Administration of Project

15. The operational characteristics of the mass campaign, in particular during the first stage, will require a field organization under the direct supervision of the Ministry of Health, through the Endemic Diseases Institute. Until 1954, the Institute was responsible for malaria control operations throughout the country, with the exception of the demonstration and training area in Sulaimaniyah, the administration of which was undertaken by the WHO adviser on behalf of the Ministry of Health. Early in 1954, both technical and administrative responsibility for all malaria control work was given to the Institute.

/16. Following a pattern,

16. Following a pattern already initiated by the Endemic Diseases Institute, five regional malaria offices are being established to service the general areas where mass campaigns are to take place, - in Mosul, Kirkuk, Baghdad, Hillah and in Basrah. The WHO malaria adviser now in the country, who was concerned (in 1954 particularly) with the mass campaign in the Sulaimaniyah area, will move to Kirkuk in 1955 where his advice is needed in connexion with the mass campaign planned for Kirkuk and Erbil Liwas.

UNICEF Commitments

17. If this recommendation is approved, UNICEF will provide the following supplies and equipment:

DDT, 75% wettable	85 tons	\$41,000
Insecticide sprayers	410 units	9,500
Pick-up trucks	9	14,400
Contingencies		1,500
		<u>\$66,400</u>
	Freight	6,600
		<u>\$73,000</u>

Deliveries are to be made as follows:

	<u>First Quarter 1955</u>	<u>First Quarter 1956</u>
DDT	50 tons	35 tons
Sprayers	275	135
Trucks	6	3

The quantities of insecticides, sprayers and vehicles requested represent a decreasing proportion of the overall requirements, thus:

	<u>UNICEF Commitments as Percentage of Total Requirements</u>	
	<u>1955</u>	<u>1956</u>
Insecticides	23.5%	11.0%
Sprayers	50.0%	24.5%
Vehicles	19.5%	8.0%

WHO Technical Approval and Participation

18. WHO has given technical approval of this programme and is at present assisting the Government in malaria control by the provision of a malaria adviser and a sanitarian, both stationed in Sulaimaniyah until the end of 1954. The Government has requested WHO to extend the service of this staff until the end of 1955.

Government Commitments

19. The Government is undertaking to meet all requirements for the extended project, including personnel, supplies and equipment, with the exception of those requested from UNICEF. Specifically, the Government will provide the following:

a) Supplies and Equipment

DDT: a total of 1,341 tons for the period 1955-1958, starting with 163 tons in 1955 and reaching 480 tons in 1958. Also further requirements for the second phase after 1958.

Other insecticides: 4 tons of Dieldrin for 1955 for continued experimental spraying. Any additional requirements of other insecticides than DDT will be procured by the Government as needed.

Insecticide sprayers: In addition to the stock of serviceable sprayers already in the country, including 300 units provided by UNICEF, the Government will during the first phase procure a total of 1,965 units; starting with 275 for 1955, ending with 700 for 1958.

Vehicles: to meet requirements for new vehicles for the first phase 1955-58, the Government will on an increasing scale make annual purchases of cars, giving the following totals:

Pickup type trucks : 112

Personnel carriers : 39

To meet further requirements for load-carrying trucks, arrangements for procurement or hire will be made. Vehicles which are not needed for malaria control work in the off-season will be utilized for bilharzia control.

b) Premises

Subject to final approval by Parliament, the Endemic Diseases Institute will be provided in 1955 with a new national centre building, in Baghdad (at the cost of approximately ID 200,000) with central facilities for training and research in parasitology and malariology. The Government will also provide the necessary accommodation for five regional malaria offices, as described above.

/c) Personnel

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The present senior malaria control staff of the Government consists of two qualified malariologists and three entomologists. No Iraqi sanitarian is at present available, but training in the field is currently so arranged that the best of the supervisory field staff is receiving further practical training so as gradually to undertake duties of sanitarians. The Government is furthermore considering the possibility of employing additional foreign malariologists, to meet requirements of the present expansion plan.

Personnel will be provided according to the following schedule:

i) Permanent staff: For each of the five Regional malaria offices:

- 1 regional malaria officer, who is either a malariologist, an entomologist with advanced training, or a senior technician of equivalent status.
- 4 assistants, to function as sanitarians during the spraying season, and as technicians in other seasons.
- 5 administrative staff, plus necessary service staff.

Field assistants, at the approximate rate of one per 10,000 population to be protected.

ii) Labour:

For residual spraying, local labourers will be employed as required, on basis of the following number per each operating unit of three spraying pumps:

- 1 head labourer (squad supervisor)
- 1 helper, for insecticide mixing, etc.
- 3 spraying labourers

For larvicide operations, 50 head labourers and 300 labourers will be employed for an average period of seven months each year.

/d) Calculation of

d) Calculation of cost to Government

Excepting the cost of the national centre in Baghdad and the equipment and supplies for this centre, the cost of malaria control operations during the first phase is estimated as follows: (in 1000's of Iraqi Dinars)

<u>Year</u>	<u>Labour</u>	<u>Staff</u>	<u>Premises</u>	<u>S & E, & Maintenance</u>	<u>Insecticides</u>	<u>Total</u>
1955	81.0	55.0	3.0	40.6	57.6	237.2
1956	95.0	66.0	4.0	54.5	77.0	296.5
1957	114.0	78.0	5.0	69.9	102.6	369.5
1958	129.0	90.0	6.0	77.1	116.0	418.1
Totals:	419.0	289.0	18.0	242.1	353.2	1,321.3

Equivalents in thousands of US Dollars:

1,173.2	809.2	50.4	677.9	989.0	3,699.6
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UNICEF Representation

20. UNICEF maintains a Country Office in Baghdad under the Eastern Mediterranean Area Office. The resident representative has a day-to-day contact with the Government on all matters related to programmes assisted by UNICEF, and similarly is in continuous consultation with the WHO malaria team in the country.

Recommendation:

21. The Administration recommends, subject to the availability of funds:
- a) an apportionment of \$73,000 to Iraq out of the Eastern Mediterranean allocation for the provision of insecticides, sprayers and transport for the continuation of a malaria control campaign; and
 - b) that the Administration be authorized to approve the extension of the plan of operations as outlined above.