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Programme Committee

IRAN

Recommendation of the Executive Director for an
apportionment for a continued and expanded Malaria Control Programme

1. In this paper the Administration recommends, subject to the availability of funds, an apportionment to Iran of \$300,000 from the Eastern Mediterranean Area allocation for the purchase by UNICEF of DDT and vehicles for the continuation and expansion of the country-wide malaria control programme which was started in 1950 and is expected to continue to 1960, by which time control will be maintained on a minimum basis of treating special areas. The request to UNICEF for aid is for a one year period
2. If this recommendation is approved, it will represent the first UNICEF assistance of this type to Iran.

The Malaria Problem in Iran

3. Iran, with a surface of 1,630 km.² and a population which was estimated in 1950 at 18,772,000, extends between the 26th and the 38th meridians and the 44th and the 57th longitudes from the Caspian Littoral to the Persian Gulf and the Gulf of Oman. Though great parts of the country are deserts and highlands, the malaria vectors of the Mediterranean and the Palaertic Regions, as well as the Oriental species, have invaded the country and malaria has been found to be a most serious problem deeply affecting the health, social and economic life of Iran.

4. For many years, since long before a systematic survey was made, malaria

/has been

has been recognized as the main health problem in Iran. The research and surveys continuously carried out from 1949 by the Government of Iran in cooperation with WHO and with bilateral aid from the United States, have confirmed the dangerous extent to which the country is affected by malaria. It is estimated at present that at least 5,500,000 inhabitants in rural areas are directly and continuously exposed to malaria. According to the surveys so far made, of a total number of 42,755 villages in the country malaria prevails in at least 16,000 villages.

Efforts to alleviate the Problem of Malaria

5. The first concerted anti-malaria programme was organized by the Government of Iran in the larger urban areas at the beginning of 1949-1950. Since then great efforts have been developed towards malaria control predominantly in rural areas as follows:

- a) During 1950, 6,360 villages have been sprayed, protecting a population of 150,250.
- b) During 1951, 6,248 villages have been sprayed, protecting a population of 2,873,774.
- c) During 1952, 12,600 villages have been sprayed, protecting a population of 4,130,051.
- d) During 1953, 14,542 villages have been sprayed, protecting a population of 4,243,938.

6. As shown above, the scope of the programme and the results in 1952 showed a remarkable increase from previous years. This was due in the first place to the progressive conclusions of continued surveys, the experience from improved techniques, and, not least, due to the international cooperation expressed in considerably increased advisory and material assistance. From 1952, the malaria control in Iran became a truly international effort with the Ministry of Health,

/the Institute

the Institute of Malariology of the University of Teheran, the WHO Malaria Advisory Team (a malariologist, an entomologist and a sanitary engineer), and the US Technical Cooperation Administration Public Health Service (10 experts) working jointly.

7. During 1952, the US TCA contributed 1260 tons of 75% DDT, 560 sprayers and 40 vehicles. In addition, the US TCA participated in the Joint Fund with cash amounting to 23,471,890 rials and \$2,075,432. The 1952 contribution of the Ministry of Health of Iran was 5,654,310 rials, in addition to 400 tons of 75% DDT, 700 sprayers and 56 vehicles.

8. In 1953, the Government's finances reached a stage of crisis. All the expenses for insecticides, vehicles, supplies and equipment, as well as other running costs for the malaria control work, were in this year covered by the US TCA. The Public Health budget of the US TCA programme in Iran was in 1953 \$6,243,000, of which \$3,000,000 were invested in the malaria programme. Amongst others, the following material, ordered against the US TCA 1952 budget, arrived in 1953 as a contribution from US TCA:

20 jeeps plus trailers
30 jeep cargo personnel carriers
1,150 sprayers
12 power sprayers.

Future Prospects

9. With 1954 the malaria control in Iran is facing a critical period. The great efforts in the past years, due to which malaria has been progressively brought under control, have shown such beneficial results that the work must be continued. Comparative spleen indexes from the 2-9 years age group illustrate the success so far reached: figures from the Caspian Littoral have, for instance, /dropped for

dropped for one area as follows: 89 (1949), 40 (1950), 21 (1951), 9 (1952), $2\frac{1}{2}$ (1953); or from a representative area of the Gulf of Oman a drop in the spleen index between 1949 and 1953 ranges from 71 to 5.

10. In order to consolidate the gains thus reached in the previous years' intensive control, it is necessary to maintain the control measures in all the areas already treated throughout 1954, and probably in 1955 as well, on a par with the 1953 activities. A gradual diminution of the spraying operations would begin only in 1956 and continue until a minimum was reached in 1960. The plan for 1954 requires, however, also an extension of the area to be treated involving about 16,000 villages, protecting a total population of 5,500,000.

11. This culmination in the malaria operations in the current year coincides unfortunately with a serious reduction in the financial and material means available to the Government. Iran still suffers from a financial crisis. The US Foreign Operations Administration assistance in the field of public health has been reduced to \$3,000,000, of which a total of \$1,000,000 can be available for malaria control.

12. With the means thus available, the Iranian Government is in a position to continue only part of the full scale programme. While all requirements for the continued survey and research, including highly specialized personnel and laboratory facilities, as well as specialized, skilled and other labours, and also sprayers and other field equipment are available and can be maintained through the Government's own and US FOA joint efforts, there will be a serious shortage of DDT and vehicles for the programme.

13. It has been agreed between the Iranian Government and the US FOA Mission that 1,170 metric tons of 75% water dispersible DDT will be allocated for the malaria programme in 1954 by the US FOA Mission. This is 417 metric tons less

/than are

than are required to maintain the full scale control (or will, if the full scale operations are maintained, only suffice for the spraying operations till the end of July.)

14. A similar serious shortage of transport will hamper the 1954 operations. Of an available number of 103 cars, partly from the Government and partly from the US FOA, 8 are no longer serviceable, thus making the total available to 95. 32 additional vehicles are needed to maintain the present ratio of vehicles to persons to be protected.

Request of the Government

15. In this situation, the Government has approached UNICEF for assistance with the required balance of insecticides and vehicles. In a letter dated 31 October 1953, the Minister of Health, having expressed greatest appreciation for previous UNICEF aid in other fields, has requested the assistance of UNICEF for 1954 in the form of DDT and vehicles in order to continue the anti-malaria campaign.

16. The request for UNICEF assistance is for a one-year period. If the present financial situation of the country has not in the meantime improved to permit the Government to increase their own commitments, the request to UNICEF may be renewed to complete the 1955 year's operations.

17. The Executive Director during his visit to Teheran in January examined the need for UNICEF assistance with representatives of the Government as well as officials of the US FOA. Representatives of the UNICEF Regional and Area Offices have participated with the technicians of the Government, US FOA and WHO in analyzing and defining the needs in terms of DDT and vehicles. The latter, however, are subject to a final technical consultation with the head of the Malaria Section at WHO Headquarters, who plans to visit Iran in March/April to evaluate
/the campaign,

the campaign, and participate in drawing up the plan of operations.

Proposed Plan

18. The Government intends to bring under control the various vectors of malaria in all of the endemic areas of the country and thus hopes ultimately to eliminate malaria from Iran.

19. Continued research and comprehensive surveys in the epidemiological and the entomological fields have been carried through by stages followed up by control methods which together have made it possible broadly to define the nature and extent of malaria in the major endemic parts of the country. The following table shows by regions (ostans) and villages the extent of the work so far accomplished:

Ostan	Total number of villages	Number of villages treated in 1953	Number of untreated villages partly surveyed
1. Kerman & Baluchistan	4272	1131	3141
2. Fars	3106	1385	1721
3. Khuzistan	2449	882	1567
4. Kermanshah	7454	1812	5642
5. Azerbaïdjan	8604	2424	6180
6. Gorgan, Mazanderan & Sharoud	2710	1673	1037
7. Ghilan	1961	1834	127
8. Isfahan	2882	497	2385
9. Teheran	2904	1510	1394
10. Khorassan	6413	1314	5099
Totals:	42,755	14,462	28,293

Estimated Population 18,772,000

4,244,000

14,528,000

/On the

20. On the basis of the rate of progress of control operations in 1950-1953 and provided that the financial and material means will be available throughout, it is estimated that the operations may have to continue through 1960. It is hoped that all endemic areas will have been reached during the 1954-1955 operations and, subject to the decline of endemicity in areas under control, discontinuation of DDT spraying is expected to start in a limited area this year, probably with a marked decrease in 1956.

21. Though the final plan will have to be based on the progressive findings from continued research and surveys the "strategic" national plan for spraying operations is as follows in terms of villages and population:

1954	16,000	villages	with	a	population	of	5,500,000
1955	16,000	"	"	"	"	"	5,500,000
1956	12,000	"	"	"	"	"	4,130,000
1957	12,000	"	"	"	"	"	4,130,000
1958	6,000	"	"	"	"	"	2,065,000
1959	3,000	"	"	"	"	"	1,030,000
1960	3,000	"	"	"	"	"	1,030,000

Organization

22. The remarkable development of malaria control in Iran is in great part due to an excellent organization. Under the overall responsibility of the Ministry of Health, the administration of the programme is divided between the Institute of Malariology of the Medical Faculty of Teheran and the Public Health Cooperative Organization.

23. It is the role of the Institute of Malariology from a technical angle to plan and watch the operations at all stages. The Institute provides facilities for epidemiological and other investigations, undertakes surveys, trains personnel /and assesses

and assesses the results.

24. The execution of the spraying programme is the responsibility of the Public Health Cooperative Organization, which for this purpose has a central administration and control unit in the Capital, but the rapid country-wide expansion in the past years has been largely accomplished by the decentralization to autonomous working units, each provided with transport, personnel and equipment.

25. Another outstanding feature is the provision of propaganda vans for the provinces which emphasize the value of methods of "self-help" and permanent methods of control, such as drainage, filling and screening, which may help in the long run when residual spraying is stabilized at a reduced level in the country.

Plan of Action - 1954

26. As indicated by the past and currently undertaken epidemiological and entomological observations, control work in 1954 will be based on DDT spraying, use of anti-malaria drugs in strategic health centres and dispensaries, and anti-larval work.

27. The DDT spraying will, as indicated by the ecologic conditions, begin in the south in the lowlands of the Persian and Oman Gulfs and progress northwards from March through October. Calculations for the spraying are based on estimated maximum average rate of 2.5 grammes of 75% DDT per square metre (or 1.9 grammes pure DDT per square metre). With a rather large surface of be sprayed per inhabitant (which it is hoped that further investigation will reduce) this represents a maximum of 217 grammes technical DDT per capita.

Personnel

28. Requirements for personnel for the malaria control are based on the /situation at the

situation at the end of 1953 with the provision that additional technicians, as well as skilled and unskilled labours, be necessary for the expansion in 1954.

- a) At the end of December 1953, the Malaria Institute had 38 employees (35 regular, 3 temporary) as follows:

Physicians, veterinarians, chemists and entomologists	12
Administrative and accounting staff	6
Laboratory technicians	6
Field technicians	5
Drivers	4
Laboratory helpers	3
Bedhars (assistant doctors)	2
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Total:	38
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- b) With the expanded volume of work in 1954, it has been necessary to increase the staff of the Institute and the following 10 posts have been added in the 1954 fiscal year budget:

- 1 Chief of epidemiological laboratory
- 1 Medical technologist
- 1 Laboratory technician
- 2 Field technicians
- 1 Photographer
- 1 Secretary
- 1 Bi-lingual typist
- 2 Administrative staff.

- c) In the field, 140 anti-malaria teams directed by 15 regional malaria control units were spraying from March to October 1953. Provision has been made for a somewhat increased field organization in 1954, including inter alia for each of the 10 provinces 1 epidemiologist and 1 entomologist.

UNICEF Commitments

29. If this recommendation is approved, UNICEF will provide the following quantities of DDT and vehicles:

/1. DDT 417 tons

	<u>U.S.\$</u>
1. DDT 417 tons of 75% water dispersible at a total cost of	220,000
2. 32 vehicles	76,800
3. Contingencies	<u>3,200</u>
Total: US \$	<u>300,000</u>

Deliveries of the full quantities listed above will depend on technical confirmation of requirements by the head of the WHO Malaria Section during his forthcoming visit.

31. Further UNICEF assistance may be requested for 1955 (see paragraph 16 above) It is hoped that the country's own resources will be sufficient to carry on for later years.

Other International Commitments

Bilateral Aid

32. In addition to the insecticides mentioned in paragraph 13 above, US FOA will provide spare parts and spare tyres from its general allocation to all the malaria control vehicles, including those to be provided by UNICEF.

33. US FOA will also provide in 1954 the following advisers connected with the malaria work:

1 malariologist

1 sanitary engineer

34. Under the Programme Agreement for Public Health between the Ministry of Health of Iran and the Foreign Operations Administration of the United States of America signed in Teheran the 4th of November 1953, US FOA will contribute to an Iran-American Joint Fund for Public Health, under which the malaria control programme is carried (see paragraph 39 below). Of the US FOA share around

\$600,000 will

\$600,000 will be made available in foreign exchange and used for the purchase of the insecticides mentioned in paragraphs 13 and the supplies in paragraph 32 above.

WHO Participation and Technical Approval

35. WHO has in the period 1950-1953 participated mainly with advisory services in the malaria control work. In 1954 WHO has reserved in its TA budget with priority No. I \$41,000 for an insect control programme in one of the provinces of Iran. Under this programme will be provided 1 medical officer, 1 entomologist, 1 public health engineer and 1 laboratory technician. Part-time services of this personnel will be available for technical advice and assistance in conjunction with the continuation of the malaria control programme.

36. The Head of the WHO's Malaria Advisory Services is scheduled to visit Iran in March/April.

37. WHO Regional Office for the Eastern Mediterranean has cooperated in the elaboration of this recommendation and has technically approved it.

Government Commitments

38. In addition to making available the established permanent institutions and services for malaria control and in addition to such equipment which can be carried over from the previous year, the Government has agreed to make available in connection with the malaria control programme in 1954 outlined in this recommendation the following operational budget:

/Central Administrative

	<u>Rials</u>
Central Administrative Office	3,500,000
Institute of Malariology	4,651,785
Institute of Malariology for construction purposes	1,800,000
Equipment and supplies	3,788,182
Control of regional operations	<u>1,783,314</u>
Total for Central Administration, Institute of Malariology and control	<u>15,523,281</u> Rials
Execution of control measures per region:	
1. Kerman and Baluchistan	2,500,000
2. Fars	1,500,000
3. Khuzistan	1,500,000
4. Kermanshah	3,000,000
5. Azerbaidjan	3,000,000
6. Gorgan, Mazanderan & Sharoud	2,000,000
7. Ghilan	2,500,000
8. Isfahan	1,500,000
9. Teheran	1,000,000
10. Khorassan	<u>1,000,000</u>
Total for spraying operations and other controls	<u>19,500,000</u> Rials

The total Government commitments under this recommendation is, therefore:

Rials	<u>35,023,281</u>
Equivalent to US \$	1,095,000

39. It should be noted (see paragraph 34 above) that the Government's funds contributed to the malaria control programme forms part of a Joint Iran-American

/Fund as per

Fund as per Agreement of 4th November 1953. This Joint Fund serves as an agency of the Government.

Target Time Schedule

40. If this recommendation is approved, the vehicles to be provided from UNICEF should arrive in Iran in mid-May. The DDT to be provided by UNICEF will be required before the end of July.

UNICEF Representation

41. UNICEF-assisted programmes in Iran will continue to be serviced by regular visits from personnel of the Eastern Mediterranean Area Office. The Administrative Officer and the Transport Officer of WHO on the BCG Campaign in Iran on reimbursement from UNICEF will assist the Ministry of Health on UNICEF supply, administrative and transport matters pertaining also to this programme.

Previous allocations:

42. Previous allocations to Iran have been as follows:

	<u>Through 1953</u>	<u>Shipped 1954 and after</u>
Maternal and Child Welfare	\$35,300	\$39,700
Anti-Tuberculosis	163,800	27,200
Long-range Feeding	24,500	500
MCP	<u>3,100</u>	<u>408,900</u>
	<u>\$226,700</u>	<u>\$476,300</u>

Recommendation

43. The Administration recommends, subject to the availability of funds:

- a) the apportionment to Iran of \$300,000 out of the Eastern Mediterranean Area allocation for the provision of vehicles and insecticide to assist the Government to continue its anti-malaria campaign through 1954;

/b) that the

- b) that the Administration be authorized to approve a plan of operations as outlined above, after review by the head of the WHO Malaria Section.