

UNITED NATIONS  
ECONOMIC  
AND  
SOCIAL COUNCIL



LIMITED

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UNITED NATIONS CHILDREN'S FUND

Programme Committee

SYRIA

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

1. In this paper the Administration recommends, subject to the availability of funds, an apportionment to Syria of \$56,000 from the Eastern Mediterranean Area allocation for supplies and equipment to continue and extend through 1954 the malaria control campaign already in operation. If this recommendation is approved, it will supplement the previous apportionment of \$35,000 (E/ICEF/R.325), which was made in May, 1952, to provide DDT to assist the Ministry of Health's malaria control work, and which was reduced in September 1953 by \$12,000 (E/ICEF/R.458), because the DDT eventually cost less than was previously estimated.

Malaria in Syria

2. As was explained in document E/ICEF/R.325, malaria constitutes in Syria a serious problem deeply affecting the health, social life and economy of the country. Syria is an agricultural country with relatively abundant water resources and includes in its territory a major part of the semi-circular strip of fertile land bordering the desert which has been known throughout the ages as the "fertile crescent". Topography shows the rural areas veined by several rivers and a multitude of tributaries, feeding many paddy fields, lakes and marshes. Some of the smaller rivers, such as the Barada which feeds the Damascus Oasis, are used to almost their last drop on cultivations of all kinds while the waters of others are spread through an irrigation network originally constructed by the Romans when Syria was known as the Granary of the Roman Empire and had a population several times greater than now.

3. This elaborate system for holding and spreading waters is vital to the country's agricultural life, but it also provides particularly suitable conditions

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for the propagation of malaria among the rural population which represents two-thirds of the  $3\frac{1}{2}$  million inhabitants of Syria.

4. A countrywide survey undertaken in 1950 by the Government showed that 17.2% of all persons in rural areas seeking treatment at Government Dispensaries were malaria victims. A more recent survey showed that, notwithstanding the limited control measures taken in the meantime, the figure stands at 14.2% which, although reflecting some improvement, still confirms the gravity of the problem.

5. A special study carried out in the Homs Mohafazat (district) by the malariologist of the WHO demonstration team, which has been working there since December 1952, showed that infant mortality is above 300 per 1000 there and increases in direct proportion to the degree of malaria endemicity, reaching 570 per 1000 in certain hyper-endemic villages. Commenting on this striking correlation between malaria incidence and infant mortality, the malariologist concluded his report by laying stress on the "fearful impact" which malaria has on the infants and children of Syria, not only as shown in the high mortality rate, but also in the often irreparable damage caused to those among them who, although they survive malaria, are so weakened by it as to become a burden to their community and a hindrance to its development.

6. Always, moreover, there looms the threat of a flaring epidemic in certain areas of the country. Good work has been done to check this latent danger and this must go on intensively, since lives, supplies and money may be wasted if the attack is not maintained until decisive results are obtained.

#### Control Work Undertaken to Date

7. Malaria control in Syria was started many years ago, with special attention to the larger cities. Prior to the use of DDT in Syria, the main method of control consisted in the filling up of ditches and other anti-larval measures. In 1949 a small experimental programme with DDT residual spraying was begun by the Ministry of Health in limited rural areas near Damascus. The work started in the Damascus Oasis and, due to the success obtained, spread during 1950 and 1951 to the Hauran Plateau in the southern part of the country.

8. In 1952, when the continuation of this control work was threatened by grave financial difficulties, the Government requested and obtained UNICEF's assistance

(E/ICEF/R.325) in the form of insecticides which permitted the continuation of the work through 1953. In conjunction with these control measures, the Malaria Section of UNRWA undertook protection work by residual spraying in some of the southernmost villages where the proportion of Palestinian Refugees exceeds 10% of the population. This work is being continued by UNRWA in coordination with, and as a complement to, the control operations in the Damascus/Hauran area.

9. So that the campaign might be based on the latest developments in control methods, the Government requested the technical assistance of WHO in a training and demonstration programme. The Mohafazat of Homs, notorious as one of the country's main foci of infection, was selected as a site for operations, and a well-equipped centre for training and demonstration was established at the town of Homs in December, 1952. Geographically, this represented a northward expansion of the campaign from the Damascus/Hauran area. The region was carefully surveyed and protection was undertaken in one part of it while the other part was left unsprayed as a "check" zone for purposes of comparison. Of the 16 trainees assigned to the Homs Centre by the Government, 15 were thoroughly trained in 1952/53 as auxiliary malariologists, entomologists and sanitarians. Their training is considered as satisfactory by the WHO demonstration team leader and some of them are already assigned to the Damascus/Hauran area in the south while the others will help in the expansion of the work to the remaining malarious regions of the country in 1954 and succeeding years.

10. At one area along the coast, control measures were undertaken on a limited scale some time ago by a petroleum company, but the continuation of these operations will be included in the overall campaign, which will reach that area in the spring of 1954. An engineering company has started work for the account of the Government on a vast dam project which will cover the hyper-endemic marshy lands of the "Ghab" in the north and thus eliminate another dangerous seat of infection.

11. The results of malaria control work for 1953 in terms of protected persons are as follows :

/ Area of Control Work

<u>Area of Control Work</u>	<u>Number of Persons Protected</u>
Damascus/Hauran (including UNRWA's complementary spraying)	200,000
Homs Region (including Tel Kalakh)	40,000
Coastal Area (Petroleum Company)	<u>5,000</u>
	<u>245,000</u>

12. Alongside malaria control measures, the Government is currently undertaking sprayings in rural areas for the control of insect-borne diseases (typhus, recurrent fever, acute conjunctivitis, etc.), of which epidemics have broken out several times in Syria. The relation between this work and the malaria control campaign and the relevant implications were thoroughly discussed with the Government during the visit of the Chief of Malaria Section, WHO Headquarters, to Damascus in October 1953, and it was then confirmed that the Government was and will continue procuring the insecticides necessary for this work in addition to those supplied by UNICEF specifically for malaria control operations.

#### Coordination Committee

13. In view of the growing importance of the anti-malaria campaign and of the necessity for creating a central body to supervise the conduct of the work and coordinate the efforts of the various agencies involved, a "Coordination Committee" was formed, grouping representatives of the Government, WHO and UNICEF. This Committee has met regularly since 11 October 1953 and has made good progress in establishing a basic policy for the campaign, reviewing its methods and seeing to it that the efforts of all parties concerned are teamed together to ensure a well-balanced national malaria control programme.

#### Request of the Government

14. On 20 April 1953, the Ministry of Health and Public Assistance addressed to UNICEF a letter expressing appreciation for aid given and requesting continuation of assistance to Syria, in the field of malaria control. Subsequently, technical discussions were held, in which the Coordination Committee played an important part, and the scheme outlined hereunder is the result of joint planning by the Ministry of Health, representatives of the Regional Office of WHO, the Chief of the Malaria Control Section of WHO Headquarters and UNICEF representatives.

Plan of Operations

15. Overall Objectives: a detailed plan of operations is being drawn up by the Coordination Committee with the help of WHO, EMRO and the Malaria Section at WHO Headquarters. The objectives envisaged are :

- a) Consolidation and maintenance of the results acquired so far in both protection work and training of personnel;
- b) Expansion of control measures from the Homs Region northward to the Orontes Valley and westward to the Coastal Area, thus ensuring total coverage of western Syria;
- c) An extensive survey and preliminary protection work in 1954 in the highly malarious Djezireh/Deir-el/Zor area in the northeast of the country between the Euphrates and Tigris rivers, full scale spraying being planned for the succeeding years for this area;
- d) Continued centralization of the conduct and long-term planning of the control operations on a national basis through the Coordination Committee.

Methods.

16. In order to achieve these objectives the following is proposed :

- a)
  - i. Consolidation of the control work already done will be undertaken in 1954 by the re-spraying of the Damascus/Hauran area (protecting 200,000 persons) and of the Homs area (protecting 40,000 persons). More consolidation spraying is planned for the Homs area in the coming years but it is expected that in the Damascus/Hauran area a progressive reduction of spraying operations will be considered.
  - ii. For these consolidation operations, insecticides only are requested from UNICEF. The necessary manpower, transport, sprayers, etc., will be made available by the Government.
  - iii. Maintenance of the results obtained in the training of personnel through the Homs Centre will be achieved by assigning the new trained personnel to expansion programmes in the other malarious regions of the country and by forming more trainees along the lines successfully followed in 1952/53.

- iv. The "check" zone in the Homs area will remain unsprayed through 1954 so that it may serve the comparison ends essential for the proper conduct of the countrywide campaign. A thorough spraying of this zone, however, will be started in 1955 and will protect 30,000 persons.
- b)
  - i. Expansion of the control work from the Homs area will be carried out towards Hama in the north (covering the Orontes Valley) and Lattakieh in the west (covering the Coastal area). This 1954 expansion scheme will make possible the protection in the Orontes Valley/Coastal area of 100,000 persons to whom should be added 10,000 persons who will also be protected under the same scheme at the nearby Tel Kalakh zone.
  - ii. For these expansion operations, the number of spraying labourers assigned by the Government to the team working in the area will be increased from 25 to 80 labourers. UNICEF is requested to supply the insecticides and vehicles necessary for these operations as well as a number of sprayers and two field microscopes.
  - iii. Subsidiaries to the Homs Centre will be established in Hama and Lattakieh for research work and will be staffed with personnel professionally trained at the Homs Centre. Accommodation for the personnel in question will be arranged by the Government.
- c)
  - i. Control Work at the Djezireh/Deir-el-Zor Area in the northeast will be carried out in conjunction with the WHO Bilharzia control programme in that area.
  - ii. The work for 1954 will concentrate there mainly on an extensive survey of the area while only preliminary protection operations will be undertaken covering 15,000 persons. A full-scale spraying will start in 1955 protecting 150,000 persons and will be expanded to 200,000 persons in 1956 and the following years.
  - iii. The survey will be primarily the responsibility of the Bilharzia team leader but the WHO malarialogist of the Homs Centre will participate in an advisory capacity.

- iv. For 1954 the Government expects to be able to make available the limited requirements for the survey and the preliminary spraying operations but UNICEF's assistance will probably be requested for the expansion phase in 1955 and the following years. By that time some of the equipment and manpower eventually relieved from Damascus/Hauran could be shifted to the expansion work in this area.
- v. Target consolidation and expansion figures of protection for the next three years are as follows :

	<u>Persons to be Protected</u>		
	<u>1954</u>	<u>1955</u>	<u>1956</u>
Damascus/Hauran area	200,000	To be estimated later.	
Homs region (including Tel Kalakh and "check" zone)	50,000	80,000	80,000
Orontes Valley/Coastal area	100,000	150,000	150,000
Djezirch/Deir-El-Zor area	<u>15,000</u>	<u>150,000</u>	<u>200,000</u>
	<u>365,000</u>	<u>380,000</u>	<u>430,000</u>

- d) i. The recently created Coordination Committee will continue to develop its activities as the focal point in the conduct of the campaign through its various phases. It will act as an advisory body on both policy and administration while, on technical matters, it will always work in close consultation with WHO.

UNICEF Commitments

17. If this recommendation is approved, UNICEF will provide the following supplies and equipment for the continued and expanded malaria control programme in 1954 :

	<u>Approximate Cost</u>
Supplies and Equipment:	
45 sprayers with spares	\$1,100
2 microscopes	<u>600</u>
	\$ 1,700
Transport:	
4 Pick-up cars	7,400
1 Truck	<u>3,000</u>
	10,400
DDT:	
83 tons 75% water wettable a/	<u>43,900</u>
Total proposed UNICEF Commitments	<u>\$56,000</u>

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a/ This requirement is based on experience in Syria so far, that the average surface to be sprayed per caput per year is approximately 85 sq. metres. There are prospects of reducing this area as a result of further technical investigation, and there would then be some carryover of DDT for 1955.

18. It is expected that, as the expansion of the control proceeds and in accordance with the provisions of long-term planning of the campaign, further UNICEF assistance may be requested for 1955.

#### Government Commitments.

19. In 1953, the Government's budgetary provisions for malaria control amounted to LS.250,000 (\$113,000) and it is estimated that roughly the same amount was contributed to the campaign through the Mohafazats' local administrations, mainly in expenditures on premises. For 1954, the Government's budgetary provisions for malaria control will be greater than in 1953 by 30 per cent, and will thus amount to approximately \$150,000. These provisions will cover mainly :

Premises: for the Homs Training and Demonstration Centre and its subsidiaries at Hama and Lattakieh.

Personnel: 2 medical doctors, 16 trainees and 23 administrative personnel, drivers, etc.,

Manpower: 190 labourers

Transport: 9 pick-ups, 1 truck, 3 jeep-type cars

Other equipment and supplies: as necessary, except for items requested from UNICEF and WHO.

Local administration will also continue to contribute.

#### WHO Commitments.

20. The WHO commitments under this programme included for 1953 funds for personnel as well as for a limited amount of equipment for the Homs Centre. The WHO Advisory team consists of: One malariologist, one entomologist and one sanitarian. The equipment and supplies provided by WHO comprise laboratory equipment, material for special research work, library, sprayers, transport and insecticides.

21. For 1954, WHO has budgeted under Technical Assistance Priority I the necessary funds to continue the advisory services. In addition to this, WHO has budgeted \$44,203 for the Bilharzia/Malaria Project in the Djezireh/Deir-el-Zor area, in which a sanitarian for malaria activities is included, and for which some laboratory supplies and equipment have been purchased in 1953. These were from WHO Regular Funds.

WHO Approval

22. The Director of the WHO Regional Office has given his technical approval of this plan.

Tri-Partite Plan

23. Should this recommendation be approved a detailed plan of operations as outlined above will be agreed among the Government, WHO and UNICEF.

Previous Allocations

24. UNICEF aid to Syria to date totals \$250,700 as follows :-

	<u>Shipped</u>	
	<u>Through 1953</u>	<u>1954 and After</u>
MCW	\$ 29,700	\$ 26,200
Malaria Control	22,000	1,000
Bejel/Syphilis Control	9,700	72,300
Mycosis Control	-	40,000
BCG Vaccination	<u>49,500</u>	<u>300</u>
<u>Total</u>	<u>\$110,900</u>	<u>\$139,800</u>

UNICEF Representation

25. Syrian projects are served by visits from the neighbouring UNICEF office in Beirut.

Recommendation.

26. The Administration recommends, subject to the availability of funds :
- (a) the apportionment to Syria of \$56,000 from the Eastern Mediterranean Area allocation for the continuation and extension of the anti-malaria programme through 1954;
  - (b) that the Administration be authorized to approve a plan of operations as outlined above.