



UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL



LIMITED

E/ICEF/L.910
23 February 1956

ORIGINAL: ENGLISH

UNITED NATIONS CHILDREN'S FUND
Programme Committee

Recommendation of the Executive Director for an Allocation
LEBANON
Malaria Eradication

1. The Administration recommends an allocation of \$20,000 for the provision of DDT, sprayers, laboratory equipment and transport to Lebanon for the conversion of an anti-malaria campaign into a five-year eradication programme 1956-61, ensuring the protection of 300,000 persons living in potentially malarious areas, out of the country's population of 1,300,000. The equipment and supplies to be furnished by UNICEF will represent part of the programme's requirements, the balance being provided by the Government. The insecticides would provide for the spraying seasons of 1956 and 1957. The Administration also recommends approval in principle of the entire project, for which a further allocation would be requested mainly for insecticides. The amount would depend on the extent to which it is possible to interrupt spraying after 1958, and would probably be between \$5,000 and \$15,000 depending on the technical requirements.

2. The estimated cost of the programme to the Government for 1956 is LL.316,000 (U.S. \$97,500). A request for a special budget line for the programme has been presented to the country's legislative body by the Government. The cost for the following years would be similar, until it is possible to interrupt spraying after which surveillance would be continued at a lesser total cost. Two allocations amounting to a total of \$14,000 (excluding freight) were previously made to the programme for the years 1953 and 1954 (E/ICEF/L.576 and E/ICEF/R.355). Assistance for 1955 was not requested from UNICEF.

The present problem:

The present problem: a low but constant endemicity

3. A WHO Demonstration and Training Team, which arrived in September 1951, helped in the initiation of a country-wide anti-malaria programme replacing the spotty protection measures undertaken previously; they concluded their work in December 1953. Since then the programme was continued along the lines recommended by that team and under the supervision of technicians trained by them. In 1955, the work was carried out in 450 villages where 142,000 persons were protected through residual spraying and 120,000 through anti-larval measures, the latter involving the treatment of a cumulative total of some 1,400,000 square metres of water surfaces. The vectors are A. sacharovi, A. superpictus, and A. sergenti.
4. The epidemiological surveys made in 1955 revealed that malaria endemicity has been tangibly reduced throughout the country since 1951 especially in the northern districts along the Syrian border where the disease was hyperendemic for many years. Among 14,790 persons examined, the parasite index for infants was 0.36 per cent; for children 1-12 years old, 0.26 per cent; and for adults 3.0 per cent. The general low endemicity was slightly upset, however, by two outbreaks of localized epidemics recorded during the last two years, the one in two small villages of South Lebanon where new irrigation works have been introduced, and the other among labourers working on a hydro-electric scheme on the "Nahr Ibrahim" River in Mount Lebanon. Immediate measures were taken by the Health authorities and these foci of infection were subsequently neutralized.

Eradication programme

5. Taking the above facts into account, Dr. Paul F. Russell, WHO Special Consultant, pointed out during his visit in September 1955 to Lebanon that, unless anti-malaria activities are directed towards the eradication of the disease, this state of low endemicity and occasional epidemics now prevailing in Lebanon could continue indefinitely, while at the same time the danger of the local vectors' becoming resistant to the insecticides used would be growing rapidly. It was subsequently agreed that a five-year eradication programme be worked out and implemented, beginning in 1956. The WHO Demonstration and Training Team had estimated that the work initiated with their help in the country (1951-1953) should constitute the first phase of an eradication programme that would end in /1958. The

1958. The present prospects are that only limited spraying operations may need to go beyond 1958. In the meantime, however, extensive epidemiological surveys will have to be made, simultaneously with careful preparations for the establishment of an efficient surveillance set-up, in anticipation of the cessation of protection measures. For this purpose, the Government will increase the number of survey teams and set for them a yearly target of 50,000 spleen/blood examinations to be carried out in about 700 villages. These teams will be stationed in four Malaria Centres which are to be established in the country's four Mohafazats and will function under the supervision of local district medical officers. UNICEF has been requested to provide microscopes and two small vehicles for the work of these survey teams.

6. The eradication programme involves increasing the number of people protected from 260,000 to 300,000, and a more than proportionate increase in personnel to provide also for surveillance. The malaria branch budget of LL 316,000 for 1956 compares with LL 100,000 for 1954. Lebanon, like the neighbouring countries, is seeking assistance from UNICEF for the increased costs of eradication.

Methods and protection figures

7. In the past two years almost equal importance was attached to residual spraying and larviciding as protection methods. For the eradication programme, it is planned that more stress be laid on the residual spraying method whereby an estimated 200,000 persons will be protected yearly while 100,000 persons will be protected through larvicidal measures. For 1956, six tons of DDT 75 per cent would be provided by UNICEF, the balance being supplied by the Government. UNICEF has also been requested to furnish two trucks and 60 sprayers.

/Work of bilateral

Work of bilateral and private agencies

8. Except for UNRWA's protection work in the camps of Palestinian refugees, the responsibility for all anti-malaria activities so far carried out by private and bilateral agencies on a limited scale in certain parts of the country has been assumed by the Government.

Plan of action

9. The malaria eradication programme in Lebanon is planned to cover simultaneously, through five consecutive years, beginning in 1956, the country's endemic areas where epidemiological investigations have established that approximately 300,000 persons are exposed to the risk of the disease. Operations covering these 300,000 persons will be carried out in the following manner :

| <u>Area</u> | <u>Number of persons to be protected</u> | |
|----------------------------|------------------------------------------|--------------------|
| | <u>Residual Spraying</u> | <u>Larviciding</u> |
| Mohafazat of North Lebanon | 70,000 | 20,000 |
| Mohafazat of Mount Lebanon | 45,000 | 35,000 |
| Mohafazat of South Lebanon | 50,000 | 25,000 |
| Mohafazat of Bekaa | 35,000 | 20,000 |
| | <u>200,000</u> | <u>100,000</u> |

Total:

300,000

10. Malaria Centres with laboratory facilities will be set up in the four Mohafazats of the country under the supervision of local Government medical officers who will be assisted by one public health nurse and two

/malaria technicians

malaria technicians for each centre. The personnel of these centres will constitute permanent survey teams who will be in charge of their respective Mohafazats of malarimetric investigations and protection operations; including distribution of anti-malarial drugs. In due course, these teams will be responsible also for the implementation of the epidemiological surveillance arrangements under the overall supervision of the Malaria Eradication Office established at the Health Department's "Quarantaine" of Beirut.

11. The Government will request WHO to send periodically to the country short-term consultants and/or malaria assessment teams who will check on the progress of the campaign and give such technical advice as will be required, particularly in respect of the possible discontinuation of protection operations in areas where it will be established that transmission has been interrupted for not less than three consecutive years. The WHO experts will also advise on the permanent arrangements to be made with regard to the establishment, early in 1957, of epidemiological surveillance throughout the country well in advance of any cessation of protection operations.

12. Surveillance will be organized in such a manner as to be able to detect and treat all autochthonous and/or imported cases of malaria. The technicians will confirm microscopically, and carry out epidemiological investigations in respect of every clinical case of malaria reported. For the proper functioning of these arrangements, malaria will be entered among the notifiable diseases.

13. In 1956 and the following years malarimetric investigations will be continued and intensified so that a precise epidemiological record may be compiled on the country's 700 villages estimated to be exposed to the risk of malaria. A yearly target figure of 50,000 spleen/blood examinations is set in connexion with these investigations. The strategy of the campaign may be re-adjusted in accordance with the findings of the surveys in question.

16. The programme

14. The programme will be conducted by the Government through the Malaria Eradication Office to which full administrative, financial and transport autonomy will be granted.

15. The medical, technical and supervisory personnel attached to the programme, including foremen, will be given permanent appointments or will be employed under five-year contracts.

16. A Malaria Eradication Advisory Committee will be set up with the following membership:

Chairman: Director General, Ministry of Public Health, or his delegate.

Members: Chief, Technical Services, Ministry of Public Health.
Chief, Engineering Section, Ministry of Public Health
Chief, Malaria Eradication Office, Ministry of Public Health.
Professor of Preventive Medicine, Public Health School,
American University Beirut
Professor of Sanitation, Public Health School, American
University Beirut
Professor of Hygiene, French Faculty of Medicine

This Committee will convene periodically to review the progress of the work and to advise on the technical and operational problems that will be encountered in the execution of the programme. The Chief of the Malaria Eradication Office will act as Rapporteur for the Committee.

17. With the assistance of the WHO Regional Office for the Eastern Mediterranean, the programme will be fully co-ordinated with anti-malaria work in neighbouring countries.

Target Time Schedule

18. The target time schedule is as follows:

- Mid-February 1956 : (a) Recruitment and training of technicians and public health nurses constituting new survey teams.
- (b) Establishment of Malaria Centres in the country's four Mohafazats.
- 20-31 March 1956 : Recruitment and training of labourers.
- 1 April 1956 : Residual spraying operations to begin along the entire coast and to converge gradually towards the Bekaa plain.
- Mid-April 1956 : Arrival of UNICEF equipment and supplies.
- End May 1956 : WHO malaria short-term consultant or assessment team to visit country.
- End June 1956 : Conclusion of residual spraying operations.
- 1 July-30 Nov. 1956 : Conduct of protection operations through larvicidal measures.

Target dates corresponding to those set above for the commencement and conclusion of protection operations will be maintained in 1957 and the following years.

Commitments of the Government

19. The Government will take the necessary measures for making available an autonomous budget covering its five-year obligations in the programme not later than January each year. This is a condition for implementing the present allocation. These obligations are estimated at L.L.316,000 per year and will cover, in particular:

- (a) Premises : for the headquarters of the Malaria Eradication Office and for the four Malaria Centres of the Mohafazats.
- (b) Personnel: 1 Sanitary Engineer. 4 District Medical Officers
1 Qualified Entomologist to supervise the four
4 Public Health Nurses Malaria Centres in the
15 Sanitaricians, blood and Mohafazats
insect technicians 2 Inspectors.
40 Foremen recorders 8 Spraymen
40 Carrier mixers 10 Supervisors.
4 Mechanics 4 Storekeepers
12 Drivers

/(c) Transport

(c) Transport:

- 2 Trucks
- 2 Pick-up cars
- 2 Landrovers.

(d) Equipment:

- 40 Sprayers
- 1 Binocular microscope
- 2 Monocular microscopes
- 2 Small dissecting microscopes

now at the Headquarters of
the Malaria Eradication Office

(e) Insecticides (for 1956):

- 1 1/2 tons Dieldrin 50%
- 2 tons DDT 75%

(f) Anti-Malarial Drugs

Commitments of UNICEF

20. UNICEF would provide the following:

(a) Transport:

- 2 Trucks (2 1/2 tons) with spares \$ 5,000
- 2 Station Wagons with spares 3,000

(b) Equipment:

- 60 Sprayers with spares and extension rods 1,400
- 4 Monocular microscopes } for Malaria Centres 1,000
- 4 Simple dissecting microscopes) in the Mohafazats

(c) Insecticides (for 1956 and 1957)

- 12 Tons DDT 75% 6,000

(d) Contingencies

Total Supplies and Equipment 18,000

Freight 2,000

Total Recommended Allocation \$20,000

21. Subject to the Government making the necessary administrative and financial arrangements for the implementation of the five-year malaria eradication programme, UNICEF will continue its assistance to this programme up to five years, if technically required, with the above types of supply, for which additional requirements would be mainly insecticides.

/WHO's participation

WHO's participation and technical approval

22. This project has the technical approval of WHO. WHO will provide from its Expanded TA budget the following:

- (a) Personnel: 1 Short-term consultant for 1956 and additional advisory and assessment services as will be agreed upon with the Government.
- (b) Fellowships: 2 fellowships for one sanitarian and one laboratory technician (6 months each)
2 fellowships on surveillance techniques for Chief, Malaria Eradication Office and for Malariologist.

Per caput cost

23. The yearly cost to the Government, UNICEF and WHO would amount to the equivalent of \$105,000 for each year that it is necessary to continue spraying and larviciding operations. This is equivalent to \$0.35 per person protected.