UNITED NATIONS

ECONOMIC AND SOCIAL COUNCIL

Distr.
LIMITED

E/ICEF/L.974
25 September 1956
ENGLISH
ORIGINAL: FRENCH

UNITED NATIONS CHILDREN'S FUND
Programme Committee

Recommendation of the Executive Director for an Apportionment

TUNISIA

Pilot project on anti-tuberculosis chemotherapy 1/

1. The Administration recommends the apportionment to Tunisia of $50,000 for the purchase and transport of supplies, X-ray equipment and vehicles for a two-year pilot project on anti-tuberculosis chemotherapy and chemoprophylaxis from September 1957 to September 1959.

2. The purpose of this project, which was prepared in accordance with the recommendations of the UNICEF/WHO Joint Committee on Health Policy, is to make a detailed study of pulmonary tuberculosis in a clearly defined quarter of Tunis with 50,000 inhabitants. After a systematic examination of the entire population of this urban district, persons found suffering from the disease will be given ambulatory treatment with INH. Contacts and suspected cases will also be examined at regular intervals. The purpose of this pilot project is to perfect effective and economical anti-tuberculosis techniques which can later be applied to the rest of the country.

3. WHO has agreed, provided that it has sufficient funds available, to participate in the project by sending four experts. The Government is to contribute the sum of $141,000 (over a two-year period) towards staff costs, accommodation, social welfare assistance, drugs etc.

The tuberculosis problem

4. A brief note on public health in Tunisia is annexed to this document. Tuberculosis is considered one of the most acute problems facing the public health service.

1/ First recommendation submitted for this project.

5. The mortality rate for pulmonary tuberculosis is still high, despite the considerable decline registered since 1948. According to official statistics for the city of Tunis there were

260 deaths per 100,000 inhabitants in 1948;
94 deaths per 100,000 inhabitants in 1953.

The use of new drugs in the treatment of tuberculosis has apparently changed the epidemiological table. The death of many patients has been retarded and, while the mortality curve is dropping, the morbidity curve is rising since the course of the disease now spreads over eight or ten years (instead of two or three), and case-finding, undertaken systematically, brings to light many previously unknown cases. The population therefore includes a large number of "surviving" tubercular adults who constitute that many more scurces of contamination for children, since, as a result of an extremely high birth rate (40 per cent), children "under fifteen years of age" represent one-half of the total population.

6. The tuberculosis indices confirm the prevalence of the disease. The following statistics have been recorded at Tunis:

6 months - 7 per cent	3 years - 18 per cent
1 year - 10 per cent	4 years - 22 per cent
2 years - 15 per cent	8 years - 50 per cent

At Sfax and Kairouan, 80 per cent of the children fifteen years of age showed positive reactions to the tests. As a result of examinations made in the schools between 1948 and 1954 it was found that an average of 30 to 40 children per 1,000 showed pathological pictures of tubercular aetiology. A systematic study of 3,840 children of working-class families (1950-1953) revealed that 104 out of 1,000 Moslem children were infected.

7. The general endemicity of tuberculosis can be evaluated only on the basis of these partial surveys. The Government estimates that 3 out of every 100 Tunisians are probably tubercular. That would mean that there are approximately 100,000 tuberculosis cases in the country as a whole and, hence, in view of the age pyramid in Tunisia, that there is a high potential of infection for the population.

Present anti-tuberculosis facilities

8. With regard to case-finding, the city of Tunis has three very active Anti-Tuberculosis League dispensaries (in 1955, over a 5 month period: 7,716 new registrations; 32,151 consultations and 1,393 cases of tuberculosis diagnosed). Mass examinations in schools are carried out by the school anti-tuberculosis dispensary and, in certain communities, by a mobile X-ray unit. Out-patient consultation by hospital tuberculosis services, certain private agencies and the health insurance societies also co-operate in this work. Outside of Tunis Government anti-tuberculosis dispensaries are in operation at Bizerte, Gabès, le Kef, Sfax and Sousse.

Vaccination

9. During the 1949-1951 International Anti-Tuberculosis Campaign in which UNICEF participated, 601,500 children between 1 and 19 years of age were tested and 265,700 were vaccinated. Four joint teams composed of Tunisian and international staff covered the whole country.

10. Since this mass campaign, BCG vaccination has been continued but on a much more limited scale as no permanent vaccination system was organized on a national scale. The Pasteur Institute at Tunis produces the vaccine which is administered by scarification, by intradermal injection and orally in 11 dispensaries and in hospital maternity wards and infants' departments.

11. With regard to facilities for treatment, there are 3 specialized services at Tunis with 750 beds, services in 6 regional hospitals with 380 beds and 20 infirmary-dispensaries with 150 beds. There are 4 preventoria with facilities for 330 children between 5 and 14 years of age. In addition to these services there are 13 X-ray centres.

12. Assistance in the form of food and clothing, which totalled 29 million francs last year, was given to approximately 1,000 tubercular patients and to their 1,400 children.

Pilot project on chemotherapy and chemoprophylaxis

13. In view of the magnitude of the problem and the excessive cost of the prolonged hospitalization of tubercular patients, the Government wishes to launch a pilot project on home chemotherapy using the new drugs. The purposes of this project would be:

(a) to study the effects of home treatment with INH, under the supervision of a social welfare worker, as compared with similar treatment in a hospital or similar institution;

(b) to study the effectiveness of the prophylaxis by comparing the development of tuberculosis in groups of treated and untreated contacts;

(c) to train specialized teams in home treatment and supervision;

(d) to evaluate the results obtained in order to apply this method of combatting tuberculosis to the city of Tunis and later to Tunisia as a whole.

Plan of operations

14. Place. The district selected for the project is Djebel Ahmar, a well-defined suburban quarter of Tunis that has developed since 1947 in a formerly vacant area measuring 800 by 300 metres where 50,000 persons live in very precarious economic circumstances as regards housing and sanitation.

15. Systematic detection. A map of the Djebel quarter has been prepared with the help of detailed air maps. A systematic survey will be made of the population as a whole and of the economic and social circumstances of each family. Each inhabitant will be given an X-ray examination by microphotography. In each doubtful case the diagnosis will include the taking of throat smears and an examination of sputum by the Pasteur Institute at Tunis.

16. Treatment. Persons diagnosed as suffering from pulmonary tuberculosis will be divided by statistical techniques into two groups of different size and will be treated with INH; some will receive the treatment in a dispensary to be established in Djebel Ahmar and the others will be treated in hospital. For this purpose the Government will set aside 100 beds in Tunis hospitals, and the tubercular patients will remain there until their sputum is negative and, if necessary, they will then be given ambulatory treatment. The patients treated directly at home will receive care for one year. Their way of living will remain unchanged except for assistance in the form of food and clothing. Provision has been made for the physician and the social welfare workers and assistants to visit the patients at home.

17. Contacts. At its ninth session (May 1956), the UNICEF/WHO Joint Committee on Health Policy dwelt on the importance of chemoprophylaxis for contacts of tuberculosis cases. The report states: "The Committee urged that the application of chemoprophylaxis to contacts of infectious tuberculosis cases be eligible for study in the pilot projects". In every case of tuberculosis detected, the contact families will be divided into two groups: the members of one group will be given chemoprophylaxis with INH under the conditions described in the preceding paragraph, while the other group will receive no treatment. These contacts will be given an X-ray examination every six months.

18. "Suspect" cases (cases with a pathological X-ray film but negative bacteriological test) are also to be divided into two groups, only one of which will receive treatment.

Evaluation of results

19. This first phase of the project will require two years, after which a fresh X-ray examination will be made of the entire population of Djebel Amhar in order to compare the number of tuberculosis cases at the end of the project with the number at the beginning. The prototype of the record cards for tabulating data will be prepared by joint agreement between the Government and WHO.

UNICEF commitments

20. UNICEF will provide the following supplies and equipment for the two-year project:

(a)	X-ray equipment		$ US	
	(i) Mass chest X-ray equipment, 70 mm, portable with accessories and generator	1	12,000	
	(ii) X-ray unit for fluoroscopy and radiography, stationary	1	4,000	
	(iii) Viewer for 70 mm film	1	100	
	(iv) 70 mm film for 120,000 exposures		3,200	
				19,300
(b)	Isoniazid (INH)			
	328 kgs in tablets of 100 mg			6,200

(c)	Laboratory equipment		$ US	
	(i) Centrifuge, electrical with tachometer	1	800	
	(ii) Inspissator	1	100	
	(iii) Binocular microscope	2	500	
				1,400
(d)	Vehicles			
	(i) Vehicle for transport of X-ray unit	1	2,800	
	(ii) Vehicle for supervision and liaison	2	2,000	
	(iii) Trailer for transport of generator	1	1,100	
				5,900
(e)	Miscellaneous			
	(i) Tent to shelter portable x-ray equipment and persons being examined	1	140	
	(ii) Plastic boxes for shipment of sputum to European laboratories for special research	100	15	
	(iii) Refrigerator containers, small size, for transport of biological specimens	24	20	
	(iv) Calculator, manual	1	125	
	(v) Record cards	240,000	2,000	
				2,300
(f)	Milk and vitamins			
	(i) Dried skim milk	400,000 lbs	no charge	
	(ii) Vitamin capsules	1,350,000	3,100	
				3,100
(g)	Sputum examinations	100 at $2.00		200
		Total supplies and equipment		38,400
(h)	Freight			
	(i) Supplies			3,600
	(ii) Milk			8,000
		Total freight		11,600
		TOTAL apportionment		$ US 50,000

WHO technical approval and participation

21. WHO has given its technical approval to this project.

22. WHO will supply the following staff, provided that the Government makes its request under the Expanded Programme of Technical Assistance:

1 doctor to undertake the technical organization of the project;
1 statistician;
1 public health nurse;
1 laboratory technician.

This staff will start work in July 1957 and will continue to work throughout part or all of 1958. If funds are available, WHO also proposes to provide two fellowships (total 9 months) for Tunisian doctors. WHO's contribution may be valued at $20,000 for 1957.

Government commitments

23. The Government's commitment is as follows:

	Annual expenditure Francs
Salary of full-time staff	11,300,000
1 doctor	
1 statistician	
2 assistant statisticians	
1 female social welfare worker	
10 female assistant social welfare workers	
1 X-ray technician	
3 secretaries	
2 drivers	
1 guard	
Provision, maintenance and fitting out of dispensary	2,600,000
Drugs	450,000
Assistance in the form of food and clothing (approximately)	10,000,000
Maintenance of vehicles	300,000
Bacteriological analyses	(not computed)
Francs	24,650,000

24. Government participation over a two-year period will therefore amount to the equivalent of $141,000. In addition, hospitalization costs (100 beds) will probably amount to approximately 35,000,000 francs per annum.

25. Time-table of operations

October 1956	Allocation by UNICEF Executive Board
March/May 1957	Delivery of UNICEF supplies
May/June 1957	Preliminary organization of the project
August/September 1957	Arrival of WHO personnel
September 1957	Beginning of operations
September 1957-autumn 1959	Duration of the project

ANNEX A

Some information on Tunisia

Note on the geography of the country

1. Tunisia is situated on the eastern "flank" of North Africa. It is bounded on the north and east by the Mediterranean and on the west and south by Algeria and the Sahara. It has an area of 155,830 square kilometers. The country, which is near Sicily, is at the crossroads of Africa and Europe, the Orient and the Occident.

2. The topography of Tunisia, which is very rugged in the north-west, levels off towards the Sahara Desert to the south and south-west.

3. The climate is temperate and warm to the north and along the coast and torrid in the south which is exposed to the dry, burning winds of the desert.

Population

4. The population totals 3,680,000 inhabitants, distributed as follows:

Tunisian Moslems	3,280,000
Tunisian Jews	70,000
Europeans (including 193,000 French)	270,000
Miscellaneous	60,000

5. The Moslem population, which is basically Arab by origin and influence, is growing very rapidly. The average birth rate is 40 per cent (double the rate of Southern Europe). Children and juveniles make up one-half of the population. The population is scattered unevenly throughout the country gravitating to the areas most abundant in natural resources, and is densest in the northern part of the country.

Economic conditions

6. The principal occupation in Tunisia, which was once the "granary of Rome", is agriculture. Tunisia's exportable resources, such as cereals, olive oil, wines, other agricultural products and some minerals, provide a relatively small return

on the foreign market. Agricultural output is at the mercy of great droughts, like those of recent years. As Tunisia must import a great many commodities essential to its economic life (coal, fuel oil, etc) as well as consumer goods, France has subsidized its foreign trade deficit for many years. The country's economic development has also received considerable impetus from many French investment funds.

History and administration

7. After centuries of Phoenician, Roman and Byzantine domination, the Arabs occupied Tunisia in the seventh century. The French Protectorate was not instituted until one thousand years later, in 1881. During the decade following the last war, Tunisia advanced rapidly towards independence. After a period of internal unrest, the Franco-Tunisian agreements granting the Tunisian Government a large measure of internal autonomy, were signed in August 1955. At present, the French Parliament is being asked to ratify the protocol, signed in March 1956, which grants Tunisia complete independence.

8. The Government of Tunisia consists of the President of the Council and the Ministries of His Highness the Bey. During the legislative elections held in April on the basis of universal male suffrage, the first National Assembly was constituted. At the regional level, the caidats, numbering about forty, which constituted Tunisia have now been regrouped into 14 circonscriptions (districts) which in turn are sub-divided into 110 sous-circonscriptions (sub-districts). Each circonscription is headed by a "vali" (governor).

Education

9. Owing to the impact of education in all fields, a few figures must be given here. At the beginning of the century, only a few thousand students attended Koranic schools. In 1920, the schools under the supervision of the Directorate of Public Education had an enrolment of 44,000. In 1940, the enrolment was 100,000 and, in 1954, despite the destruction of 200 schools during the war, school attendance reached 265,000. Schools were built with French help, and the Tunisian budget has financed the costs of operation which have been increasing from year to year.

10. Although school attendance is steadily rising, enrolment remains low, accounting for less than 50 per cent of the school-age population; This is particularly true of the enrolment of girls and school attendance in rural areas where the population is sparse and where, in many cases, the living conditions for young teachers are still very rudimentary.

11. There is no higher education in Tunisia. Technical and agricultural training is provided in specialized schools.

Public health

12. The pathology of Tunisia is typical of North Africa as a whole. Major deadly epidemics are things of the past and the main public health problems are tuberculosis, eye diseases (UNICEF has been assisting anti-trachoma campaigns since 1953; E/ICEF/R.312 and L.824), malnutrition (a problem which is now being studied by FAO), typhoid, timea and infant mortality (probably about 200 o/oo). Malaria is of less importance but it is apparently difficult to eradicate (3,740 cases were detected in 1954).

13. The administration of public health is under the supervision of the Minister in charge of that department. The Ministry acts through three principal directorates: the Directorate of Public Hygiene, the Directorate of Social Hygiene (in which the anti-tuberculosis services have a certain measure of autonomy) and the Directorate of Free Medical Assistance (for persons of limited means). At the local level, the chief- physicians of the caidats are under the direct supervision of the Ministry. The Pasteur Institute at Tunis serves as a public health institute for the country as a whole.

14. The public health facilities and staff of Tunisia, built up during the Protectorate, were as follows in 1951:

8 large hospitals with 110 to 1,100 beds each;

45 dispensary infirmaries with 4 to 20 beds, or a total of 5,372 beds (1.5 beds per thousand inhabitants);

529 certificated physicians, including 98 Tunisians;

234 certificated pharmacists, including 43 Tunisians;

145 midwives.
