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LIMITED

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Programme Committee

Recommendation of the Executive Director for an Allocation  
FRANCE (for ALGERIA)  
Control of Trachoma and Related Eye Diseases <sup>a/</sup>

1. The Administration recommends an allocation to France for Algeria of \$21,500 to provide antibiotics, sulfonamides, vehicles, soap and field supplies for the first or pilot year of a programme against trachoma and seasonal conjunctivitis to begin in 1956. The aim during the first year will be to treat 97,000 persons in Greater Algiers and Bou Saâda to the south, individual treatment to be given to 22,000 children in schools and mass treatment to 75,000 persons during the two annual conjunctivitis epidemics. A preliminary epidemiological survey has been completed, and the 1956 operation would serve in effect as a pilot project in which varying techniques would be employed to determine the best method for later use in Algeria in an overall national campaign. A National Trachoma Institute has been created which, together with the University of Algiers Eye Clinic will provide trained personnel and effect the technical supervision of the programme. For the mass campaign the Government will staff two special teams comprising ophthalmologists, medical officers, nurses and aids, and will provide temporary local help. The total Government matching commitment for 1956 is estimated at 43 million francs (U.S. \$122,857) including 39 million francs for personnel and 4 million francs for supplies and equipment.

2. In sectors other than Greater Algiers and Bou Saâda, mobile and fixed services developed by the Government in recent years will be maintained. A later request to UNICEF is anticipated to permit expansion of the campaign and treatment of a third of a million people in 1957. In the long run it is expected that all anti-trachoma work in Algeria will be fused and will gradually cover all twenty affected sectors.

a/ First request for aid to this programme.

/3. Some general

3. Some general background data on the geography, population, economy, and governmental and public health structure are attached to this paper as Annex A.

#### The problem of trachoma

4. Trachoma is considered the second most important public health problem in Algeria, coming after tuberculosis and before malaria and cancer. Indications of the incidence of eye diseases are based largely on hospital and dispensary records. The pattern of eye diseases in Algeria is characteristic of that for North Africa, with seasonal epidemic conjunctivitis occurring twice yearly (in May-June and in September-October), and a high incidence of blindness from trachomatous corneal ulceration.

5. Four fifths of the 30,000 cases of blindness in Algeria are the consequence of trachoma, and Government pensions to these blind run to \$3 million annually. Trachoma is most severe in those regions where secondary infections are prevalent. Its incidence therefore varies considerably from one part of the country to another. Data collected by the Health Department show some 20 to 50 per cent of the population as trachomatous in the more populated coastal areas and in the mountain areas, and 50 to 100 per cent in the scattered pre-Saharan communities.

#### National anti-trachoma efforts

6. Algeria has a large network of health institutions which, for the purpose of controlling eye diseases, have been sub-divided into twenty sectors. Each sector is under the technical supervision of an ophthalmologist who co-ordinates the activities of the two principal operating entities, the "Services de l'Assistance Médicale" and the "Services Médico-scolaires".

/7. The fixed

7. The fixed units which are involved in trachoma control work are the following:

	Public Hospitals with Specialized Facilities	Anti-Trachoma Dispensaries	Small Anti-Trachoma Posts <u>a/</u>
Department of Algiers	7	15	-
Department of Oran	1	44	-
Department of Constantine	1	31	-
Southern Territories	-	28	150
	<u>9</u>	<u>118</u>	<u>150</u>

a/ These small anti-trachoma posts are known as "biout el ainin", the "eyes' houses".

8. Since October 1952 these fixed centres have been reinforced in a number of sectors by completely equipped ophthalmological units which seek out trachoma and related cases and provide treatment including minor surgery (trichiasis, iridectomy, enucleations) on the spot. The accomplishments of these mobile units from October 1952 through 1954 are shown in the table below.

Accomplishments of Mobile Anti-Trachoma Units in Algeria  
from October 1952 through December 1954

Sector:	In service: as of 31/12/54	Persons examined	Cases of Trachoma:				Treatments effected	Trichiasis operated
			Tr.I	Tr.II	Tr.III	Tr.IV		
Sétif	27 months	48,600	9,200	4,500	6,300	4,700	1,201,000	423
Orléansville	24 "	17,800	3,400	6,400	1,600	730	86,800	182
Tizi-Ouzou	12 "	15,400	2,200	4,300	4,500	5,000	191,000	90
Batna/Biskra	9 1/2"	10,700	2,200	2,000	2,600	1,900	130,000	82
Tlemcen	8 1/2"	5,300	400	400	1,000	500	33,400	47
Bougie/Djidjelli: unit seconded to Orléansville earthquake disaster in 1954.								
		<u>97,800</u>	<u>17,400</u>	<u>17,600</u>	<u>16,000</u>	<u>12,830</u>	<u>1,642,200</u>	<u>824</u>

/9. The Sétif

9. The Sétif sector has been considered as the pilot sector for a mass attack on trachoma. The case-finding and treatment in schools has been intensified and 19,500 children were treated for the most serious forms of trachoma from December 1952 to December 1954. The mobile units have concentrated on treatment of advanced stages of trachoma and its complications but have done little to reduce the overall incidence of conjunctivitis and of trachoma. The mobile campaign is necessarily limited by the high cost factor since each mobile unit costs approximately \$40,000 per annum for depreciation and operation.

#### Development of plan of operations

10. In the course of a joint WHO/UNICEF visit to North Africa in 1952, the possibility of UNICEF assistance to anti-trachoma developments in Algeria was studied. At that time, under a policy established in April 1952 by the Joint WHO/UNICEF Committee on Health Policy (JCHP), UNICEF assistance for trachoma control was restricted to a small number of carefully selected and limited pilot areas (E/ICEF/192, paras 30-35).

11. Following initial experience in pilot projects in Morocco and Tunisia and in other countries, the JCHP recommended in May 1954 (E/ICEF/263, paras. 19-21) that UNICEF assist new projects in areas having similar epidemiological conditions to those already dealt with through successful pilot projects, which was the case in Algeria in relation to Morocco and Tunisia. In November 1955 the WHO Regional Trachoma Adviser and a UNICEF representative visited Algeria to begin discussions of a plan of operations.

12. The plan proposed below (paragraphs 14 to 19) covers the period January-December 1956. General agreement has also been reached concerning 1957 operations but it is necessary that the experience of new methods and different antibiotic formulas to be tried out during the first half of 1956 be available before working out 1957 requirements. The general plan for 1956 and 1957 is that international assistance will be used in four sectors (other than those served by the Government mobile ophthalmological units) and in a limited area in the Southern Territories. In the WHO/UNICEF-assisted sectors, mass campaign and school campaign methods will be similar to those which have proved successful in Morocco and Tunisia and which have been supported by the Second Expert Committee on Trachoma (WHO/Trachoma/67, October 1955). / 13. The...

13. The WHO Expert Committee in the report referred to above recommended that a trachoma control programme be developed in four stages, namely:

- a) preliminary epidemiological survey;
- b) pilot project with varying techniques;
- c) the mass campaign itself; and
- d) integration of the project into the normal activities of the public health service.

With respect to Algeria it may be considered that the first of these steps has been completed. The proposed 1956 operations would fulfill the second, or pilot project step. Step three will be developed beginning in 1957. There are good prospects that step four (the integration of the project into the regular public health service) can be assured in the future thanks to the already important network of government services and the output of ophthalmologists from Algiers University.

14. The plan for 1956; As indicated above the plan of action for 1956 falls into two parts: the school campaign and the mass campaign:

- a) School campaign against trachoma - This campaign will aim to treat 22,000 children, to eliminate the contagious state of the disease, and to cure trachomatous cases as rapidly as possible with the minimum of sequels and complications.

The campaign will be identical to that in Morocco and Tunisia and will involve systematic screening, collective treatment and surveillance for two years in the schools. Screening will be carried out by the School Health doctors and Sector Ophthalmologists. Treatment will be applied by the teachers under the frequent control of the ophthalmologist and nurses. In schools with an index of over 70 per cent of trachoma, all pupils will be treated.

20,000 children will be treated in Greater Algiers and 2,000 in the Bou-Saâda oasis, 200 kilometres south of Algiers. While the majority of the children will receive treatment with antibiotics as applied in similar campaigns in other North African territories,

/some 3,000

some 3,000 children will receive treatment with sulpha drugs for a comparative study of results with those obtained from antibiotic treatment. A certain quantity of drugs has been received from manufacturers free of charge to help carry out this experimental work. Treatment schedules shall consist of two periods of twenty days, one month apart.

Details of treatment will be recorded on standard WHO/UNICEF individual record cards to facilitate international comparative analysis of results.

- b) Mass campaign against conjunctivitis - As in the other North African countries, the entire population of a given area (in this case Bou-Saâda Sector, comprising 75,000 people in the town and in fourteen hamlets) will receive collective treatment with antibiotics twice daily, for five consecutive days during each of the two annual epidemics of conjunctivitis (May-June and September-October). In 1956, however, the September-October cycle only will be carried out.

Treatment will be applied by two main teams each consisting of: the sector ophthalmologist, a senior male nurse ("Adjoint technique de la Santé"), two nurses, a secretary, three drivers, a handyman, of which the latter four may also help with treatment. Further help will be recruited locally on a temporary basis.

The population to be treated will be assembled in groups of 500/1,000 persons corresponding to the sphere of influence of local chiefs. Each group will be treated by a "sub-team" of two persons since the entire treatment of 75,000 persons has to be carried out in the two months. One large and two very light vehicles are required per team to ensure that this target can be met.

Immediately prior to, as well as during the two cycles of mass treatment, propaganda and health education work shall be carried out by a specialized mobile team utilizing films, leaflets, etc. The programme will be prepared in close collaboration with the medical and civil authorities involved in the campaign. During the school year, teachers and pupils will be encouraged to participate in health educational activities.

/Since sporadic

Since sporadic sudden epidemics are the cause of considerable blindness, a special team will be organized, entirely from Government resources, to be despatched to reinforce the sector ophthalmologist where any epidemic outbreak of gonococcal conjunctivitis may occur.

15. Applied research and evaluation of results - The Trachoma and Tropical Ophthalmological Institute of Algiers will ensure, in connexion with a field base at Bou-Saâda, the following:

- a) Study monthly, in three untreated villages, over the course of a year, of seasonal variations of conjunctival infections amongst 150 pre-school children in each village;
- b) Study of the characteristics of the reappearance of infection at specified intervals after mass treatment;
- c) Establish, in a typical community of some 5,000 people in the as yet untreated Bou-Saâda sector, the incidence and nature of eye diseases in all children under six. Thus at any date henceforth, the ocular condition of children born during or after the mass campaign can be compared with exact pre-campaign data.

Simultaneously with treatment work, the Government will undertake to carry out active field research to establish the most efficient and economical treatment, schedules and methods.

16. Training: The University of Algiers Eye Clinic is a great potential asset to the campaign. It is long established, well run, well equipped and housed in a large new building of tropical ophthalmology. It holds post-graduate courses in ophthalmology and trachomatology and grants diplomas in each, following a three-year course and stiff examination under the auspices of the Ministry of National Education in Paris. These courses provide a small but steady stream of young ophthalmologists, with good training and experience in local problems, for field work, and an adequate supporting staff for the National Trachoma Institute.

/17. UNICEF Commitments

UNICEF commitments

17. UNICEF commitments for the proposed programme for 1956 would be as follows:

a)	<u>Drugs</u>	
	Aureomycin, 84,000 cc. in oil suspension	\$3,500
b)	<u>Diagnostic equipment</u>	1,200
	1 biomicroscope	
	loupes, hand slit lamps, retractors	
c)	<u>Record cards</u> 8,000	300
d)	<u>Educational films</u>	1,100
e)	<u>Soap</u> 50,000 tablets	1,200
f)	<u>Transport</u>	10,700
	Carryall	2
	2 CV Citroen	5
	Scooter	3
	Spares for carryalls	
g)	<u>Contingencies</u>	1,500
	Total Supplies and Equipment	<u>19,500</u>
h)	<u>Freight</u>	2,000
	Total recommended allocation	<u>\$21,500</u>

WHO approval and participation

18. The proposed programme has the technical approval of WHO. WHO will provide under its Technical Assistance budget, Priority I, two fellowships for three months each, the services during two months of its Regional Trachoma Adviser, and during one month of a statistical expert to assist with evaluation of the campaign.

/Government commitments

Government commitments

19. The Government will provide the following at a total estimated cost in 1956 of 43 million francs (U.S. \$122,857):

a) Personnel:

- i) for the school campaign: a full-time ophthalmologist  
5 part-time ophthalmologists  
6 part-time practitioners  
17 nurses
- ii) for the mass campaign: two teams as described in paragraph 14 b) above, a total of 16 persons, including 6 of the nurses employed in the school campaign plus locally hired help.
- iii) existing health services of the Departments of Health and Education of the Department of Algiers.\*
- iv) The Adviser on Eye Diseases of the National Government.\*
- v) The Professor of Ophthalmology of the University of Algiers.\*
- vi) The staff of the National Trachoma Institute.\*

b) Supplies and Equipment

- i) All supplies and equipment which are not provided by UNICEF for the school and mass campaigns.
- ii) Maintenance and operating expenses of all transport, including the provision of spare parts for French vehicles.
- iii) The training laboratory facilities of the Trachoma Institute.\*
- iv) A fully staffed health education mobile unit, with cinema projector.

c) Miscellaneous administrative expenditures

20. In addition, the Government will, as indicated above in paragraphs 6-9, continue operations in sectors other than those covered by the internationally assisted plan, with a view to an overall national effort following 1957/58. As indicated in paragraph 1 of this recommendation, the eventual method to be employed in the national campaign will be determined during the 1956 or pilot phase of the programme.

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\* Not included as matching

## ANNEX A

Some Background Information on AlgeriaGeography and Population

Algeria is the largest territorial unit in North Africa, with a Mediterranean coastline of 620 miles, between Morocco and Tunisia, and a penetration in depth southwards into the Sahara of 2,000 kilometres. The greatest concentration of population is in the Tell or coastal area, the greatest density being restricted to the coastal towns. The eastern part of the country is more populated than the western. Many tribes and smaller population centres are found throughout the Atlas Mountains which roughly parallel the coast. To the south (the Territoire du Sud) the scattered desert communities and oases rapidly give way to immense stretches of the almost uninhabited Sahara Desert, Algerian territory covering roughly a third of the total desert.

The population of Algeria is ethnically heterogeneous. Side by side with the Berbers of Kabylie and the Aurès who are of relatively pure stock are semi-Arab Berbers, Arabs, Jews and Europeans. (North Africa is known to the Arabs as the "Islands of the Occident".) Of the 9.2 million inhabitants, 8.2 million are Moslems (Arabs and Berbers), and approximately 1 million of European origin. Most of the latter are Algerian-born, since European immigration, - from France particularly, - virtually ceased after 1918.

The rate of growth of the population is constantly increasing and is now over 2.5 per cent per annum. The estimated overall increase in the next ten years is 20 per cent, and in the next twenty years 45 per cent.

Approximately half the population is under 15 years of age. A quarter of the total population is of school age (6-14) which is twice the proportion in metropolitan France. 465,000 Algerian children were registered in schools in 1954, as compared to 240,000 in 1945.

Economy

In order to keep pace with the growth of population it would be necessary for the national income and new employment channels to increase at least three per cent each year. Various factors, chiefly the concentration of population at the coast, and other demographic factors, have until now prevented such economic expansion and have obliged a quarter of a million Moslems to seek employment in Metropolitan France in order to support their families who remain in Algeria.

The climate of the coastal areas, from the tempering influence of the sea, favours intensive agricultural development of wine grapes, cereals, fruit, tobacco and cotton. In the high steppe-like plateaus of the Atlas, agriculture is limited to the growing of cereals and esparto grass (of which shoes, cordage, baskets and paper are made), and sheep raising. As one progresses southward the aridity increases to extreme barrenness (apart from occasional torrential downpours which are lost to agriculture). Here the culture of dates is restricted to water holes and oases.

The adverse trade balance, characterized by a deficit in 1954 of 78 billion French francs (U.S. \$223 million) is explained by the following facts: The country is under rapid development. Its exports are chiefly agricultural and mineral: wine, cereals, horticultural products, cork, mutton, iron, phosphates, zinc and lead. Its imports are principally food for human consumption, petroleum products and products of industry. In 1954 imports included: petroleum products 31%, food products 25.9%, products of heavy industry 22.6%, raw and finished materials for agriculture and industry 16.7% and textiles and clothing 3.8%.

#### Administrative Structure

Algeria is a part of the French Republic. A Governor-General ensures the relationship between the French Government (Ministry of Interior) and the Algerian elected Parliament ("Assemblée Algérienne"). The country is divided into four "départements" (Oran, Alger, Constantine and Bône) which are organized on the same basis as those in France. The Saharan desert area (with 9% of the total population) is administered as the "Territoire du Sud", most of its public services being under military rule.

#### Public Health

Major Diseases: From 1830 (the date of the French conquest) until 1914, public health measures were aimed primarily at controlling typhus, smallpox, typhoid, the plague and cholera. Since the First World War, a major epidemic of smallpox was registered in 1926, and major epidemics of typhus in 1927 and 1941. A few cases of smallpox and typhus continue to be reported each year. Since 1914, malaria has come to the forefront of medical attention. Major diseases are reported in the following order of gravity: tuberculosis; trachoma; malaria, cancer; alcoholism; abnormalities of child birth.

Public Health Organization and Facilities: Originally established in 1861 under military doctors and expanded in 1878 under colonial medical officers, the first local hospitals were created in 1904. Since that date many important steps have been undertaken to improve and widen these services towards the present structure of the Health Administration.

The medical and social assistance in Algeria is executed through 273 districts, grouped in sectors, which are administered by Inspectors of the Algerian Public Health. Under the overall supervision of the Directors of the Department of Health, these inspectors co-ordinate the work of the doctors who are in charge of the 273 districts. 153 of these doctors are employed on a full-time basis, while 120 are part-time officials.

These doctors are assisted by 139 technical health assistants, 9 medical assistant volunteers, 147 social workers (of which 26 are under contract), 12 midwives and 43 medico-social volunteers.

A network of permanent health facilities, health centres and dispensaries and the clinics of existing hospitals are put at the disposal of the medical and social workers by the local authorities. Present plans call for the addition of 17 health centres and 23 dispensaries.

Meanwhile, 58 mobile clinics regularly serve those people who live too far away from the principal cities of the district. The Government has put 30 ambulances at the disposal of the communities in order to permit transportation of patients to hospitals, while agreements with local air clubs allow for urgent evacuations by air.

Over and above the remuneration of public health personnel, the Government carries 75 per cent of the operating expenses of free medical assistance amounting annually to approximately 650 million francs. The Government further contributes 65-80 per cent of the cost of building and equipping health centres and dispensaries.

Training Schools: Medical and para-medical personnel are trained in the following schools:

Algiers University's Faculty of Medicine  
School for "Adjoints Techniques"  
National Nursing and Social Worker's School  
School for Nurses and Auxiliaries  
Midwives' School  
Puericulture School

School Health Services are run by the Department of Education (Académie d'Alger) along the lines followed in France. The School and University health services in Algeria have, since 1948, operated through 72 school medical centres, of which 19 have X-ray units, 10 have anti-trachoma dispensaries and one has a mycosis dispensary. Staff consists of 28 full-time medical officers, 120 part-time doctors and 200 "adjoints techniques".

Social Security: Social Security is gradually being extended to cover larger groups of the population. In 1954 it included some 400,000 employees insured in the industrial, commercial and domestic trades.