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UNITED NATIONS CHILDREN'S FUND
Programme Committee

Recommendation of the Executive Director for an Apportionment to

BRITISH SOMALILAND*

Malaria Control

1. The Administration recommends an apportionment to British Somaliland of $16,000 for a programme to control malaria. UNICEF would provide four vehicles with spares, insecticides and sprayers and some tentage for the first three years of a programme of annual spraying which the Government intends to continue for a period of five years. The expenditure of the Government in carrying out the programme is estimated at $20,700 for the five years.

2. A description of the malaria problem and the Government's efforts to combat it are contained in Annex I, paragraphs 28 - 37. Somaliland medical authorities requested an examination of the problem following the 1951 malaria epidemic. The Chief Malariologist and Entomologist of the Malaria Unit of the East Africa High Commission (EAHC) visited the territory in 1951 and 1952, and their findings and recommendations have stimulated the development of the present proposal.

3. Pilot projects already carried out have convinced the medical authorities that a scheme to protect by residual spraying all the nomadic population moving into the Haud area each year is both desirable and feasible. Continued technical assistance and service from the EAHC Malaria Unit are assured for the proposed project, and technical advice and co-operation of WHO have been invited by the Government.

Proposed Plan of Operations

4. In order to prevent further outbreaks of the recurrent epidemics of malaria and to extend malaria-control work in the Protectorate with a view to the eventual complete protection of the population, the following programme is planned:

* First request for UNICEF aid to British Somaliland. Background information on the Protectorate is attached as Annex I

/a) Residual Spraying

a) Residual spraying of the mat huts of the nomads moving into the Haud;

b) Maintenance and extension, where necessary, of existing malaria-cont measures by larvicidal and residual spray methods in towns, settlements, and all traceable endemic foci in the permanent water area;

c) Continuation of free distribution of larvicidal briquettes and encouragement of the use of prophylactic paludrine among the population.

5. The spraying programme will be carried out annually over a period of three months and will be repeated for a period of three years, which may be extended to five years, should that be necessary. As epidemic malaria is not encountered every year, a shorter period would be inadequate to yield reliable information. The Government is prepared to continue the programme further out of its own resources if it eventually proves necessary.

6. The nomadic population involved is not less than 150,000 (and may be considerably more) in an area of some 10,000 square miles. About 3000/4000 encampments (karias) would require to be sprayed in the period between the move into the Haud and the onset of malaria. As the nomads move by stages, stopping a couple of days in places which offer grazing for their herds, they can be reached by quickly-moving mobile units.

7. Field operations would be carried out by four teams, each comprising one assistant health superintendent (to supervise and record the work) and four health orderlies functioning as two spraying units. UNICEF would provide one pick-up vehicle for each team. As suitable water supplies may not always be available, the vehicles are to be supplied with jerry-cans to carry 30 gallons. The average karia of up to 10 huts can be dealt with in five to ten minutes by two spraying units. Each team should be able to spray ten to fifteen karias per day, and the four teams should cover not less than 300 karias per week, completing the spraying operation within three months.

8. The teams will work under the general supervision of the Senior Medical Officer, who is the Public Health Specialist of the Protectorate. They will function from a series of base camps (tentage for which is requested from UNICEF), set up on the old-established camel tracks forming the boundary road between Somaliland and the Reserved areas of Ethiopia. This road runs from east

to west more or less through the centre of the Haud grazing area, and base camps at intervals of about fifty miles along it would enable convenient areas to be visited by the spraying teams. The rotation in which base camps are worked will vary, depending upon the parts of the Haud in which rain first falls.

9. On WHO recommendation, one spraying of DDT at 200 milligrams technical (267 milligrams of 75 percent powder) per square foot will be utilized instead of Gammexane and BHC, which have been employed in the pilot sprayings of previous years. The average akhal, with a diameter of ten to twelve square feet, has an internal surface area, allowing for internal partitions, of about 200/250 square feet. There are estimated to be some 40,000 akhals to spray. The approximate requirement of insecticide per year is 5,000 lbs. of 75 percent DDT.

10. In view of the highly complicated and extensive nature of malaria problems in the whole area surrounding the Reserves, it is believed that co-ordinated measures must eventually be worked out with the adjoining territories of Ethiopia and Somalia, to and from which infection may also be moving. The attention of WHO and interested governments has already been drawn to the need for such co-ordination, and it is possible that work in malaria control on a regional basis will be developed during the course of this programme.

/UNICEF Commitments

UNICEF Commitments

11. If this recommendation is approved, UNICEF will supply the following:

Landrover Pick-ups plus 10 percent spare parts (para.7)	each 4	$8,800
Jerry cans, 5 gallons capacity 6 for each Pick-up (para.7)	each 24	100
Tentage Ridge type 8' x 8' x 7' high (para.8)	each 4	400
Insecticide - DDT 75% wettable (para.9)	15,000 lbs.	3,750
Sprayers, including spare parts (para.9)	each 24	550
Contingency		1,000
		$14,600
Freight		1,400
	Total	$16,000

WHO Participation

12. WHO has given its technical approval to this project. The Government is interested to discuss the details of the plan with a qualified WHO malariologist and would welcome the co-operation of an international consultant to work with the teams during the epidemic season as well as subsequent visits to evaluate the programmes. WHO is very much interested in the unusual conditions obtaining in this problem, and it is expected that the Organization will provide a consultant to assist in the collection of pre- and post-operational epidemiological data.

Government Commitments

13. The cost to the Government of carrying out this programme, apart from the intensification of existing measures of control and training, is as follows:

/Salaries of personnel,

	Annual Cost
Salaries of personnel, traveling and incidental allowances	£ 1,080
Maintenance and running of vehicles	300
Transport of supplies	100
Total	£ 1,480

Total for five years = £ 7,400 or $20,700

Target Time Schedule

14. The Government wishes to commence the expanded spraying operations immediately preceding the rainy season of 1956, i e. February/March. Supplies and equipment should therefore arrive in Berbera by December 1955, with the exception of subsequent years' needs of DDT, which will be called forward according to requirements.

ANNEX I

BRITISH SOMALILAND - GENERAL BACKGROUND INFORMATION

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ANNEX I

BRITISH SOMALILAND - BACKGROUND INFORMATION

Geography and Physical Features

1. The British Protectorate of Somaliland lies on the north-east coast of the Continent of Africa, bounded on the north by the Gulf of Aden, on the east by the Italian Trust Territory of Somalia, on the south and west by Ethiopia and on the west by French Somaliland. The length along the coast is approximately 450 miles, while the width varies from 70 to 220 miles. Its area comprises about 68,000 square miles, somewhat larger than England and Wales.

2. Three-fifths of the country consists of a great interior plateau (the Ogo), intercepted from the narrow coastal plains by a limestone escarpment which rises abruptly from the north and slopes steadily to the south from a height of 4000 feet. "Tugs", or seasonal watercourses (wadis), which flow only in the rainy season, feed both sides of the ragne and the Ogo Plateau, south of the watershed, holds permanent shallow wells. The majority of the population and most of the livestock are based on this area.

3. South-east of the Ogo, is a belt of thorn wilderness and pasturage known as the Haud, which extends into Ethiopia and Somalia. Here, by a treaty with Ethiopia, British Somaliland enjoys common grazing use of a substantial area known as the Reserves. The tribes on the Ethiopian and Somalian sides of the frontier also pasture their livestock on the Haud and conflicts sometimes arise over grazing claims.

4. Over the entire Protectorate rainfall is small, and sporadic, ranging from 20 inches per year in the Western side to 5 inches in the east; droughts are not uncommon. The dry season lasts from December to March. The heaviest precipitation falls from April to June.

Demography

5. No population census has yet been taken in the Protectorate. The nomadic habits of the Somalis and their strong aversion to being counted have made a census both impracticable and inadvisable so far. The most recent official estimate places the population at 640,000.

6. The majority of Somalis, probably 85%, follow a nomadic life. Not more than 5% are engaged in settled agriculture in the limited arable areas. About 10% are congregated in the various townships, living an urban existence and dependent upon money economy. The population of the capital, Hargeisa, is about 40,000. The only other town of importance is Berbera, the main port and former capital, with an estimated population of 4,000.

7. The nomadic Somali normally lives on camel's milk with meat as an occasional supplement; on this diet he can walk long distances herding his livestock to pasturage or water. In many cases, when camel herds are away at the dry season grazing grounds, the women and children may be left behind at the permanent watering places in charge of the flocks (mostly Berbera sheep) and goats.

/Administration

Administration

8. The Protectorate is administered by a Governor, advised by a non-statutory council composed of the principal officers of the Government. In 1943 an Advisory Council was established with the object of bringing the Government into more direct touch with Somali opinion and associating influential Somali leaders directly with the Government. Membership of the Council is representative of all sections of the Community; the Chief Secretary presides at the meetings which take place at intervals - usually three times yearly. Although its functions are only advisory, the Council meetings give members an opportunity to discuss the conduct of public affairs and to obtain particulars of Government policy.

9. The Governor exercises control over the Protectorate's administration through the Secretariat which is under the direction of the Chief Secretary, who also holds the title of Commissioner for Native Affairs.

10. The territory is divided for administrative purposes into six districts, each district in charge of a District Commissioner. Functioning in association with the District Commissioners are Akils (Chiefs), who form the link between the District Commissioner and the people. Each Akil holds a traditional status within his tribe and is paid by the Government to explain and implement its policy and to maintain order.

11. The absence of cohesion among the tribes and their nomadic habits make very difficult any form of administration through native authorities. The Governor is empowered by a Local Authorities Ordinance of 1950, however, to constitute local authorities and to "charge them with the duty of maintaining order among the tribes or in the area of their jurisdiction". Some Akils have been appointed to be local authorities.

12. There are eighteen declared townships. In three of the larger ones there is a representative council which is at present advisory, with the exception of Hargeisa, where the council is gradually assuming responsibility. The basic conservancy and health services in each town are still administered by the Government, the local contribution to these services being negligible.

Economy

13. The Protectorate has virtually no industry - except for a small cannery in Berbera, the main product of which is tunny, no industrial undertakings exist. Trade is confined almost exclusively to the export of a few primary products (mainly livestock and animal products), and the import of foodstuffs and manufactured goods. The country does not produce sufficient food to meet the requirements of the population and flour, rice, cereals, dates and sugar form major items in the import list, with textiles and petrol following.

14. A pastoral economy is imposed on the people by the nature of the country. Little of the area is suitable for agriculture and agricultural schemes are being undertaken financed by Colonial Development and Welfare Fund, in an attempt to increase production by irrigation and the use of more suitable plants, so as to

improve general standards and attempt to meet nutritional needs. Camels are at present the most important of the domestic animals in the internal economy of the country. They provide large quantities of milk, meat and hides. The latter are used for local sandals, an essential foot protection in a country where thorn trees predominate. It is estimated that there may be one to two million camels and at least as many each of sheep and goats in the Protectorate. Some estimates range as high as a total of 13,000,000 livestock.

15. There is a widening unfavourable trade balance, imports exceeding exports by 90% in 1953.

16. The more important sources of revenue are: Customs and Excise, Licences, Trade Taxes, Fees, Rents and Posts and Telegraphs. The following summary* indicates the cost to the Protecting Government of administering the country:

	Revenue	Expenditure	Deficit
	£	£	£
1950/1	436,069	1,033,513	597,444
1951/2	518,257	1,097,447	579,190
1952/3	580,297	1,038,276	457,979

The deficits are met by grants-in-aid by the British Government. In addition, financial assistance is given by the Colonial Development and Welfare Fund.

Expenditure on Education and Health during the same three years was as follows:

	1950/1	1951/2	1952/3
	£	£	£
Education	31,346	38,486	43,385
Health	72,256	89,039	84,433

* Source: Colonial Office Report 1954

Education

17. Opposition by certain factions in the past has invalidated all attempts to introduce Western education. A change followed re-occupation of the Protectorate after the Italian invasion in 1940. Since then it has been the Government policy to provide education for the population so as to fit them for the kind of life they can reasonably hope to maintain. This policy is based on the nomadic pastoral character of the Somalis and the fact that there is little prospect at present of their means of livelihood being changed through extensive industrial development or agricultural expansion. All schools above the level of Koranic schools are Government institutions; there are no mission schools in the Protectorate.

/18. Health Problems

Health Problems and Medical Services

18. In the opinion of the Medical authorities, malaria, tuberculosis and pneumonia, as well as chronic undernourishment accentuated during the dry season, represent the major health problems of the country. The peculiar demographic and economic conditions of Somaliland with its very limited resources, have called for the establishment of specific priorities in developing health services. The Government has defined its policy and primary tasks in the formulation of the following guiding principles:

a) protecting the community against specific communicable diseases;

b) encouraging the adoption of adequate nutritional requirements;

c) improving sanitary and living conditions in the towns;

d) creating an informed public opinion on health matters;

e) developing maternal and child welfare services;

f) discouraging drug addiction in all its varied forms;

g) treating simply but effectively sickness and injury whenever and wherever they arise;

h) helping those permanently incapacitated by injury or disease.

19. The health services are administered by the Director of Medical Services who is responsible for the direction of the Government's health policy. The health staff is as follows:

One Director of Medical Services, one Senior Medical Officer, eight Medical Officers, one Matron, five Nursing Sisters, one Medical Storekeeper, one Hospital Secretary, one Laboratory Technician, one Senior Assistant Medical Officer, ten Medical Assistants, one Health Superintendent, 129 Dressers, thirty-eight Nurses and eight Assistant Health Superintendents.

20. There are seven hospitals in the country with a total of 685 patients or approximately one bed per 1000 population. In addition there is a mental hospital with accommodation for thirty to forty patients.

/21. Morbidity Data

Morbidity Data

21. The Annual Medical Reports of the Protectorate stress repeatedly that accurate assessment of the incidence of disease is not possible in view of the complications arising from the nomadic habits of the people. The incidence of disease reflected in the annual returns of the various district hospitals cannot be taken as a true guide, even of the urban population, but the following figures are of interest, showing the principal causes of death in the 7 hospitals:

	1949.	1950	1951	1953
Total deaths	202	138	607	158
Malnutrition	5	2	135	7
Tuberculosis	71	41	38	16
Malaria	10	12	44	2
Lobar Pneumonia	20	12	95	17
Bronchial Pneumonia	12	8	81	14
Gastro Enteritis	2	6	98	17

22. A severe famine in 1951 due to drought caused the Government to organize relief camps for mothers and children and old people, where supplementary feeding was provided. The rains in Spring 1951 came late and were uneven and were followed by a serious malaria epidemic in the interior, which showed itself within about one month after the start of the rains and reached its peak in July, receding in September. Mortality was approximately 2% among known cases. This year well illustrates the dangers of recurrent famine in the country and the lack of resistance of the people to disease when it is met.

23. Statistics reported from hospitals and out-patient departments for diseases treated in 1951 were as follows:

	cases
Respiratory diseases	24,861
Tropical ulcers	11,971
Conjunctivitis	9,806
Injuries (firearms, cuts, road accidents, etc)	8,419
Malaria	7,524
Venereal Disease	6,883
Diarrhea and Dysentery	4,675
Diseases of uncertain origin	4,086*
Diseases of the Teeth and Gums	2,376

* This may include a large number of malaria cases which have not been identified as such.

Supplementary Health Measures for Nomads

24. The Government has developed a scheme for training representatives from the nomads, nominated by the tribes themselves, and known as "Tribal Aids". The intention is to encourage by this means increased preventive and simple curative measures among the tribes. Each nominee undergoes a six-week's training course at a hospital. He is taught first-aid treatment of fractures and wounds, and learns to recognize the more common illnesses, such as malaria, pneumonia, ulcers, conjunctivitis and venereal disease. He is able to give simple curative and preventive medicines and to recognize cases which call for hospital or health establishment treatment. As few nomands can read or write the medicines are marked on a chart in the form of symbols or strokes. The elements of hygiene in the karia are also stressed.

25. These "Aids" have proved themselves intelligent and able to grasp the elementary fundamentals of first aid and simple diagnosis. They receive a certificate after training and a form which lists the drugs, ointments and bandages they receive. When their supply is exhausted, it is replenished at any dispensary or health centre on production of the certificate and form.

26. The Government has aimed to ensure that each tribe or sub-tribe has a number of such Aids, who live and move about with it. Although the qualifications and standard of the Aids are very elementary, the beneficial effects have been considerable both in effecting simple treatment and developing interest among the tribes in health improvements. Particular value has been noted in the recognition of signs of malaria and the treating of patients immediately with Paludrine.

27. The Government intends to continue and intensify this training and is considering the arranging of refresher courses. Some of these Aids have become valuable assistants to the Medical Department.

Malaria - The Problem

28. Malaria is believed to be the most important cause of death among the true Somali Nomads. The disease is seasonal and sometimes assumes severe epidemic proportions, in relation to the intensity and distribution of the main rains. No statistics of morbidity and mortality are available but in 1951, when the last major epidemic occurred, it was estimated that there were at least 10,-15,000 cases and that several hundreds of deaths took place.

29. After the 1951 epidemic, the Somaliland Medical Authorities requested an examination of the problem by the Malaria Unit of the East African High Commission, and the Chief Malariologist and the Entomologist of the Unit visited the territory in 1951 and again in early 1952. Their findings and recommendations have stimulated the proposals developed in this paper.

30. The country may be divided into four zones, each with its own characteristics relevant to Malaria (see map attached).

The coastal plain, from sea level to 1500 feet, is sandy swept by harsh hot winds and has little water or vegetation.

The foothill country, covering levels of perhaps 1500 to 3000 feet, provide the few examples of truly endemic malaria in Somaliland. The sandy beds of the numerous watercourses which intersect the hills carry water for varying lengths of time and provide pools during the rainy periods. The intensity of anophelism, however, never approaches that reached in the epidemic season of the South and East.

The Central plateau (described in paragraph 2) although more fertile, has little standing water at any time.

The southern grazing areas, lying between 3000 and 2000 feet or less, slope gently to the Ogaden (Ethiopia) and Southern Somalia, and provide the most important source of epidemic malaria in Somaliland - the many rain pools that form during rainy periods and give the herds their water supply. This area involves the whole of the South and south-east of the country.

Only two of the rainy periods are normally of significance in malaria transmission; that of April - June, which is widely distributed and accounts for half the annual rainfall; and that of July - September, which provides most rain for the West.

31. As already described some four-fifths of the population pursue nomadic poastoral habits. The various tribes or clans follow a fairly regular itinerary. During the dry season from December to March they gather near the permanent water supplies along the northern ridge of the plateau. In early spring, they follow the rains and the grazing that ensues and no immediate considerations such as the danger of illness are considered of any importance as compared with the welfare of the camels and other stock. They move in tribes or subsections of

usually not less than ten huts, called a karia. Each hut, or akhal, usually holds 4-6 people and consists of a stick framework, a few feet square, on which are laid grassmats or skins, with blankets inside. The akhals are easily transportable on one or two camels.

32. It has been established that each year, depending on the rainfall, the movement of the nomads, their physical state, and the extent of the spread of the vector or infected persons, there is an outbreak of Malaria in the Haud of varying severity. The nomads, in following the rains southwards, move into an infected area and encounter the first anopheline breeding. Malaria transmission continues for an average of two or three months, which is insufficient to develop effective immunity and the susceptibility of the adult Somali is revealed in the characteristic features of the endemic indices, i.e. the equality of rates in adults and children and the high level of the spleen as compared with parasite rates, as well as in the severity of the attacks from which they suffer.

33. Entomological investigations have revealed only one instance of anopheles surviving from year to year in the affected area after the rain and through the dry period.. Anopheles Gambiae were found in Berato and Harefon, the northern border of the Haud, on the southern fronter of Somaliland. The experts consider that this anopheles maintains itself on the northern border zone during the dry season probably much more than in the south-west area near Ethiopian Territory. From this northern zone, it is clear, a re-invasion of the Reserves takes place regularly, immediately after the rains, by a gradual spread of the residual breeding foci towards the interior.

Malaria: Efforts to meet the Problem

34. Although there is no specific anti-malaria organization in the Protectorate, work in malaria control has been carried out for many years by teams of up to five two-man units, working under the supervision of the Medical Officer of Health. Training of malaria control personnel is regularly conducted at Hargeisan by the Medical Officer of Health as part of the general training of his staff.

35. Larvicidal control is carried out in all major townships and free distribution of oil-impregnated briquettes is made to all persons prepared to use them in small settlements and watering points. Regular residual spraying is effected at several known endemic foci(underlined on the map), near the areas of permanent water supply, where also anti-larva control methods have been traditional.

/The use of

36. The use of prophylactic Paludrine is encouraged. It is imported duty free and merchants are encouraged to stock it. Wide publicity is given to the advantages of its regular use every year in the malaria season. It can be purchased in almost every settlement.

37. In 1953 an experimental extension of spraying by residual insecticides was begun over a segment of the nomadic population in an area south of Hargeisa ("A" on map). The method was to spray the mats and appendages of the akhals of the nomads. Four two-man teams, travelling in a three-ton truck were able to spray thirtyseven karias (approximately 350 huts), in two and one half days. The results were very satisfactory and further experiments were made in 1954. The response and co-operation of the population were good.

SOMALILAND PROTECTORATE.