KENYA

NORTH AND CENTRAL KAVIRONDO

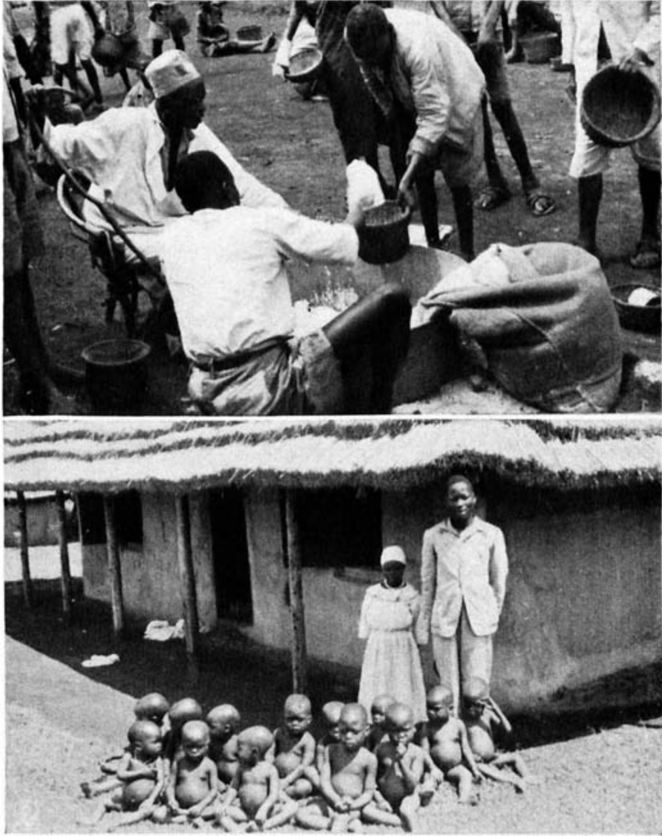
Kakamega Leper Camp. I arrived in Kakamega from Uganda on the 6th of June, 1938. On the 7th and 8th of June I visited the Leper Camp in company with Dr. Haines, and examined the patients and buildings. I found 170 inmates, 150 being patients and 20 children without signs of leprosy. I classify below the inmates under five categories, and subdivide these into men, women and children; deformed and undeformed. The five types were :—(a) open lepromatous (L_2 and L_3), (b) doubtful lepromatous requiring bacteriological examination to confirm, (c) with distinct tuberculoid patches, (d) with flat macules, (e) with no active signs.

Types		*Men*	*Women*	*Children*	*Totals*	
Open Lepromatous (L_2 & L_3)						
	(deformed)	9	2	—	11	
	(undeformed)	7	7	—	14	25
Doubtful Lepromatous						
	(deformed)	13	6	—	19	
	(undeformed)	10	3	—	13	32
Tuberculoid	(deformed)	13	4	—	17	
	(undeformed)	9	13	1	23	40
Flat Macules	(deformed)	12	13	—	25	
	(undeformed)	9	5	—	14	39
No active signs	(deformed)	6	5	—	11	
	(undeformed)	1	2	20	23	34
	Totals	89	60	21		170

One in six of the patients might be considered highly infectious. Probably one-third of the whole were infectious to a greater or less degree. Eighty-three were deformed and sixty-seven showed no signs of deformity. Many of the patients showed complicating skin diseases, such as scabies and tinea, the treatment of which would probably cause amelioration of the condition. The patients cultivate some of the surrounding land so as to supplement the diet supplied at the Camp. Some of them appear strong and healthy, especially those engaged in active work. Later in the report I have added a note on the treatment recommended. There are certain paid posts given to lepers in connection with the Camp : 1 dresser @ Sh. 15/-; 2 sub-dressers @ Sh. 7/6; headman @ Sh. 12/-; teacher @ Sh. 12/-; ayah for young children @ Sh. 5/-; 2 builders @ Sh. 8/- each; 1 dhobi @ Sh. 5/-; 6 labourers @ Sh. 2/-. The Camp is supported by a

Grant of £160 a year from the Local Chiefs' Council, and £330 from the Medical Department.

The daily diet allowance consists of mealie-meal 1½ lbs., chiroko bean 6 ozs., salt ½ oz.; there is also 8 ozs. of meat given twice weekly. This diet is supplemented by the agricultural produce of the patients.



At Kakamega leper camp: giving out mealie rations; the healthy children's creche and their faithful ayah.

Seventy of the patients have been in the Camp for 5 years or more, 31% of these have deteriorated, while 69% have improved or are stationary. The patients are housed in mud and thatch huts. The general sanitation of the camp is fairly good, though there appears to be a certain amount of overcrowding.

Of the 21 children, 8 are with their parents in their huts, and 13 are in a small creche where they are looked after by an African ayah. These latter appear to be remarkably healthy; they are from 2 to 4 years of age, and the ayah is to be congratulated

on her work. Only one of the children (that in the Camp) shows definite signs of leprosy—a tuberculoid lesion.

The Camp is situated within a few hundred yards of the General Hospital. This has the advantage of facilitating medical supervision, but it is too near the town and there is no room for expansion. I would suggest, for the improvement of the Camp as it exists at present: the treatment of complicating skin diseases; rubbing of the patient's skin with cheap bland oil, sulphur being added when necessary; encouragement of the patients to more frequent bathing; organisation of exercise and especially of various occupations; careful selection of cases for special treatment; the tuberculoid cases should do particularly well with intradermal injections.

Question of a new Settlement for North and Central Kavirondo. I went into the question of the adequacy of the present Camp for dealing with leprosy in North Kavirondo. Recent returns collected from chiefs give the number of lepers as 450 outside the Leper Camp, but this is possibly an under-estimate. According to these returns, leprosy is chiefly concentrated in the western locations, especially in Marach, Buhaya and Itino, which report respectively 42, 111 and 80 lepers, more than half the whole. I am told that while the eastern tribes of the district dread leprosy and drive out the lepers those in the west are more indifferent. This is a possible explanation of the relatively high number in the latter. I went, in company with Dr. Jobson, the Medical Officer, to Marach, where we met a number of Chiefs and members of the Local Native Council. I explained the nature of leprosy and, as an example of what might be done to control the disease, I described the methods adopted at Ongino in the Eastern Province of Uganda.*

Obviously, the present Leper Camp at Kakamega, though useful in segregating a certain number of infectious lepers, does not get down to the root of the problem. To do this it would be necessary to admit far more of the lepers in the district. The present Camp is more than full, and it would not be advisable to increase its present size because of its proximity to the town and the absence of sufficient cultivable land.

The most suitable plan seems to be to begin a new agricultural settlement on the lines of that at Ongino. Such a settlement, if situated between North and Central Kavirondo, could be utilised for the lepers of both districts, as there appears to be a considerable amount of leprosy in Central Kavirondo, though probably less than in North Kavirondo. In choosing a

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* See the Uganda Report, p. 41.

suitable site, there are certain points to keep in mind:—(a) sufficient land for building and cultivation; (b) sufficient water; (c) a healthy site, especially as regards malaria; (d) easy accessibility; (e) sufficient distance from towns or large villages; (f) proximity to a mission which will supply or sponsor the superintendence of the settlement. To make such a settlement a success there must be a suitable, trained, whole-time European worker.

I discussed the matter with the Medical Officers and the District Commissioner at Kakamega, and later with the Provincial Commissioner, District Commissioner of Central Kavirondo, and the Senior Medical Officer at Kisumu. It was suggested that a suitable site might be available at Bukura, where the present agricultural training school is situated. It is understood that there is a proposal to move this training school to another site. If this takes place, several hundred acres of land, two permanent houses, and a large number of huts would be vacated, and might be available for a leper settlement. The site is healthy and only some 24 miles from Kakamega. It is about 10 miles from Butere, where there is a C.M.S. Station, with a teachers' training school, and is within reach of Maseno where the C.M.S. has a medical mission.

I suggest that, if this site is available and the C.M.S. Mission is willing to co-operate, the B.E.L.R.A. should be asked to supply a suitable trained European health worker, similar to those who are so satisfactorily doing this type of work in Nigeria and elsewhere. His salary, which would be on the same scale as that of a missionary, would be paid by the administration to the mission for this special purpose. The site is in North Kavirondo, but near the border of Central Kavirondo. The settlement would be available for lepers from both districts. The expenses would be met by the Local Native Councils of the two districts and by a grant from the central Government. The able-bodied patients in the Kakamega Camp would gradually be transferred to the settlement, only disabled patients being retained in the Camp. Once the settlement was firmly established and peopled with able-bodied, hopeful patients, some of the disabled patients might gradually be transferred, till the Kakamega Camp could be finally closed down, the present grants to that institution being transferred to the settlement.

In addition to its effect in controlling leprosy, I would point out the importance from a general sanitary and from an agricultural point of view, of a leper settlement such as that at Ongino, on the lines of which I suggest that a Kavirondo Leper Settlement be formed. This means a large community living in

hygienic houses as approved by the Sanitary Department, and farming the land under control as advised by the Agricultural Department. Many of the patients, after spending some months or years under these conditions, would recover and return to their own villages, carrying with them improved methods.

SOUTH KAVIRONDO

On June 11th I crossed the Kavirondo Gulf to Kendu in South Kavirondo. There I visited the Leper Camp attached to the S.D.A. Hospital, in company with Dr. Madgewick of that Mission, and Dr. Carothers, the Government Medical Officer. There are now only 12 patients in this Camp, 8 of whom are highly infectious cases of lepromatous type. Dr. Madgwick has suspended admission of new cases pending action by Government. I discussed the leprosy situation with the doctors and with Chief Paul Umbova of the Karachuonya Location. He had lately sent in 170 names of lepers in his location, which has a population of about 30,000, but he considered that there were many others, probably 500 in all, in the location. If the latter figures are correct, it would make an incidence of 1.7 per cent. The Chief is of the opinion that leprosy is spreading. He says that up to 25 years ago people dreaded leprosy and drove out the lepers; now, they no longer fear the disease to such an extent, and the lepers are allowed to mix freely with the people. To this he attributes the high incidence and the increase of leprosy.

I described the Ongino Settlement, referred to above, (see p. 41), and Dr. Madgewick said that his Mission would be willing to carry on work on similar lines if the expenses were supplied. A suitable site for a South Kavirondo settlement was discussed. It was considered that suitable land would be available about 30 miles from Kendu on a site lying south of the road to Kisumu, between Oyngis and Miriu River, and near the boundary between South Karachuonya and Kisii. I discussed the question of this settlement later with the Provincial Commissioner and the Senior Medical Officer. They agreed that suitable land might be procured in this position and that the site would be healthy and have sufficient water.

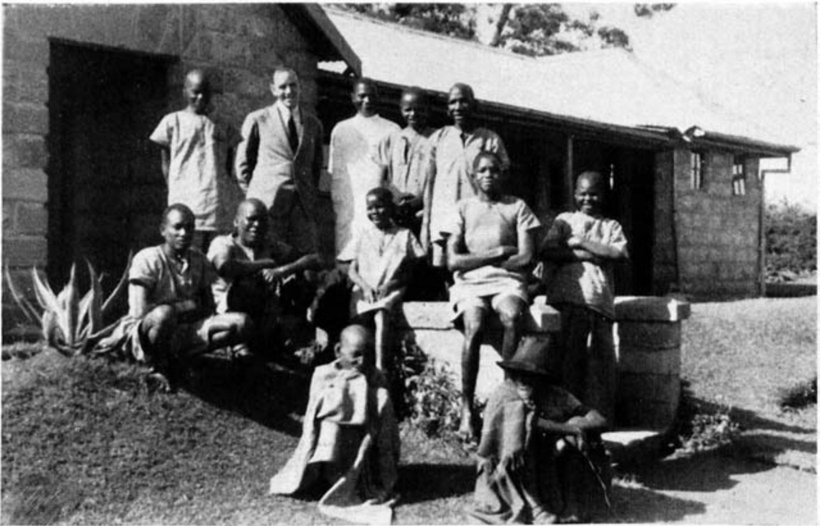
The opinion is held by all whom I consulted that the people of South Kavirondo would not be willing to go to a settlement in North or Central Kavirondo, and the people of the latter districts would likewise not be willing to go to a settlement south of the Gulf. Two settlements are, therefore, necessary to deal with the control of the disease.

For one in the north, there would be little need of capital

outlay at least at first, if the site mentioned can be obtained. But judging from the figures at the Ongino Settlement, an expenditure of about £500 a year in addition to £250 a year for the Health Worker, would be necessary.

For the southern settlement there would, in addition to a similar yearly expenditure, be the need for at least £1,000 of capital outlay for buildings, apart from any expense that there might be for acquiring the land.

As a stranger to Kenya, I feel diffident in putting forward the above suggestions. The opinion has been expressed that as the general hygienic condition of the people improves, such diseases as leprosy will gradually die out. Be that as it may it



The Church of Scotland leper hospital at Tumutumu.

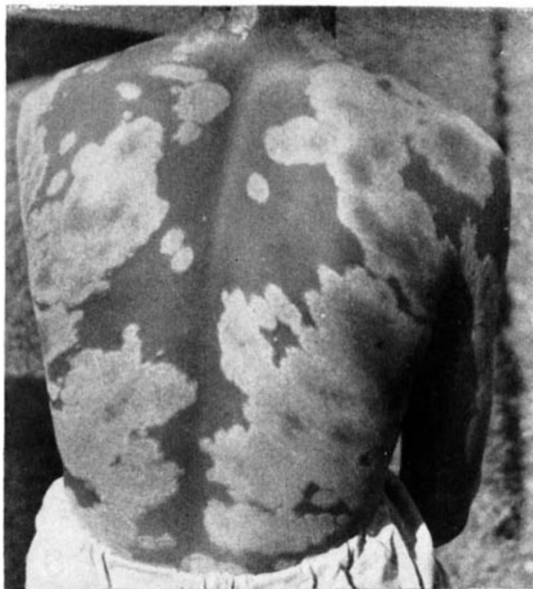
will be a slow process and can be hastened, and I would suggest that the other view be carefully considered, whether the establishment of one or two well-planned leper settlements would not be one of the best means of improving general hygiene.

LEPROSY IN CENTRAL KENYA

I arrived at Nairobi from Kisumu on the 14th of June. In the afternoon I visited the Infectious Diseases Hospital with Dr. Martin. There are 8 lepers in this hospital at present, 6 of whom are advanced open (L_3) cases. They receive symptomatic treatment as required.

On the 16th I set out by motor to visit the Nyeri and Meru Districts at the foot of Mt. Kenya. At Tumutumu I visited the Church of Scotland Mission Hospital under Dr. Brown. There

is a leper ward at a short distant from the hospital with 12 lepers, of whom I saw 10. Of these 6 were advanced open (L_3) cases, and 2 showed Tuberculoid lesions. Only one was a woman. Dr. Brown had recently persuaded the patients to take more active exercise, cultivating the garden and keeping the roads clear of weeds, etc., The majority of the patients, however, looked as if they required more exercise. The patients are lodged in a neat stone building divided into several rooms, two patients being lodged in each room.



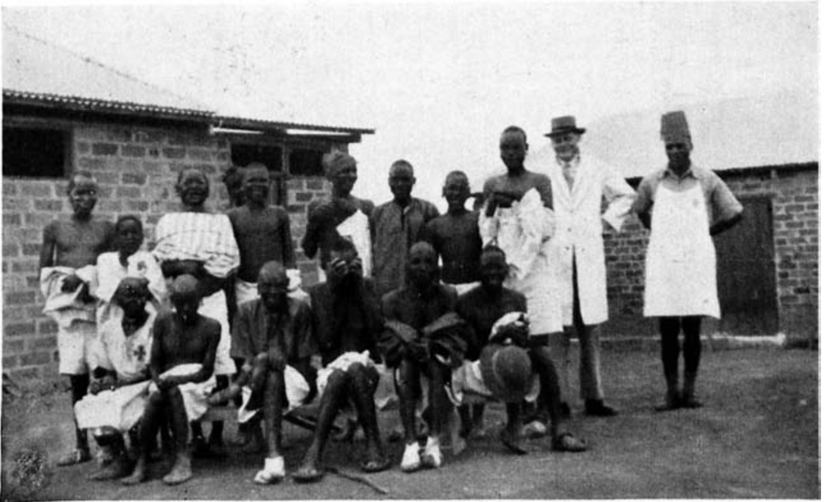
Geographic leprosy at Tumutumu (major tuberculoid).

The next day I went to Chogoria, wherė the Church of Scotland have a hospital under the charge of Dr. Irvine, There is a small leper camp at a short distance from the hospital. There I saw 15 patients, 5 others being absent on leave. Of these 20 patients, 9 were advanced lepromatous (L_3) cases, 1 was slightly infectious, 9 had tuberculoid lesions and 1 had no active signs. Dr. Irvine gives special as well as general treatment to the patients and several have already recovered and returned home. The patients are lodged in two buildings with separate rooms, the one building being used for infectious and the other for non-infectious cases.

Both at Tumutumu and Chogoria, one of the chief difficulties is to give the patients sufficient work and exercise, occupation therapy being the principal part of leprosy treatment. Their

arable land is at present not sufficient and more is difficult to obtain. It is hard to keep the patients actively employed without constant supervision, which it is difficult for the doctor, with his many duties, to supply. To make a leper settlement successful (as mentioned in the former part of this report) it is necessary to have a European whole-time health worker in charge, and to have the settlement sufficiently large (200 to 400 patients) to justify the employment of such a health worker.

The question arises whether there are in the Central Province sufficient lepers to justify the formation of such a settlement. Most



The Church of Scotland leper hospital at Chagoria.

of the medical officers whom I questioned were of the opinion that the incidence of leprosy in the Central Province is considerable, though less than in Kavirondo. I would suggest that a leprosy census be undertaken similar to that carried out in Northern Kavirondo. This could be done with the aid of the chiefs, medical assistants and others, and the missions could gather information by means of their medical assistants and school teachers scattered throughout the villages.

If the incidence is found to be sufficiently high, say some 2,000 cases, then an agricultural settlement similar to that recommended for North and Central Kavirondo, might be formed on a healthy site where sufficient arable land and water are available. The site would have to be central to the highly endemic areas and within reach of a Medical Mission which would undertake supervision.

THE COASTAL PROVINCE

Msambweni Leper Camp. On June 20th I went to Mombasa by train. The next day Dr. Proctor arranged for me to visit the leper camp at Msambweni, which lies about 34 miles south of Mombasa on the sea coast. I was shown round the camp by Dr. Wright, the District Medical Officer. It is about 2 miles from the hospital and is visited by the Medical Officer and Hospital Sister as required. A senior dresser, himself a leper, is in immediate charge. I examined the 42 patients and classified them as follows:—

		Men	*Women*	*Totals*	
Open lepromatous	(deformed)	16	2	18	
(L_2 and L_3)	(undeformed)	8	0	8	26
Slightly infectious (L_1)	(deformed)	1	0	1	
	(undeformed)	3	1	4	5
non-infectious	(undeformed)	0	0	0	4
With tuberculoid lesions,	(deformed)	4	0	4	
With flat macules	(deformed)	0	3	3	
non-infectious	(undeformed)	0	2	2	5
With no active lesions	(deformed)	1	0	1	
	(undeformed)	0	1	1	2
Totals		33	9		42

Seventy per cent. are infectious cases and 62 per cent. are highly infectious. Nearly two-thirds are deformed to a greater or less extent. At Kakamega only 16 per cent. are highly infectious. From this comparison one may surmise either that leprosy in the coastal area is of a much more severe type, or that the less infectious types of patient are not attracted to or not retained in the camp. Sixty-six per cent are deformed as compared with fifty-five per cent at Kakamega, which would indicate a more severe type in the coast region.

Nineteen patients were admitted last year, of which 6 were re-admissions and 13 new admissions. There were 9 deaths, 5 were discharged as non-infectious, and 4 absconded.

About half the patients are Waduruma. This, I am told, may be partly the result of the leper camp having been formerly in Waduruma territory. It may also indicate that leprosy is less common among the Wadigo, especially as the camp is now in Wadigo territory and the Waduruma have a considerably longer distance to travel. Almost half (20) of the patients are from outside the Administrative District, 8 being from Tanganyika Territory, the border of which is some 30 to 50 miles distant.

While a careful survey is necessary to ascertain with any certainty the extent and nature of leprosy in the district, the

indications from the above figures are :—

(a) That leprosy is a prevalent disease in this area.

(b) That it is of a severe type.

(c) That there are many lepers of types that spread the disease still at large among the community.

(d) That few early cases of leprosy seek admission to the leper camp.

(e) That the great majority of those who are admitted to the camp are patients who have sought shelter only when mutilated or disabled, after having been a source of danger in their homes and communities for many years.

Kaloleni Leper Camp. On June 23rd I visited Kaloleni with Dr. Clark, the District Medical Officer. This station is over 30 miles to the N.W. of Mombasa, with which communication is difficult on account of the nature of the roads. At Kaloleni there is a small leper camp in connection with the Church Missionary Society Hospital. Dr. Allen, the Doctor-in-Charge, was absent on leave, but we were shown round by Dr. Trant, who is acting as locum. Eleven patients are at present in the camp, all of them males. These may be classified as follows:—

	Deformed	*Un-deformed*	*Totals*
Open lepromatous cases (L_2 and L_3)	3	3	6
Slightly infectious (L_1)	1	–	1
With tuberculoid lesions	–	1	1
With flat macules	2	–	2
With no active signs	1	–	1
Totals ...	7	4	11

The spirit of the patients seems to be one of passive inactivity. Only two of the patients would at present benefit from special treatment. I understand that there is plenty of leprosy in the district. This was shown by the fact that a few years ago, during a time of famine, 100 lepers were admitted. I understand that more patients are not encouraged to come to the leper camp, partly owing to lack of funds; the expenses of the camp are met from private subscriptions alone.*

Discussion and Suggestions. I had an opportunity of discussing the question of leprosy control with the Provincial Commissioner and the Senior Medical Officer.

After studying the condition of leprosy in the coastal province as far as is possible during my brief visit, I would offer

* Dr. Allen tells me that he hopes to begin a new settlement on his return from leave.

the following suggestions. In my opinion, leprosy is a serious disease in this region. The two leprosy institutions at Msambweni and Kaloleni remove a certain number of the open cases from contact with the community, but this is not sufficient to control the disease to any great extent.

In the former part of this report I have recommended the formation of a central leper settlement for North and Central Kavirondo, to be conducted on certain definite lines. I suggest that a similar settlement be formed for the Coastal Province at some central and otherwise suitable place. The same requirements would apply as in the Lake Province.

(a) Sufficient good arable land; probably a thousand acres would be necessary for 400 patients, the number that should finally be aimed at.

(b) A healthy site, or one that could be rendered healthy especially as regards malaria.

(c) Sufficient water for agriculture and personal use.

(d) A whole-time trained European worker, similar to those sent out by B.E.L.R.A. and Toc. H. would be attached to a local Mission to undertake this work, and his salary, etc. (£250 to £300 per annum) would be met from Government or L.N.C. sources.

(e) Medical supervision by a Mission or Government Doctor; a visit once a week would ordinarily be sufficient.

(f) Self-support would be aimed at as far as possible, but adequate initial and recurring grants would be necessary.

In such a settlement great care would have to be exercised as to the types of cases first admitted. Patients should be attracted by the hope of recovery, and only hopeful cases, who would give active co-operation should be admitted at first. Only one of the present patients at Kaloleni, and a small proportion of those at Msambweni, would fall into this category. I believe, however, that suitable patients could easily be attracted from the outside leper population, and once the settlement had been established upon the right lines other patients from the two present camps could be drafted into it. The remaining patients in these camps would gradually die out, when they could be closed down.

For further details of the methods of running a leper settlement, I would refer again to the excellent work of Miss Laing in the Eastern Province of Uganda.

General Remarks

I have recommended that the control of leprosy in Kenya be carried out by the formation and maintenance of a definite type

of agricultural settlement, under a whole-time trained European, working in conjunction with a local Mission. Three or four such settlements would be necessary, viz., two in the Nyanza Province, one in the Coast Province, and, if the incidence is shown to be sufficiently high, one in the Central Province. I would suggest that if funds for all these settlements are not at first available, a beginning should be made with two, one in the Nyanza Province and one in the Coastal Province. I would also suggest the formation of a Kenya Branch of the British Empire Leprosy Relief Association, similar to those in Uganda and Nigeria, which would co-ordinate any anti-leprosy activity throughout the Colony.

Acknowledgements. I would express my thanks to the acting Director of Medical Services for arranging my tour in Kenya, and acknowledge with gratitude the hospitality and help which I received from him and from Government Medical Officers, missionaries and others, who spared no trouble in making my visit interesting and profitable.

NOTE. In the original report a note on *treatment* was added, for this see page 100.