

Native Administration Leprosy Colony, Uzuakoli.

T. F. DAVEY.

European Staff.

During the year 1936 the Colony has suffered a great loss through the resignation of Dr Brown. The first Medical Superintendent, Dr. Brown, was confronted with problems peculiar to the early development of the Colony; but with rare enthusiasm, patience, and tact, he selected and surveyed the site of the Colony when it was covered with dense bush, interviewed chiefs, and negotiated the lease of the land. He planned buildings, decided policy, and since August 1932 when the first patients were admitted, the excellence of his work established that tradition of efficiency which Uzuakoli possesses today. In this work he was ably assisted by Mrs. Brown, who made the Babies House her special charge. They left for England in July 1936, and both patients and staff, deprived of their knowledge and experience, remember them with gratitude and affection.

In February 1937 I welcomed a newcomer to the Colony in the person of Mr. F. W. Tuck, a Toc H volunteer sent out by the British Empire Leprosy Relief Association. Mr. Tuck has entered into his work with enthusiasm and is already rendering valuable service. He is now responsible for the industrial and agricultural side of the work.

Statistics.

The number of patients in residence in the colony during the year has considerably increased, as the following summary of the statistics for the year indicates:—

	Total	Males	Females
Patients resident April 1st, 1936	740	501	239
Admissions	321	243	78
Total resident	1061	744	317
Discharges	89	76	13
Deaths	71	49	22
Patients resident March 31st, 1937	901	619	282
Uninfected children	17		
Outpatients	382		

The increase which has brought the population to more than one thousand has been due almost exclusively to the admission of independent patients. These cases are admitted on very advantageous terms without reference to the quotas by which the admissions of dependent cases are controlled. They are offered the choice of two alternatives, either they

bring 5/- which is taken as a contribution towards the cost of their house and make no further payment, simply undertaking to provide their own food, or else they bring £2, 35/- of which is placed in the Colony bank on their behalf, and returned to them at 6d. per week. As some recompense for treatment they work in the Colony for two days each week, clearing bush, cutting grass, mending roads, etc., but have the rest of the week free to use as they wish, and most of them engage in trading or some kind of handcraft whereby they are able to earn sufficient to maintain themselves. So eager are the people to avail themselves of these terms that although more than 300 have been admitted during the year, this figure represents less than half of those who have applied for admission, the remainder being considered unsuitable subjects for treatment in the Colony.

The figures given for discharges include those from three different groups:—

(a) Patients discharged as disease arrested. Absence of symptoms, return of pigmentation and sensation in the patches, with repeatedly negative bacteriological examination, are the criteria whereby fitness for discharge is judged, and 17 such cases have been discharged during the year. This figure appears very small in comparison with the number of patients in residence, but it must be noted that the population of the Colony has almost doubled during the last 18 months, and cases admitted during that time have not been considered ready for discharge. There will, without doubt, be a larger number discharged during the coming year. All patients when discharged are asked to present themselves for examination at intervals of 3 months, and about half of them come when requested to do so.

(b) Cases who have gone home at their own wish, but were not considered ready for discharge. The majority of discharges come under this category.

(c) Independent cases who have exhausted their financial resources and have found no means of earning a living in the Colony. About ten of these unfortunate cases have been discharged during the year.

The deaths have been due, for the most part, to cachexia and nephritis. There has been one death from septicaemia, two have occurred from pneumonia, and one from gangrene, the patient having refused to have an operation. There have been no infectious diseases.

Out-Patients.

The work among out-patients is not of great value, but

is continued for the sake of those for whom nothing better is at present available. Every week between two and three hundred people walk to the Colony and receive out-patient treatment, and numbers of children are included amongst them. It is not possible to have accurate treatment control with these patients, and dosage is of necessity less than that commonly employed for inpatients. The number of these patients is indicative of the incidence of the disease in the immediate neighbourhood of Uzuakoli.

Medical.

All patients on admission are examined with a view to remedying as far as possible conditions other than leprosy and during their first month in the Colony take, as a routine, a course of treatment designed to eliminate yaws, malaria, helminthiasis, scabies, and anaemia, conditions universal in this country. The following is an outline of the course:—

1st treatment.—Worm medicine No. 1. (Ol. chenopodium cum ol. ricini),
Mist. quinine,
Sulphur treatment for scabies,
Halarsol or neosalvarsan .3gm.

2nd treatment.—Worm medicine No. 2. (Thymol cum milk sugar),
Mist. quinine,
Sulphur treatment for scabies,
Sobita .2gm.

3rd treatment.—Worm medicine No. 2,
Mist. ferri et ammon. cit.,
Sobita .3gm.

4th treatment.—Worm medicine No. 3. (santonin cum calomel),
Mist. ferri et ammon. cit.,
Sobita .4gm.

5th treatment.—Mist. ferri et ammon. cit.,
Halarsol or neosalvarsan .15gm.

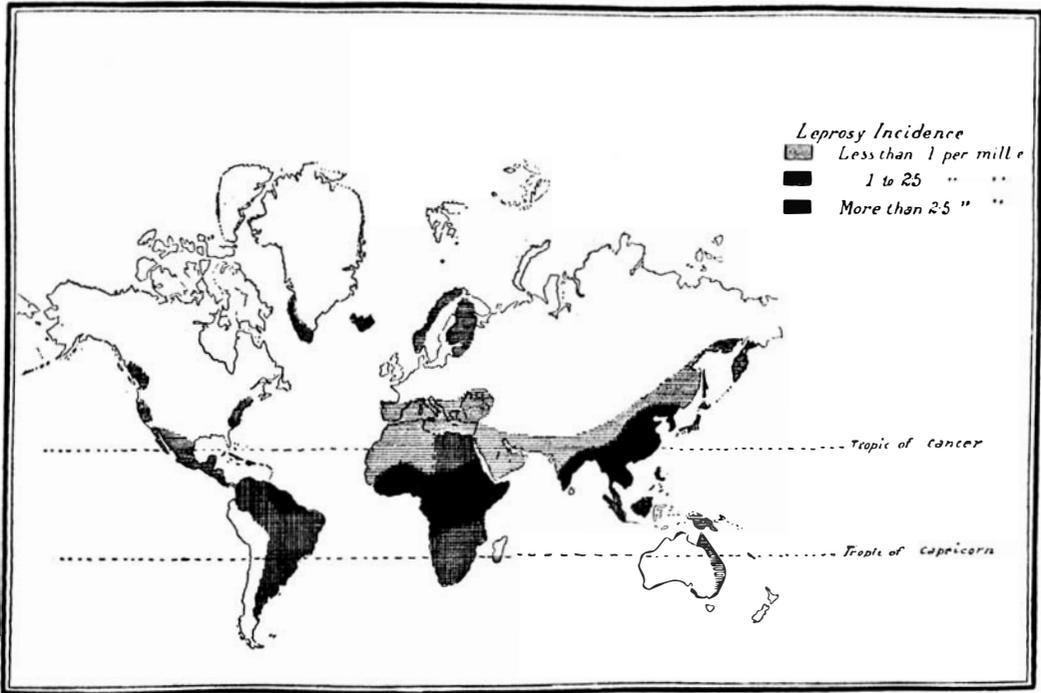
6th treatment.—Mist. ferri et ammon. cit.,
Sobita .5gm.

7th treatment.—First injection of hydnocarpus oil.

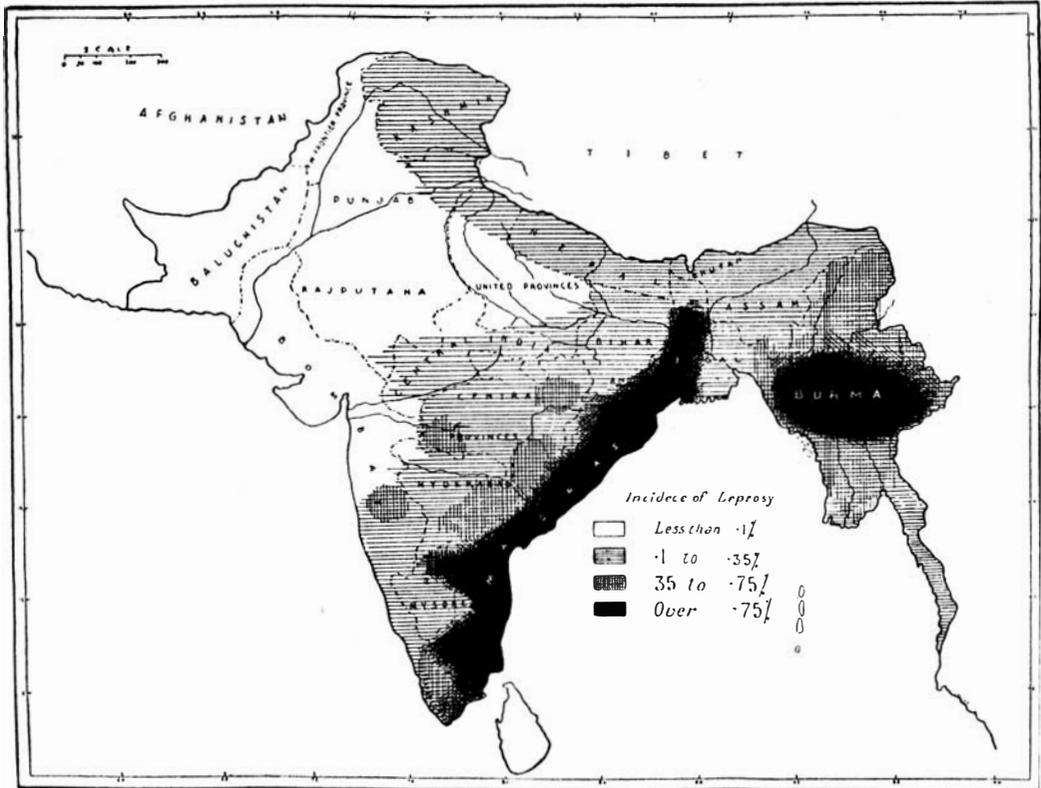
At the conclusion of this course of preliminary medication injections are commenced and are given bi-weekly. Mixtures of hydnocarpus oil and esters with creosote are used as routine according to the following formulæ:—

A. Crude hydnocarpus oil ...	25%
Hydnocarpus esters ...	25%
Olive oil	37½%
Cod-liver oil	12½%
Add Creosote	4%

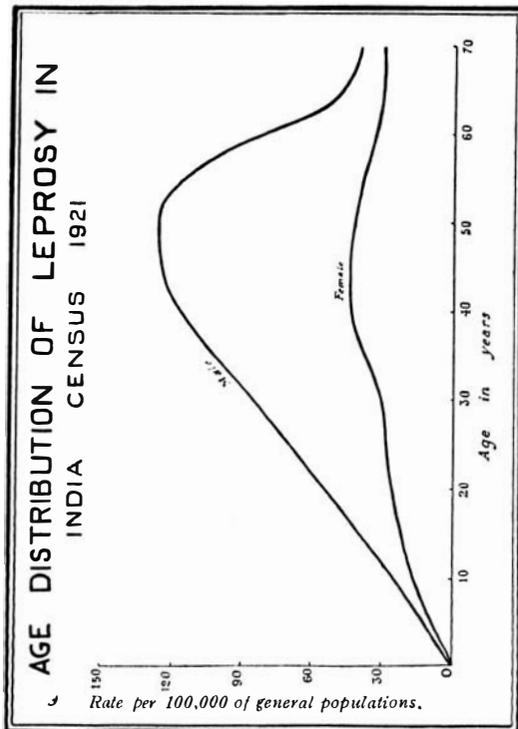
MAP I



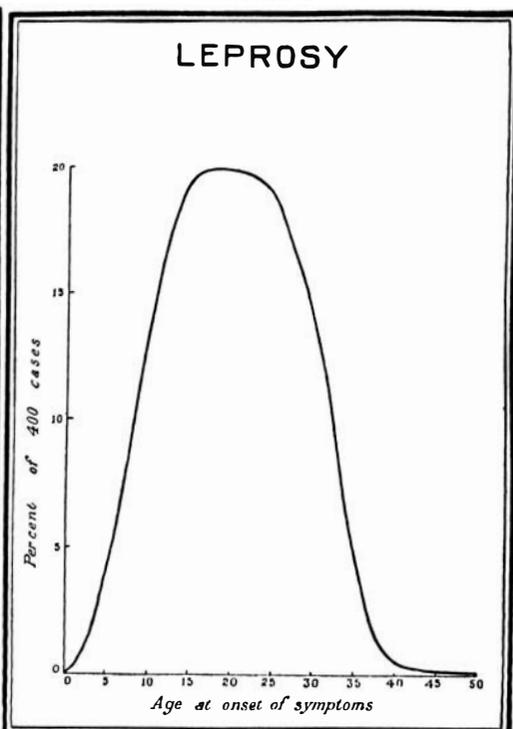
MAP 2



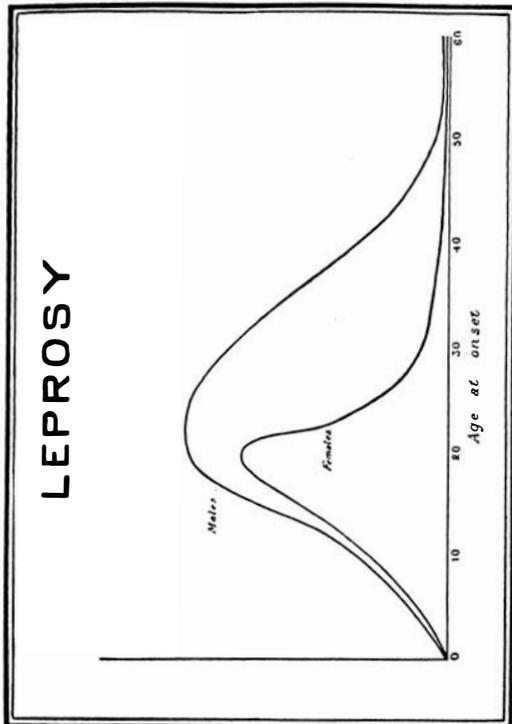
GRAPH 1



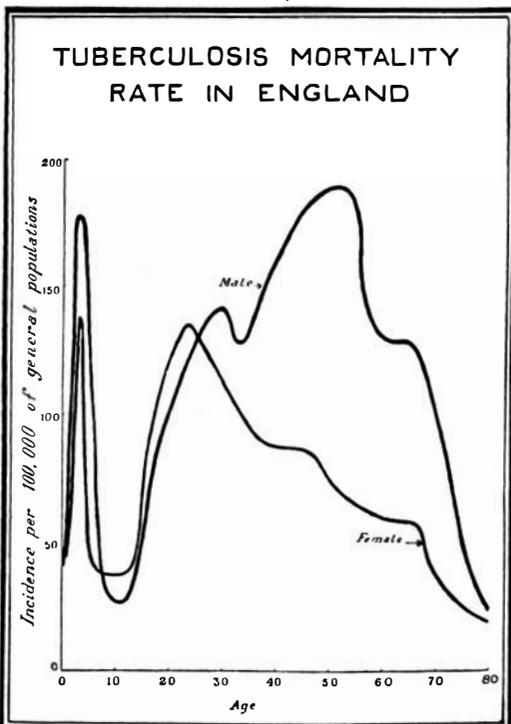
GRAPH 2



GRAPH 3



GRAPH 4



B. Crude hydnocarpus oil ...	25%
Hydnocarpus esters ...	50%
Olive oil	12½%
Cod-liver oil	12½%
Add Creosote	4%
C. Crude hydnocarpus oil ...	25%
Hydnocarpus esters ...	62½%
Cod-liver oil	12½%
Add Creosote	4%

All esters used are prepared by the colony dispenser, the cold process being employed. The cod-liver oil was introduced into the mixture by Dr. Brown and is found to be of benefit. Dosage commences with 1 c.c. of mixture injected intradermally into the lesions, and increases by 1 c.c. up to 10 c.c., the maximum dose, which is administered on four occasions. Mixtures B and C are then given in turn, each being used exactly as Mixture A. The whole course provides treatment for five months, and is followed by one month's rest after which the course is repeated. Dosage is controlled by the reaction induced by the injection, a solitary rise of temperature to 99.2 degrees being regarded as the optimum, and this optimum is usually reached at some point in the course when dosage remains stationary for the time being. A rise of temperature to 99.6 degrees or more, or the presence of pain in the injected area, are indications for a temporary cessation of treatment. Apart from the slight pain associated with the actual injection, these mixtures have been found to be almost non-irritating and in this respect I consider them superior to alepol which has been given a further trial during the year. Other preparations used include iodised moogrol which is being used in selected cases. The actual technique of injection is carried out by a staff of leper nurses who are highly skilled at this work, and who also undertake the general nursing duties associated with the hospital.

The treatment of ulcers, both trophic and infective, is a major aspect of the medical work, and dressings are given in a special shed in the town. Various forms of treatment are used. Surgical procedures such as excision of dead bone and scraping are employed where necessary, and dressings in common use include hypertonic saline, B.I.P.P., and Z.I.P.P. Gratifying results, in chronic cases, have followed the use of strapping applied and left in situ for three weeks, when it is renewed if necessary. Apart from leprosy a number of conditions requiring surgical treatment have been dealt with during the year, and the operation theatre has been in frequent use.

In the treatment of leprosy the building up of the general resistance of the patient is of paramount importance. Fresh air, exercise, cleanliness, and good food are remedial measures at least as important as is the treatment by injections, and at Uzuakoli there is considerable organisation designed to provide this side of treatment.

Labour.

The Colony with its two towns provides scope for many types of labour. All patients are expected to work and are organised into gangs for that purpose. Those engaged in "essential services" include police, school teachers, sanitary men, nurses, temperature clerks, and court clerks. Woodcutters and sawyers are employed in the forest, cement workers and blacksmiths are in continuous demand, while all the woodwork used in the Colony, including doors and windows, is made in the carpenter's shop. One gang is responsible for the palm oil industry, another attending to the roads, while unskilled labourers are employed in house building, grass cutting, clearing bush, etc. If a patient has learned a trade he is given opportunity to ply it in the Colony. When boys leave the school efforts are made to attach them to a gang in which they will learn some useful occupation.

The women are also similarly organised, some being concerned with the palm oil industry, others with the preparation of cassava, and others with building. Even those unable to do heavy work are employed to sweep roads and keep them tidy. All this work is organised through a non-leper artisan, and all patients receive a small weekly wage.

Industry.

Apart from the organised work carried on by the patients for the common good, a variety of industries are encouraged. The attitude of non-lepers to lepers in the Uzuakoli area involves a refusal to handle or buy anything made by a leper and it is extremely difficult, therefore, to use industry as a source of income to the Colony. A large number of patients are however able to augment their income by making useful articles and selling them to fellow patients, and this internal industry remains, therefore, largely a matter of individual initiative. Weaving, carving, tailoring, net-making, the manufacture of musical instruments, basket making, and some soap manufacture are carried on and receive encouragement. The extensive oil palm plantation is now beginning to bear fruit, and during the next year will provide an industry which will be made a source of income.

Exercise.

All patients are expected to take exercise in the open air. For many this is provided by the type of labouring work they are accustomed to do, and such work as grass-cutting, road-making, etc. meets the need, but efforts are being made to ensure that everyone is provided with suitable outdoor activity. Thus a gardening gang has been created during the year, and various schemes have been in operation for the beautifying of the Colony.

This matter is of greatest importance to those whose work keeps them indoors for the greater part of the time, and particularly to nurses, school teachers, etc., and with these people in mind sport has received every encouragement. A football field has been laid out and is in regular use, a running track has been made, while courts for volley ball and ring tennis will shortly be available.

Prominence is also given to out-door exercise in the school curriculum, and provision is made for games, gardening, and dancing.

Agriculture.

Farming constitutes one of the major aspects of the life of the Colony, and all able-bodied patients have their share in it. The individual system of farming has again been used this year and has given satisfactory results. All dependent patients receive on first admission a farm and 200 seed yams. At harvest time 20 seed yams must be returned, and are housed in a special barn together with those from the farms of patients who have left the Colony, and this stock is used to supply newcomers the following year. In succeeding years, a smaller percentage is returned. Other crops grown include cassava, coco-yams, leaves, corn, and pepper. The only communal farm in the Colony consists of two areas planted with cassava intended for the use of feeble patients.

Experiments are now being made with the use of cover crops, and ground for this purpose has recently been cleared and is being planted.

Hydnocarpus Wightiana.

An attempt has been made during the year to raise *Hydnocarpus Wightiana* plants from seed. 1,000 seeds were obtained from the Assistant Conservator of Forests, Sapoba, but it is as yet too early to say whether the nursery will prove a success.

Bamboo and Raphia Palm Plantations.

Arrangements have been made for making plantations

of both Bamboo and Raphia Palms so that supplies of bamboos and mats for building purposes will in time be grown in the Colony.

Building.

A number of additions and alterations have been made to the buildings in the Colony. Early in the year a rest house was built for the accommodation of European visitors, and two nurses houses in cement have been erected in the non-leper reservation. A drainage system has been built around the leper hospital, and in the Colony towns there have been various alterations, most important of which have been the building of larger carpenter's sheds and blacksmith's shops.

Work among Uninfected Children.

All children born in the Colony are separated from their mothers at birth and are taken to a special house in the non-leper reservation. The policy of permitting no contact between mother and child has been continued, children being reared on artificial foods from birth. Occasional exceptions to this rule have been made, especially in the case of very small and feeble infants, and in such an instance the mother has been permitted to feed her child for the first month of its life, suitable precautions being taken to prevent contact with the mother except at the nipple.

The food in most general use is Nestles "Milkmaid" brand, but Cow and Gate brand and unsweetened milk have also been used on occasion. After the age of 6 months, other articles of diet are introduced, and a diet as used for a child of 1 year was given in last year's report.

Care is taken to safeguard the children from avitaminosis. Great emphasis is laid on the importance of sunlight, all children being placed in the open air from 8—11 a.m. and from 3—4.30 p.m. Similarly all children receive orange juice daily, while cod-liver oil is given regularly to all over the age of 6 months.

There are at present 17 babies in our care, ages ranging from 3 weeks to 2½ years. Most of these have been born to women already resident in the Colony, but in one or two cases a mother has presented herself for admission with an infant in arms, and when this has occurred the child has been admitted to the Babies' House. Children are maintained in the department until they are able to walk and take ordinary diet, when they are placed in the care of relatives. Two such children have been discharged during the year.

Clean Dispensary.

From the beginning of its history, numbers of non-lepers have come to the Colony to consult the Medical Officer, and in order to cope with the demand for his services a small permanent hospital was built in the Clean Reservation about two and a half years ago. The buildings constitute a complete unit and consist of an outpatients' verandah, consulting room, theatre, male and female wards (10 beds) and dressing shed, with a few huts for the accommodation of ulcer cases. A special staff of nurses is employed in the hospital and during the year a considerable amount of work has been done. Many urgent and accident cases have received attention, several having been sent for treatment by the Native Administration. The following are the statistics for the year :

Inpatients—Male	...	...	116
Female	...	...	50
Children	...	...	25
Operations with anaesthetic	...	...	69
Operations without anaesthetic	...	...	90
Total attendance of outpatients			17,063

A small charge is made for treatment and by this means the department is made self-supporting, and any excess of income over expenditure is devoted to the Colony funds. Lectures, and classes in practical work, have been given to the nurses in the department.

Laboratory.

The laboratory has rendered the most valuable service during the year and is in the hands of a specially trained non-leper worker. Apart from the bacteriological examinations performed as routine on all cases admitted, much diagnostic work has been done. Numerous clinical laboratory procedures, including blood counts, blood examinations and examinations of faeces, urine, and pathological fluids have been carried out and have made for more efficient work.

Religious and Social Work.

The Methodist Missionary Society is responsible for the religious and social work in the Colony, and an annual grant is received from the Society towards that work. This is largely used to maintain the school, to supply occasional gifts to the most needy people, and to give everyone a present at Christmas time. Numbers of gifts and contributions have been received from private donors in England.

The discipline of the Colony has been excellent. It is worthy of note that there are at least 300 villages represented among the patients, yet in the Colony the people live in a

surprising degree of harmony, and the good spirit which prevails is largely due to the influence of the Church the organisation of which is in the hands of a Council chosen by the people themselves.

School.

There are now 170 children in the Colony, and all attend school. Some reorganisation has taken place during the year, and the educational facilities now include an infants' department and a primary school with teaching up to Standard III. There are eight school teachers, some of whom have had teaching experience before coming to the Colony. Exercise in the open air occupies an important place in the school curriculum. The present school building is now inadequate and work has commenced on the erection of a new and permanent building.

Maintenance of Law.

Cases of misdemeanour are tried by a Court consisting of the Chief assisted by a Council of headmen and a head woman. Everyone has the right of appeal to a special Court conducted by the Medical Officer but this jurisdiction is seldom necessary.

Social Work.

There have been various activities of a social nature during the year. Occasional concerts and entertainments have been given. Quarterly competitions in house and garden decoration have given the towns a neat attractive appearance. Special celebrations were held at Christmas time. These included a concert given by the school children, a very popular series of competitions in carving, weaving, clay modelling, Uri drawing and hair dressing; a distribution of gifts to everyone on Christmas Day, and a great sports day on December 26th.

Miscellaneous.

Visit of Dr. E. Muir. Early in the year the Colony was visited by Dr. E. Muir, Medical Secretary of the British Empire Leprosy Relief Association, and the valuable suggestions made by Dr. Muir have resulted in permanent benefit.

Acknowledgement. I wish to express my gratitude to the Nigerian Branch of B.E.L.R.A. for a valued gift of £50.

Comments and Future Policy.

The number of patients in the Colony is now such that the maximum population which the farmland will support

is being approached. For this reason and also from the point of view of personal attention to the patients, I do not propose to admit more than another 50-100 patients. Admissions are being strictly limited to two types of case (a) early neural cases in whom there is a likelihood of a cure, and (b) infectious nodular cases who must be segregated in the interests of public health.

The Uzuakoli Colony is situated in an area where the incidence of leprosy in all probability reaches its maximum in Nigeria. There are without doubt many thousands of lepers within a comparatively small radius, and it is quite impossible therefore for the Colony, regarded as a segregation centre, to touch more than the fringe of the problem. Even if admissions were confined to infectious cases, there would be accommodation for comparatively few. The idea of the Clan Colonies formulated in Dr. Muir's report affords the only solution to the problem of segregation and represents an urgent need.

In some parts of the Province it may be possible to develop Clan Colonies on a comprehensive basis, but the immensity of the problem in the Northern Districts of the Province is such that the cost of building model Colonies would appear to be prohibitive. The actual segregation of people with leprosy would present but few difficulties, but where treatment is concerned, I consider that the suggestion of Dr. Brown is of great practical value. He suggested that special leprosy dispensaries should be built in positions where each would be accessible to a group of leper villages. The actual supervision of the villages themselves would be in the hands of the Public Health Authorities, but the dispensaries would each be in the care of a non-leper worker trained at Uzuakoli. His work would include:—

(a) supervising treatment, the actual injections being given by lepers trained at the Provincial Colony and resident in one or other of the villages associated with the dispensary concerned.

(b) following up cases discharged from the Provincial Colony and resident in his area.

(c) reporting to the Medical Officer at the Provincial Colony cases suitable for treatment there.

With the development of this greater degree of leprosy control work, the Provincial Colony by specialising in certain ways would occupy the key position and render public service of the utmost value.

(1) As adequate means of segregating infectious cases arise, the Provincial Colony should concentrate more and

more on curative treatment, for which the detailed treatment control and the organisation providing for outdoor activity make it admirably suited.

(2) It should be a centre for research work.

(3) It should be a centre for training workers, both leper and non-leper.

With regard to (3), a start has already been made. A doctor commencing leprosy work in the Northern Provinces has spent two months at the Colony during the year. The number of leper nurses in training has increased and I am proposing to create a body of uninfected patients who are conversant with the technique of treatment. One District Officer has sent a patient for special training, and he is now apprenticed to the head nurse. Classes are being given to the more educated members of the community in order to fit them to render service in the Clan Colonies. Laboratory facilities are being extended, and in these ways the Colony is preparing to play its part in the more intensive fight against leprosy which is imminent in Nigeria.