

FIRST REPORT ON LEPROSY CONTROL WORK IN THE OWERRI PROVINCE, S. NIGERIA.

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THE PROBLEM TO BE FACED

The Owerri Province of S. Nigeria covers an area roughly 150 miles in length by 60 miles wide. At its southern extremity, in the Niger Delta, there is an area of mangrove swamp traversed by some of the mouths of the Niger. This gives place to a low-lying plain covered by forest rich in oil palms, which occupies the greater part of the Province. In the North the forest belt gives place to savannah, and a range of hills brings one to the northern boundary. The soil is naturally rich, but deforestation and

careless farming have caused deterioration in some areas. The population is dense, in some places extremely so, (500 to the square mile) and is scattered in numerous villages throughout the area. There are no large cities, and there is no unpopulated area of any size. Apart from the palm oil industry, the people are engaged exclusively in agricultural pursuits.

Most of the inhabitants belong to the Ibo tribe, possibly the most intelligent group, yet strangely enough possessing among themselves no appreciable government outside the village. There are innumerable petty chiefs, each holding sway in his own little domain, the people of the next village often being regarded as aliens to be feared and avoided. The coming of European Government is rapidly changing the whole situation. Clan Councils have arisen, governing considerable groups of villages, education is spreading rapidly and travel facilities are removing the parochial outlook.

It is amid such a primitive rural population that leprosy seems to find the least resistance to its ravages, and the disease is endemic in the area. When superimposed on these conditions there comes contact with European civilisation and the sudden changes in native life which it evokes, conditions are produced which are, par excellence, those in which leprosy thrives. The incidence of leprosy in the Province is probably the highest in the world.

In 1938 the only forces actively combating leprosy were :—

(1) The Provincial Leper Colony at Uzuakoli, housing a maximum of 1100 lepers.

(2) Leprosy treatment given by a few Medical Officers and N.A. Dressers at isolated places in the Province.

Excellent though these forces may be in themselves, their value from the point of view of leprosy control in the Province is negligible. While one leper in 50 lives in happiness under model conditions at Uzuakoli, the remaining 49 remain at large, many of them foci of infection.

No large tract of land is available for the mass segregation of infectious cases. The multiplication of colonies such as Uzuakoli, ideal in theory, is quite impracticable as, apart from land shortage, the cost would be prohibitive. In Nigeria there are no financial resources capable of dealing with the problem in a heroic way, and it was therefore necessary to propound a scheme whereby some form of control could be combined with a minimum of expenditure.

THE EXPERIMENTAL SCHEME PROPOSED

In the Annual Report of the Uzuakoli Colony for 1938 an

experimental scheme was proposed for dealing with these very difficult circumstances. This was later published.* The following were the main points in the scheme.

(1) *Investigation.* The size of the problem must be assessed by means of accurate study in different areas. This can only be achieved by intensive leprosy surveys undertaken by trained workers.

(2) *Segregation.* The focus of the scheme is the segregation of infectious cases discovered in surveys. Experiments in different methods are to be made; the accepted unit of segregation being the leper hamlet, built by the lepers themselves under supervision and erected one or two miles from the parent village. The families of lepers are to be made responsible for their upkeep.

(3) *Treatment.* Clinics are to be erected in areas where survey and segregation work is in progress, treatment given by a leper nurse, and the clinic visited regularly by a responsible person from the Uzuakoli Colony.

(4) *Control.* With an intensive survey and the segregation of infectious cases accomplished, the vital step in the control of leprosy will have been taken. By the application of the Leprosy Ordinance and the repeated observation of the surveyed villages, a continuous control will be achieved.

A small grant given by B.E.L.R.A. Nigerian Branch in the Autumn of 1938 made possible the commencement of the scheme, and during 1939 it has been elaborated. Work has been carried out in a number of areas and valuable experience gained. It will be considered under various heads.

(1) SURVEYS

In October 1938 letters were written to the Councils of 10 Clans in the Bende and Okigwi Divisions explaining the scheme. There was an immediate response, 17 Councils replied requesting the early commencement of leprosy work in their area. Requests were made to most of these and the scheme explained more fully. It was discovered that there is a widespread desire for leprosy survey work. If surveys were confined to these areas where Clan Councils have already requested them, the survey staff would be fully occupied for the next five years.

A series of surveys has been carried out during 1939. These have all been of an intensive character, designed to obtain accurate information regarding the incidence of leprosy and also to provide data preparatory to the segregation of infectious cases. In all instances the surveys were carried out by a trained staff, a full

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census was taken by house to house visitation, the whole body surface of the entire population, both male and female was examined, and full bacteriological control was exercised. The results are therefore authoritative as shown in table I.

Table 1

| Town | Clan | Division | People Examined | Lepers found | Incidence per mille |
|---------------------|------------|----------|-----------------|--------------|---------------------|
| Akelu Lodu | Umu Imenyi | Bende | 527 | 24 | 46 |
| Mbiokpon and Obunta | Oboro | Bende | 283 | 4 | 14 |
| Ogbuegbule | Oboro | Bende | 767 | 4 | 5 |
| Ekebedi | Oboro | Bende | 441 | 5 | 11 |
| Etiti Ama | | | | | |
| Nkporo | Abiriba | Bende | 1893 | 123 | 60 |
| Umu Akam | Igbo | Bende | 252 | 9 | 35 |
| Umu Osu | Igbo | Bende | 413 | 5 | 12 |
| Umunnemeze ... | Igbo | Bende | 88 | 1 | 11 |
| Mgboko | Igbo | Bende | 305 | 4 | 13 |
| Nkata Alocha | Igbo | Bende | 170 | 1 | 6 |
| Nkata Alike | Igbo | Bende | 175 | nil | nil |
| Elugu Mba | Ozuitem | Bende | 246 | 8 | 32 |
| Ebem | Ozuitem | Bende | 93 | 6 | 64 |
| Ndi Agho | Ozuitem | Bende | 856 | 26 | 30 |
| Amagbo | Ozuitem | Bende | 349 | 13 | 37 |
| Amankwu | Ozuitem | Bende | 152 | 5 | 33 |
| Mba | Ozuitem | Bende | 388 | 17 | 44 |
| Mbele | Ozuitem | Bende | 186 | 8 | 43 |
| Ndi Obu | Ozuitem | Bende | 97 | 1 | 10 |
| Ameke | Ozuitem | Bende | 464 | 37 | 80 |
| Umueze Ozuitem | | | | | |
| Oboko | Ozuitem | Bende | 1756 | 26 | 14 |
| Amaeke | Item | Bende | 1402 | 38 | 27 |
| Totals | | | 11,689 | 401 | 33 |

These figures do not include 240 people exhibiting doubtful signs suggestive of early leprosy who are being kept on observation. Some of them will certainly develop definite signs later.

These figures give some idea of the immensity of the problem to be faced. Approximately one-sixteenth of the total population of the Bende Division has been examined. The areas examined may be considered as representative of the Division and a leprosy incidence of approximately 7,000 must be considered a conservative estimate for this Division alone.

The surveys reported represent an immense amount of laborious patient work. Literally thousands of microscope slides have been examined. Great praise is due to the African staff on whom the brunt of the work fell.

A number of lessons have been learned.

(a) *The need for propaganda.*

In spite of the unanimous support of the Clan Council, who understood fully what the aims of the survey were, we discovered on several occasions an almost complete lack of understanding among individual villages as to the reasons for the survey, and

a consequent failure of cooperation which led to its termination. Leper chiefs were invariably a source of trouble.

The Ibo people have a dread of leprosy and an almost uncanny ability to diagnose the disease. Most cases were already known as such to their fellows, though many early cases were discovered who were hiding their disease. These sometimes tried to conceal themselves on the occasion of the survey; but confining surveys to the neighbourhood of the clinics and the promise of free treatment reduced efforts at concealment to a minimum. It was only after repeated visits and exhaustive questioning that results were considered satisfactory.

(b) *The urgent need for anti-leprosy measures.*

In every area surveyed infectious lepromatous cases of leprosy were living among the general population without precautions of any sort being taken. Again and again it was possible to trace to these cases a group of early infections among the people in the neighbourhood. In all the areas examined conditions of housing and sanitation are most primitive, overcrowding was noticeable in many, and the danger of infectious cases of leprosy to a susceptible community in these conditions is considerable. In the minds of many, the obvious macules of uninfectious neural leprosy were considered to represent a greater danger than the bacilli infested skin of the frank lepromatous case who presented no dramatic colour changes in his skin.

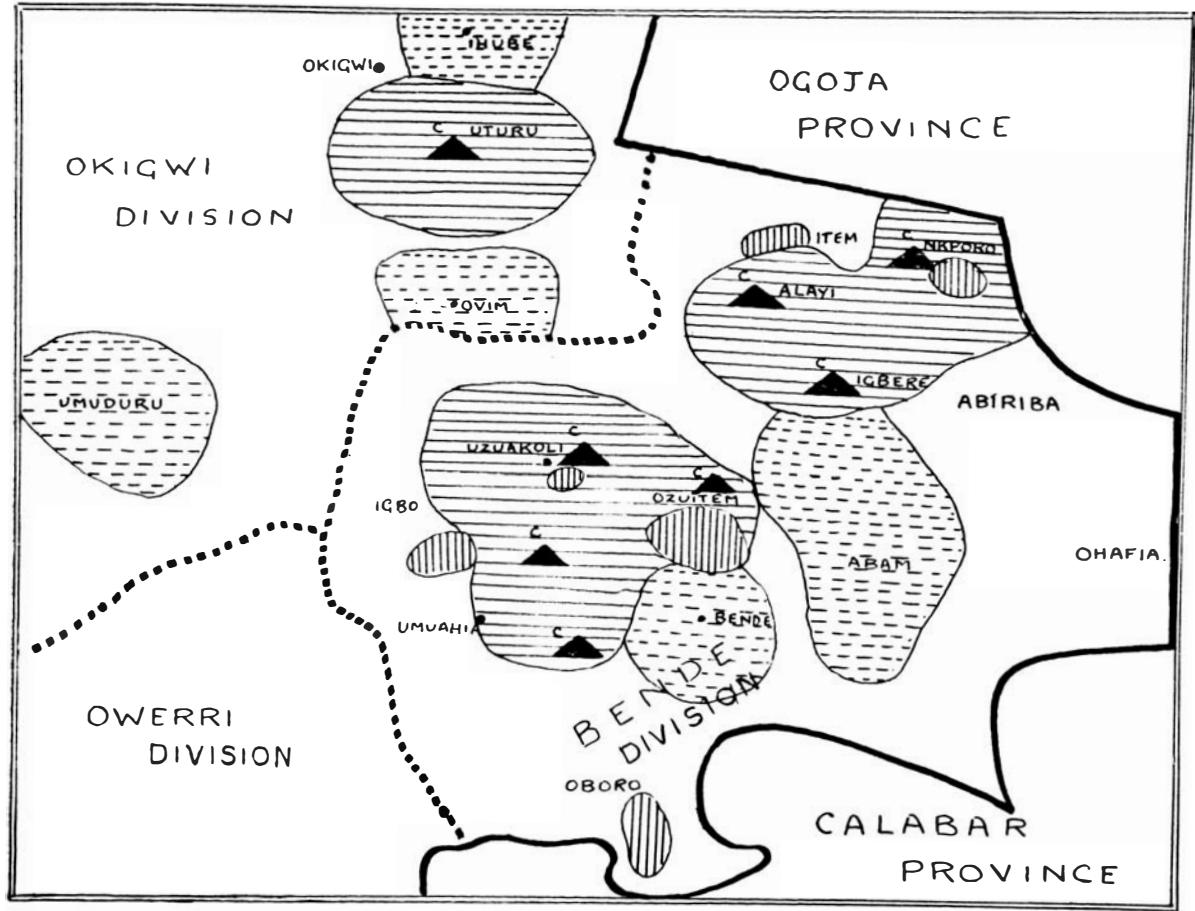
(c) *The lack of desire to assist lepers.*

The desire for a survey was universal but in some instances when that was accomplished cooperation ceased. A survey was sometimes welcomed so that lepers could be discovered and then driven out of the village without any regard whatever for their welfare. Wealthy lepers, able to bribe chiefs, were usually tolerated. Needless to say, no work was done in these areas.

Gradually, by a process of elimination, areas were discovered where there was a sincere desire to cooperate which included a willingness to provide land for the accommodation of lepers and the building of a clinic. It is in these areas alone that work will continue, and meanwhile active propaganda will be carried out elsewhere. Details of the means used are given later.

Experience has driven us to the following conclusion where survey work is concerned.

EVEN GRANTED THE PROMISE OF FULL COOPERATION BY THE CHIEFS, NO LEPROSY SURVEY SHOULD BE CARRIED OUT UNLESS TREATMENT IS MADE AVAILABLE FOR THE CASES OF LEPROSY DISCOVERED, AND ADEQUATE PROPAGANDA HAS FIRST BEEN UNDER-TAKEN.



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AREAS SURVEYED

LEPROSY TREATMENT NOW AVAILABLE

FACILITIES FOR TREATMENT PENDING

CLINICS

MAP OF PART OF THE OWERRI PROVINCE

During the year, surveys of specialised groups have been carried out. These include the Methodist College, Uzuakoli, the staff of the Agricultural Station, Umuahia, and several schools.

(2) LEPROSY CLINICS

The provision of treatment for lepers is an essential part of any humane scheme of leprosy control. The building of leprosy clinics has been continued through 1939, and at the year end eight are in operation. The most striking feature of them all is that they have not cost a single penny. Land in all cases has been given by the chiefs, the lepers have themselves built what simple buildings are necessary. The following table shows the location of these and the number of patients receiving treatment at the end of 1939.

Table 2 (see map)

| <i>Clinic</i> | <i>Division</i> | | <i>Opened</i> | <i>Patients Attending</i> | | | <i>Total</i> |
|-------------------|-----------------|-----------|---------------|---------------------------|---------------|-----------------|--------------|
| | | | | <i>Male</i> | <i>Female</i> | <i>Children</i> | |
| Alayi ... | Bende ... | Dec. 1938 | 50 | 38 | 7 | ... | 95 |
| Nkporo ... | Bende ... | Feb. 1939 | 115 | 162 | 42 | ... | 319 |
| Igbere ... | Bende ... | Feb. 1939 | 32 | 37 | 4 | ... | 73 |
| Uturu ... | Okigwi ... | Mar. 1939 | 194 | 121 | 13 | ... | 328 |
| Ozuitem ... | Bende ... | May 1939 | 50 | 64 | 11 | ... | 125 |
| Ibeku North ... | Bende ... | June 1939 | 31 | 9 | — | ... | 40* |
| Ibeku South ... | Bende ... | Dec. 1939 | 46 | 28 | 3 | ... | 77 |
| Uzuakoli ... | Bende ... | Oct. 1938 | 102 | 82 | 2 | ... | 186 |
| <i>Totals</i> ... | | | <u>620</u> | <u>541</u> | <u>82</u> | ... | <u>1243</u> |

* These numbers are temporarily low as the Ibeku N. Clinic has been divided into two clinics.

1243 patients are thus receiving treatment and numbers are rising with great rapidity.

The method of managing these clinics may be of interest. All are built by the side of a motor road, and are visited from the Uzuakoli Colony once weekly. A special clinic lorry, provided by the Native Administration, is used for this purpose. It is equipped with a supply of medicines and all requisites for carrying out minor operations.

Patients on first attending a clinic are examined by the medical officer and bacteriological smears are taken. A record of treatment is kept.

A leper nurse is attached to each clinic. Later on, as lepers are segregated, it is intended that a nurse shall actually reside at the clinic. At present, this is arranged at the Uturu and Nkporo Clinics only, but nurses visit other clinics by bicycle from the Uzuakoli Colony. They take the temperature of patients prior to treatment, and carry out treatment by the intradermal and subcutaneous injection of hydnocarpus oil. Leper patients

give voluntary assistance at all clinics. Leprosy treatment is free, but patients may obtain medicine for inter-current ailments at the price of 1d., a special pharmacopoeia of inexpensive prescriptions having been produced for this purpose.

Ulcers abound and special treatment, supervised by a European lady giving voluntary service, is applied to these. At clinics with a resident leper nurse, ulcer treatment is given daily.

The Uzuakoli Colony offers its facilities for special treatment to clinic patients. Many of these have been admitted to the hospital for special attention, and one infant, formerly starving, is now in the babies creche and is thriving.

The regular attendance of patients at clinics and the rapid increase in the numbers attending them indicate the value placed on them by the lepers themselves. We started clinic work very sceptical of its usefulness, but are now convinced of its value. Obvious improvement is being observed in many cases, and during 1940 it may actually be possible to discharge a few as symptom free. It must here again be emphasised that the establishment of clinics does not provide any measure of leprosy control, as infectious lepromatous cases exhibit little, if any, response to injections with hydnocarpus oil, and in spite of treatment remain as sources of infection. The focus of leprosy control must be on segregation.

(3) SEGREGATION

From the standpoint of segregation, 1939 has been a year of preparation. At one centre, viz. Nkporo, the scheme is working in its entirety, and its success has been established beyond all doubt. A brief description of measures taken there will illustrate the operation of the scheme.

Prior to starting work at Nkporo, the chiefs were already conscious of the danger of leprosy, and had more or less forcibly segregated the most advanced cases in a village about $\frac{1}{2}$ -mile away from the parent village. These lepers were visited and discovered to be possessed of an utterly despairing mental outlook and living in conditions of the utmost squalor. It is hard to find words to describe their wretchedness. In the spring of 1939 a clinic was opened, with a resident leper nurse. This rapidly became popular and improvement in the condition of several patients was noticed unusually quickly. In June, a most thorough survey of the parent village was made. Numerous lepers, some of them highly infectious, were discovered. The chiefs then offered land for the building of a village where all infectious lepers could be segregated, and also voluntarily gave all building materials. A Toc H man then went from Uzuakoli and marked

out the houses for this village which was planned on model lines in complete contrast to the villages in the neighbourhood. The lepers were then asked to build the village. They refused, saying they were too sick to work and incapable of doing anything for themselves. At this time they were discovering the value of the clinic, and they were informed that unless they cooperated, the clinic would be removed. They then agreed to work provided a suitable leader could be found, and it was decided to send out from Uzuakoli, a leper, accustomed to leadership and skilled in building. The wisdom of this measure was soon evident, for building started immediately and the Nkporo lepers soon discovered not only that they were able to work, but that they enjoyed doing it. The leper foreman from Uzuakoli living normally among them had a most tonic effect upon them. The outcome has been a sanitary village, completely different from the primitive village in the neighbourhood, and the pride of the lepers who live there. Now not content with building their village, they have built a good motor road to it, have cleared land and are literally a transformed community. Every infectious case is now segregated there. Some mild neural cases are permitted to remain in the parent village under strict observation, their parole being dependent upon their having treatment. The chiefs are on the alert and bring for examination at frequent intervals those cases which, being then doubtful, were put under observation at the time of the survey. The families of the segregated lepers are responsible for their maintenance.

In this way leprosy control has been achieved, and it is intended to take similar measures in other areas as the people become ready for them. At Ozuitem, a start is being made on a leper village in the near future, and work is pending at Igbere, Abam, Uturu, and Ihube, at all of which areas land for the segregation of lepers has been offered.

(4) PROPAGANDA

As the year has advanced, the need for antileprosy propaganda has been increasingly realised and is being met by the following means.

(a) *Posters.* Simple posters in the vernacular for use in native courts and public places have been printed and are being distributed. These present facts regarding leprosy and indicate prophylactic measures. A new set of posters in English for use in schools is now being prepared.

(b) *Propaganda through schools.* Visits to schools and surveys of school children have been undertaken. Vacation

courses in leprosy work for school teachers are proposed for 1940.

(c) *Instruction to health workers.* Special instruction has been given to sanitary inspector students, and is proposed for Native Administration Dressers.

(d) *Dr. Muir's booklet (the Control of Leprosy)* has had a wide distribution in the area, but requests for a simpler booklet, specially suited for S. Nigeria have been received from Educational Supervisors.

(5) PRESENT AND FUTURE DEVELOPMENT

The progress of the scheme up to the end of 1939 is best illustrated by reference to the accompanying map which shows the Bende Division and adjacent areas of the Okigwi Division.

Clinics are opening shortly at Ihube, Umuaduru, and Ovim in the Okigwi Division, and their opening will bring the area which can be served directly from the Uzuakoli Colony to its maximum limit. Five full days in the week will then be devoted to Clinics, and with the present staff nothing further can be attempted.

It may be considered that within a radius of 30 miles from the Uzuakoli Colony direct supervision can be given, but beyond this distance other measures are necessary. The need for leprosy work outside this area is pressing, and the following two considerations deserve special mention.

Cooperation of Government Medical Officers and Mission Hospitals.

The extension of the scheme will depend on the cooperation of Government Medical Officers and Mission Hospitals. Where these are willing to give the necessary oversight, there seems no reason why leprosy clinics should not be opened in any part of the Province. Intelligent patients from all parts of the province are being trained as nurses at Uzuakoli, and it will be possible to supply a clinic in almost any locality with a nurse whose home is in that neighbourhood. A start is being made in this direction in the Owerri Division.

Leprosy Inspectors.

There remain however large areas in the Province where weekly visits by European medical men are impossible. It is proposed to cope with these areas by the creation of a service of Leprosy Inspectors. These men will be ex-patients discharged from the Uzuakoli Colony as symptom free. They must have had an excellent record while in the Colony, and will have a minimum of 15 months' training made up as follows :—

(a) 6 months' training and experience as a nurse at Uzuakoli with a satisfactory examination result.

- (b) 3 months' experience as nurse attendant at a clinic.
- (c) 3 months' special course in hygiene and leprosy.
- (d) 3 months' practical experience in sanitary work.

Special English Language teaching will be given throughout the course.

Each man will fulfil the following functions:—

- (a) Supervise leprosy clinics in a restricted area, holding one month's supply of essential drugs.
- (b) Keep a record of lepers attending the clinic, trace these to their homes, and advise relatives regarding segregation.
- (c) Plan a model leper village.
- (d) Commence house to house visitation within his area and undertake sanitary work according to the scheme for sanitary inspectors, emphasis being laid on antileprosy propaganda. The area will thus be prepared for a leprosy survey.

Leprosy inspectors should be sent only to areas where chiefs have already offered land for clinics and for segregation purposes. These having been approved by the Administrative Authorities a clinic should be opened with a leper nurse in attendance. A leprosy Inspector should then be appointed. At least once monthly he must be visited either by a Medical Officer from Uzuakoli, or by another Medical Officer, according to the locality.

When point (3) in this scheme of the work has been reached, a Toc H man from Uzuakoli should visit the area and approve the layout of the leper village before the work on it proceeds. A record of the work done must be kept.

By combining leprosy work with the duties of sanitary Inspector, the need for appointing two men to the area is eliminated, economy is achieved, and at the same time an important correlation between sanitary and leprosy work is attained.

A small batch of men is already being trained with this work in view. It is suggested that they be paid at the rate of £1 to £2 per month.

In working out this proposal, valuable advice has been given by the Senior Health Officer, Enugu.

(6) RELATION OF THE UZUAKOLI COLONY TO THE SCHEME

The Uzuakoli Colony is the centre from which the scheme is operated, and the whole policy of the Colony is being so adapted that it best serves the interests of the scheme. The following types of case only are admitted:—

- (a) Infectious cases;

- (b) Educated lepers suited for training;
- (c) Children;
- (d) Pauper lepers;
- (e) Cases needing hospital attention;
- (f) Enough able-bodied lepers to manage essential services and farming.

This embraces those types of case which most need the special care and attention available at Uzuakoli. It must be pointed out however that many patients belonging to these types are attending clinics, and there is no accommodation for them at Uzuakoli. In future the Uzuakoli Colony will concentrate more and more on diagnosis, training, and research; and with standardised courses for leper nurses and leprosy inspectors, an important start has been made. The Colony will take its share in the proposed scheme of training for Medical Officers.

CONCLUSION

The means now available for combating leprosy in the Owerri Province may be summarised as follows:—

- (a) A trained and experienced survey team.
- (b) Leprosy clinics in a number of areas. The number of these can be increased indefinitely.
- (c) Segregation of infectious lepers in model villages under supervision.
- (d) Leper nurses, trained as clinic attendants.
- (e) Leprosy Inspectors in training.
- (f) Propaganda through posters, schools and native courts.
- (g) Vacation courses for school teachers.
- (h) Courses for people engaged in health services, Sanitary Inspectors, and Native Administration Dressers.
- (i) Special training for Medical Officers.

The machinery is thus available for extensive antileprosy work. The rate of advance now depends on the staff engaged in the work, and this is governed solely by financial considerations.