

No: 1244/26.

Office of the Ankylostomiasis Campaign,

81, Mount Road, Cathedral Post,

Madras, dated 7th September, 1926.

From

Dr. J. F. Kendrick,

Director, Ankylostomiasis Campaign,

M a d r a s.

To

Major General F. H. G. Hutchinson Esq., C.I.E., I.M.S.,

Surgeon-General with the Government of Madras,

M a d r a s.

Sir,

I have the honour to enclose herewith a statement showing proposals for expansion of the work of this Campaign during the year 1927-28.

As the investigations of the past five years show that Hookworm infection constitutes a distinct Public Health problem in many parts of this Presidency it would seem that definite proposals for the commencement of comprehensive control measures are now in order. The International Health Board is contributing no less than Rs.50,000 per annum for the purposes of this Campaign, and they rightly expect the very near future to mark the beginning of certain developments with a view to the gradual but progressive elimination of Ankylostomiasis as a Public Health Problem.

A Preliminary draft of budget for the continuance of the Intensive Educational Campaign for another year was forwarded to you with my covering letter No: 1200/26 dated 24th August. A report showing the activities of the Campaign from 1st January to 30th June is enclosed herewith.

I have the honour to be,  
Sir,  
Your most obedient servant,

(Sd). J. F. Kendrick,

Director,  
Ankylostomiasis Campaign,  
Madras.

(TRUE COPY).

JFK: KS:



The Government of Madras with the co-operation of the International Health Board of the Rockefeller Foundation has been conducting a Campaign against Ankylostomiasis in the Madras Presidency since March, 1920.

This co-operative work was undertaken with the understanding that if investigations into the prevalence and intensity of the infection proved it to be an important public health problem the International Health Board would assist Government during the course of three or four years to demonstrate the feasibility and practicability of control operations against the disease and that thereafter Government would fit the organisation in as a permanent branch of its Public Health Department.

Placed in the order of their relative importance, control operations against Ankylostomiasis would involve the following activities:--

1. Soil sanitation in advance of any other measures.
2. Propaganda -- to familiarise the people with the dangers of soil-pollution, and to influence them to exert concerted action against it.
3. Treatment -- to rapidly reduce mass infection which sanitation will then hold under control.
4. Examinations -- to determine the rate and also the intensity of the infection so that results of subsequent examinations may show the improvement that accrued from sanitation and treatments.
5. The maintenance of Records of all the work done.

The measures that have been utilized up to the middle of the present calendar year are those enumerated from two to five, inclusive. Sanitation was entirely neglected, except the little that could be accomplished through our propaganda efforts, until this year when the Madras District Board voted Rs.20,000 for the purpose of co-operating with us in an effort to provide and place in service a sufficient number of latrines to accommodate the entire population of several villages.

This work was first undertaken in the Union of Ucilampatti, a town with a population between six and seven thousand. About two months before latrine construction commenced the Assistant Director of the Ankylostomiasis Campaign with two Sub Assistant Surgeons was sent there to examine and treat the infected persons of the community and to conduct propaganda in favour of the universal use of the sanitary latrines that were in the process of construction.



construction. On August 23rd the writer made a surprise visit to Uellampatti and remained there during the following three days. It was found that six latrines had just been completed and that a seventh was nearing completion. Inspection showed that the six completed latrines were already being used by large numbers of ~~man~~ people but, as was to be expected in a place where a latrine had never existed before, in several instances the floors and steps of the latrines had been fouled. But in spite of this the latrines were popular, intensive propaganda on the use and abuse of latrines was being carried-on by the Ankylostomiasis unit, by influential citizens of the place, school masters, missions, and probably best of all by the boy scouts who were seen going about the place early every morning, with three or four hundred people following them, singing songs on sanitation which their Tamil Pundit had rendered into verse for them.

Another encouraging circumstance was the general demand for greater numbers of latrines. Deputations from several parts of the town presented earnest requests that latrine accommodation be provided in their immediate vicinity, finally the union Board agreed to finance the cost of two latrines if the District Board would provide several additional ones.

It is too early to anticipate what the final outcome of this undertaking will be but the fervour that characterizes the movement at present certainly justifies the hope and belief that ~~a~~ success will follow.

The other Anti-hookworm work that we have been able to carry-on is an important adjunct to soil sanitation but however vigorously we pursue such measures alone we can never hope to bring Ankylostomiasis and the other filth-borne diseases under control, and as long as these continue to play havoc with the health of the people it will be impossible to establish with any success the other more special branches of Public Health that are practiced with such telling effect by modern health services in many parts of the world.

This Presidency is beginning to-day what the early English Sanitarians, working without any specific knowledge of the Aetiology of disease, commenced almost a century ago. Preventive medicine in those days was almost completely dominated by the filth theory of disease. They thought that all kinds of filth were a "source of sickness" and it was considered that the first duty of the Health Officer was to cause the abatement of rubbish, garbage, the manure pile, the cesspool, or the privy vault, -- in fact anything that produced a foul odour was regarded as a source of disease. The generalizations of these early  
sanitarians



sanitarians as to the cause of disease included human excrement, and it was because they were correct about this and because they removed this kind of filth from contact with human beings that their successes in disease prevention were attained. It has been only during the last few decades that we have learned definitely that not all kinds of filth are dangerous, but that infectious diseases are transmissible diseases which spread from person to person by means of human excretions or secretions and that the thing of paramount importance is to protect against this sort of filth. Having gained an important fund of scientific knowledge from the work and experience of others, we are now in position to push our work forward effectively yet economically.

In taking stock of the work of the past six years we find that much has been done that was essential to the success of an Anti-hookworm campaign, yet the very fact that we have left almost untouched that factor which alone can produce permanent benefits strikes one as incongruous. We know definitely that the ultimate success of any Anti-hookworm Campaign depends upon the effective disposal of human excrement, ~~and~~ and unless steps are taken to accomplish this the results of all other activities will be of temporary duration.

It is not the writer's belief that the whole population of any given area can be induced to forsake their insanitary habits and adopt the use of latrines overnight, but it is believed that if suitable types of latrines are provided in sufficient numbers to meet the needs of a community and the latrines are kept clean they will be used properly in reasonable course of time.

Sanitation is a Government function, just as much so as is the control of smallpox or any of the other infectious diseases. In fact sanitation would never have reached its present state of perfection even in England had Government not taken a hand in the matter. But no one would argue that it is Government's duty to finance the cost of construction and maintenance of latrines throughout this Presidency. In the first place it would be impossible, in the second it would be ~~unwise~~ unwise. For Government to stimulate a movement for rural health organization in such districts as Madura by money grants is quite another problem. The District Board there has already manifested its interest in rural sanitation by providing funds for latrine construction in selected areas in the district but the funds that the Board has felt justified in allotting as an initial step are not sufficient to sanitize an area large enough to create very definite impressions, and it is for the purpose of insuring the successful

outcome



outcome of such schemes as Madura has embarked upon that we desire that Government should make a subsidiary appropriation. Nothing can be expected from the present state of inactivity, but the successful sanitation of fair sized areas in a few districts would be almost certain to set the pace for similar developments elsewhere.

Having pointed out that it is highly important to get sanitary developments actually in progress somewhere in the Presidency and thus demonstrate the feasibility of the thing, the accompanying diagram and the following outline sets forth a programme that shows about the minimum activities that can be expected of an Anti-hookworm campaign that has been in progress for almost six years.

### PROGRAMME.

#### Government Hospitals and dispensaries.

Most of those who visit hospitals and dispensaries for one reason or another harbour either a few or many hookworms and whether such persons exhibit the clinical manifestations of the disease or not they should be relieved of their parasites. Persons lightly infected and presenting none of the signs of the disease ~~xxx~~ may be classed as "hookworm carriers". Such persons are disseminators of the infection. Pending the time when infection can be held under control by sanitation much can be done to reduce the chances of re-infection by the periodic treatment of the infected.

It is proposed therefore that those applying for treatment at hospitals or dispensaries for whatever cause be treated for hookworm infection unless there exists some contra-indication. This procedure will make treatment available to thousands of individuals who could be treated in no other way, and, being carried out by the permanent Government staff, the only additional expenditure would be the cost of the drug.

For the successful operation of this procedure it would be necessary:-

1. For the Surgeon-General to issue definite orders to those in charge of all hospitals and dispensaries that:
  - a. The work is to be carried out systematically and regularly.
  - b. That records are to be kept, and
  - c. That reports are to be sent in promptly and regularly at the end of each quarter of the Calendar year.
2. That ~~xxx~~ adequate supplies of Carbon tetrachloride and Oleum



Oleum chenopodium of good quality and at reasonable cost be available at the Medical Stores Depot, Madras.

Instructions regarding the treatment of such cases, and simple forms for keeping records and reporting on the treatments given may be procured from the office of the Ankylostomiasis Campaign.

The maintenance of an Investigational Unit.

The continuance of this Campaign has been extended to 31st March, 1930, as per G.O. No. Mis., 2199 P.H., dated 30-10-1925, and the budget estimate for 1926-27 has already been submitted to the Surgeon-General.

The work of this unit during the past year has thrown much light on the intensity of hookworm infection in some of the southern districts of the Presidency. This work needs to be completed in the whole of the southern part of the presidency as well as to be extended to the northern districts. It is required also for determining what progress is being made in areas where sanitary latrines are being constructed, where ~~xxxxx~~ treatments are being given on a large scale, and for doing research work. This unit also gives a large number of treatments and does a great deal of propaganda work.

Educational work.

Educational work is to be carried on by the entire staff of the Ankylostomiasis Campaign by means of lectures accompanied by lantern slide and cinema demonstrations, by the exhibition of adult hookworms, their eggs and larvae, and by literature. This is one of the most important branches of the work and it should be conducted as intensively as possible.

The cost of this work, as far as it appertains to the actual Ankylostomiasis campaign is covered in the two budgets that have already been submitted to the Surgeon-General.

Rural sanitation.

As has been indicated already, this is the key to the final successful outcome of this campaign. There is urgent need for getting this work started somewhere in the Presidency as a possible means of inviting emulation. It may be advisable in the beginning to limit our endeavors in this field to one district until it has been proved that the method is feasible, but wherever the work is done it should be on a sufficiently large scale to leave no doubt as to the success or failure of the scheme as regards its further application.



It is suggested, therefore, that during the year 1927-28 the Government appropriate the sum of Rs.50,000 for the purpose of co-operating with the District Board of Madura (or with Madura and some other district if deemed advisable by the Surgeon-General, the Director of Public Health, the Sanitary Engineer, and the Director, Ankylostomiasis Campaign) in the work that has already commenced in Madura District.

The actual construction work will be undertaken by the District Board Engineer concerned. Maintenance will be arranged for by local authorities, and the intensive educational work, examinations, and treatments will be conducted by the Assistant Director (paid by the International Health Board) assisted by the unit termed the "Intensive Educational Campaign" and financed jointly by Government and the International Health Board.

#### S c h o o l s .

One of the most important activities in which an Anti-hookworm campaign can engage in is examination, treatment, and instruction in schools. The Ankylostomiasis campaign has always taken full advantage of this opportunity but up to the present time it has been impossible to arrange for systematic work. To carry on the work satisfactorily the campaign representatives should have the full support of the Director of Public Instruction and through him the co-operation of all the school masters. An early and complete understanding should be arrived at on this important point. Without this no satisfactory working arrangements can be evolved. Another factor of very great importance is that every institution for public instruction should be required to maintain satisfactory latrines for the two sexes, if necessary, and they should be strictly required to maintain such latrines in a clean condition. The present regulations are easily evaded, are evaded almost universally, and they should be ~~revis~~ revised.

If satisfactory arrangements could be made with the Department of Public Instruction, as is made in Ceylon and many other places, it would be most desirable to carry on a programme for the annual treatment of all school children. This might be perfected first in one or two districts and then extended to others.

Now that a scheme for the medical inspection of schools has been drawn up, it is proposed that the inspectors undertake to treat the pupils of all schools inspected and submit regular reports on their work. The cost of including this work in their programme would involve only the cost of drugs and equipment for administering them and the cost of lanterns, slides, etc., necessary for propaganda work.



This latter equipment, however, will be necessary for their use whether they undertake Anti-hookworm work or not as it will be necessary for them to lecture on all of the important communicable diseases.

The cost of the drugs, equipment, lanterns, and slides for the commencement of this undertaking is estimated at Rs.12,000 to 15,000. This would include the cost of twenty-five lanterns, complete, which / could be used for lectures on all sorts of subjects and which would last for a number of years.

#### E s t a t e   w o r k .

The heaviest hookworm infection in the Madras presidency is to be found on the tea and rubber estates. Often coolies apparently in perfect health migrate from the plains to these estates and within six months find themselves physical wrecks as a result of the entrance into their bodies of numerous larvae from the heavily polluted soil.

Few estates have made any effort to alleviate the condition of their labourers by improving the sanitary conditions about the lines. Soil pollution is universal and nothing is done to check it, yet it is well known that conditions of the ~~soil~~ soil there are much more favourable to the growth of hookworm larvae than are those in the plains. The course of events is that coolies in good health, perhaps with very light infections, go to the estates and work until their health is broken and they are no longer able to perform a full day's work. They are then discharged with a miserable pittance and sent back to their villages to become a burden ~~xxx~~ upon their relatives to whom they not ~~xxx~~ infrequently transfer the infection.

Apparently at the present time there is no way of enforcing sanitary improvements upon estates. It would seem desirable if estate owners are going to be allowed to draw coolies to their estates that reasonable provision should be made to house them in localities and under conditions that are not worse than those in the villages. Many owners argue that this is not done, but one only has to visit the lines of almost any estate to see that it is done. More individuals showing the gross evidences of hookworm disease can be seen in five minutes on the average estate than can be found in an entire east coast village. The reason for this is not that soil pollution is less in the village but that soil conditions on the estate are more favourable for development of hookworm larvae.



In several of the estates sporadic attempts have been made to improve the health of the labourers by treating those who seemed most seriously infected. But no concerted action seems ever to have been thought of by the planters.

As a means of stimulating interest in this matter on the part of the planting community it is proposed that the Campaign be provided with the services of a Second-class Health Officer who will spend the whole of his time organizing and assisting in hookworm control measures on estates. His duties would consist in visiting the individual estates, interesting the planters in control work, making sanitary reports, training the estate hospital or dispensary personnel in the newer and more effective methods of hookworm control, and securing reports on treatment, propaganda, and sanitary improvements.

The cost of this work annually would amount to about Rs.2640/-, constituting the salary, allowances, and travelling allowance of one Second-class Health Officer.

Summarizing, then, we find that the proposals submitted herewith involve:-

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|---|-------------------|
| 1. Continuance of Intensive Educational Campaign of which International Health Board contributes half the cost.                         |                   |
| Cost to Government.   | Rs.11,500.        |
| 2. Hookworm control measures in selected areas of one or two districts in co-operation with <del>one</del> one or more District Boards. |                   |
| Cost to Government.   | Rs.50,000.        |
| 3. Equipment of Medical Inspector <del>of</del> of schools with drugs and equipment for treatment and instruction of pupils.            | Rs.12,000.        |
| 4. Salary and allowances of one second-class Health Officer for work on estates.  | Rs. 2,640.        |
| Total cost to Government.   | <u>Rs.76,140.</u> |

The cost of drugs and equipment necessary to carry-on treatments in dispensaries and hospitals is not included here.