

RECENT SANITARY
DEVELOPMENTS

IN THE

MADRAS PRESIDENCY.

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NOTES

ON

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NOTES

ON

RECENT SANITARY DEVELOPMENTS IN THE MADRAS PRESIDENCY.

INTRODUCTORY.

SINCE the year 1908, when the Government of India first made large grants in aid of sanitation, much progress has been made in improving the health conditions of the Presidency. The amount of money spent on sanitation by local bodies has nearly doubled in this period, while the Government grant has more than trebled. The three All-India Sanitary Conferences—the second of which was held in November 1912 in Madras—served to focus and intensify the interest in sanitary affairs taken by officials as well as by the public generally. The demand for purer water, efficient drainage and other sanitary improvement now makes itself constantly heard through the Press, the Provincial and other Conferences which are a feature of public activity in this Presidency and the discussions in the local Legislative Council.

It may therefore be of use to publish a brief account of the more important sanitary

measures which have been recently carried out in this Presidency or are in a fair way towards accomplishment.

SYSTEM OF SANITARY ADMINISTRATION.

2. A brief statement of the system of health administration existing in this Presidency will serve to show the limitations within which progress is possible. The law affecting public health is to be found in the Local Boards Act, the City, District and Hill Municipalities Acts, the Towns Nuisances Act, the Epidemic Diseases Act and the Registration of Births and Deaths Act.* These provide for the construction and maintenance of major sanitary works, such as water-supply and drainage, for all minor works such as markets, slaughter-houses, for conservancy and lighting arrangements, for the training and employment of medical and sanitary officers and vaccinators, for the control of epidemics, for the accurate registration of vital statistics, and in short for all the numerous matters that go to make up sanitary administration in this country. The health administration of the Province is thus almost entirely vested in the various local bodies. The progress of sanitary improvement

* The Indian Ports Act also aims at preventing the importation and spread of infectious diseases from abroad.

is necessarily limited by the financial resources of these local bodies, which even when supplemented by Provincial grants are of a limited and inelastic character, and by the level of sanitary knowledge among the people, which can only be raised with the general progress of education. Thus many provisions of the sanitary law are seldom enforced in practice—such, for example, as those relating to the filling up of insanitary pools, the indiscriminate use of tanks for bathing, washing and drinking purposes both for men and cattle, and the removal of burial or burning grounds from the banks of rivers or the fore-shores of tanks. For the same reason, compulsory vaccination and compulsory registration of births and deaths are in force only in very limited areas.

Sanitary Machinery.

3. The machinery employed in the sanitary administration of the Presidency has recently been strengthened. Every municipality has a certain number of trained sanitary inspectors, each of whom is placed in charge of well-defined circles or wards. Under their control and supervision is generally a more or less well-disciplined staff of scavengers and sweepers, directly controlled by *maistris* or overseers, who perform the rôle of the non-commissioned officers in the sanitary regiment. Above the

circle inspectors there is usually a chief inspector and it has always been the rule that this entire staff should be generally guided and advised by the chief medical officer of the municipality. The three important towns of Madura, Ootacamund and Tuticorin employ a trained health officer as the head of the sanitary administration. An important step in advance has been the recent sanctioning of the appointment of health officers in 31 of the larger municipalities. Twelve of these will be health officers of the first class and the rest of the second class. On their initiative and practical common sense will depend the future permanent improvement of their towns. To advise them and keep them in touch with the larger aspects of sanitary administration three Deputy Sanitary Commissioners have been appointed, who will thus leave the Sanitary Commissioner free to deal with general problems of sanitation on broad lines throughout the Presidency.

Training of the Sanitary Staff.

4. The training of the sanitary staff is

Urban Areas.

naturally a matter of great importance. The health officers of the first class will be holders of a Public Health diploma of any of the recognised institutions in Great Britain or graduates in

Sanitary Science of the Madras University, which qualifications ensure a certain amount of practical training. For second class health officers a course of out-door practical training, extending to a period of six months, has been prescribed, during which they will be instructed in minor sanitary engineering, vaccination, malaria, hygiene and bacteriology. For sanitary inspectors, similar special courses have been laid down and they will be attached for instruction in the practical details of municipal work to specially-selected sanitary officers in the Health department of the Madras Corporation. In addition, these sanitary inspectors have to pass a quinquennial examination, the object of which is to keep them up to the latest developments in their special work.

5. In rural areas, for financial reasons, the sanitary system is not so well developed. Sanitary inspectors are employed in some union villages and a few itinerating sanitary inspectors are employed by some taluk boards. But as a rule, except the District Medical and Sanitary Officer, there is no qualified supervising officer to control their activities. It is open to any district board to appoint a Sanitary Assistant to the District Medical Officer, but so far only four districts have done so. It is proposed to

train these officers on the same lines as second-class health officers of municipalities and their employment may perhaps be extended in course of time.

6. Special arrangements have been made to provide an up-to-date training for sanitary officers. Recent improvements have been the fitting up of the hygiene laboratory of the Medical College and of the King Institute of Preventive Medicine and the decision to construct a Pathological Institute, attached to the new General Hospital at Madras, which will train medical students in the most up-to-date methods of the modern clinical pathologist and be a centre of scientific diagnosis and research.

URBAN SANITATION.

Water-supply.

7. The most pressing needs of most municipalities are an adequate protected water-supply and an efficient system of drainage. Of the 63 municipalities in this Presidency, twenty have so far been provided with a regular water-supply. Schemes have been sanctioned and are under execution in the case of eight other towns, while for six others plans and estimates are nearly ready.

Schemes for ten more towns are still in the stage of investigation. To hasten investigation, the Government have recently strengthened the establishment of the Sanitary Engineer so that at present there are two Deputy Sanitary Engineers and four Assistant Engineers working under him.

8. The financing of water-supply and drainage schemes has often proved difficult. In many cases the Government have made a free grant of half the capital cost and lent the council concerned the other half at 4 per cent., the amount being repayable with interest in twenty annual instalments. The municipalities have then taxed themselves to meet the annual working expenses and the charges necessary for the repayment of the loan. In exceptional cases, where towns could not afford even half the cost of a scheme, the Government have occasionally made a grant of three-fourths of this cost or extended the period of repayment of the loan.

9. The annual reports of the Sanitary Commissioner clearly demonstrate that towns which have a protected water-supply show less mortality from cholera and other water-borne diseases than other areas. But in several instances the advantages of such supplies have been

greatly nullified by the distribution arrangements of the councils themselves. House connections have been allowed indiscriminately and to excess, with the result that considerable wastage of water goes on unchecked in favoured parts of the town, while in other parts the people are short of water and are compelled to use tainted wells. The law allows of the levy of an extra charge for excess water or for water used for other than domestic purposes and enables chairmen of municipalities to refuse to permit a house connection unless the owner of the house agrees to fix at his own cost a meter which will enable wastage to be detected and charged for, and these provisions, systematically applied, should prevent the evils referred to. All municipalities have also been asked to frame suitable by-laws in consultation with the Sanitary Engineer fixing, with due regard to the circumstances of each locality, the quantity of water that should be given free and scales of charges for any excess over that quantity.

Drainage.

10. At present Ootacamund is the only town in the Presidency with a closed sewerage system. Besides Madras, drainage schemes for Madura and Vellore are under execution and in nine other towns investigation is in

progress. A principal difficulty in the matter is that closed systems, which are the best sanitarily, are usually beyond the means of the smaller towns.

Opening up of congested areas and town extensions.

11. The importance of opening out crowded

Congested areas. areas and of providing for the healthy and ordered

expansion of growing towns has long been recognised but till a few years ago action in this direction was hampered by want of funds. Some 30 lakhs have been spent in the last few years for these purposes. The chief directions of activity have been the construction of broad streets through congested areas, the entire demolition and re-plotting of such patches and the opening of conservancy lanes between rows of houses built back to back in the manner unfortunately so common in this Presidency. In demolishing crowded areas there is always the risk that the people evicted may move into neighbouring existing houses and it is most important to see, before clearing away a congested locality, that suitable land for the re-housing of the evicted people is provided. To obtain the best results from the provision of such new building sites, **Building rules and by-laws.** a set of rules has been issued regulating schemes of town extension.

A series of instructions has also been issued to municipal authorities for guidance in the matter of granting licenses for the construction of new buildings and huts.

12. A detailed survey of a town is an essential preliminary to any comprehensive scheme of town improvement. So far 28 of the Madras municipalities have been completely surveyed and orders have been recently issued for the simplification of the record kept and the hastening of such surveys in future. The Sanitary Commissioner and his newly-created Deputies have lately been requested to make a complete sanitary survey of certain towns in which action was specially desirable and to arrange with the councils detailed programmes of sanitary improvement to be carried through, year after year, in a systematic manner as funds permit. It is hoped in time to lay down such approved programmes for every municipality.

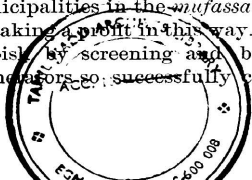
13. With the idea of educating local authorities and the public in modern methods of town-planning, the Government have invited the well-known authority on the subject, Professor Patrick Geddes of Edinburgh, to visit the Presidency and deliver lectures on the subject illustrated by an exhibition of models,

drawings, etc., showing what has been done elsewhere.

14. Mention may be made here of the erection by some municipalities of model lines for their scavenging staff and of the interesting attempt of the Madras Corporation and the Ootacamund Council to build model tenements for the very poor on a remunerative basis.

Conservancy.

15. The methods of conservancy in vogue consist in the removal of rubbish and night-soil in carts to dumping and trenching depots. Private latrines are cleaned by a special staff on payment by house-holders of a special fee. In many towns the contents of the depots are sold periodically for manure. In some the grazing on the depots is leased. Sewage farming has been attempted on a small scale in one or two places. Only four towns (Ootacamund, Berhampur, Salem and Kumbakonam) have bacterial filters or septic tanks to treat the sewage before applying it to the land. The City of Madras makes a large annual income from its sewage farm but only two municipalities in the *mufassal* have succeeded in making a profit in this way. The disposal of rubbish by screening and burning in small incinerators so successfully carried out in the



City of Madras has been commended to the municipalities in the *mufassal* for adoption.

RURAL SANITATION.

16. In rural areas, the Government are endeavouring as a first step to provide every village of over 500 inhabitants with at least one satisfactory source of drinking water, or more if caste prejudices require them.

A systematic plan of operations has recently been suggested to district boards. Under this, work is to be confined to one or two taluks to begin with. For each of these a special well overseer is to be appointed, furnished with a simple set of boring, blasting and pumping tools and properly trained, at classes held in Madras, in the use of these. He is to select sites for new wells, pick out existing wells for improvement, prepare necessary plans and estimates and get them duly sanctioned, and nominate contractors (preferably from among the residents of the village) to carry out the sanctioned works. Wells are to be his first care and it is only when, owing to local conditions, wells fail to give good water that he is to suggest expenditure upon tanks, which are always difficult to render sanitarily safe. One method of treating tanks is to fence them with barbed wire to keep people and cattle from getting into the water

and connect them with draw-wells dug outside the fence. Step-wells—a special feature of the Ceded districts—are discouraged and where possible converted into draw-wells, as wells into which people can walk are a fruitful source of guinea-worm and other diseases.

17. In the district of Anantapur, which has **Special Operations in** lately suffered greatly from **Anantapur.** cholera, the Government have, as an experiment, taken under their own control the conduct of these operations for providing more and better wells. A special Assistant Sanitary Engineer has been deputed to work there, taluk by taluk, to design, estimate for and carry out adequate improvements to the existing sources of supply, so as to furnish every village with over 500 inhabitants with a reasonably pure supply of water.

18. Even when good draw-wells have been **Protected Wells.** built they are likely to be polluted and rendered dangerous to health if water is drawn from them by means of dirty ropes or vessels, and an experiment is being tried with wells fitted with a permanent covering and supplied with three or four pumps of a simple pattern. A number of existing wells are being selected in a limited number of districts and fitted at the expense of Government with these coverings and pumps so that it may be seen how they work in

practice and how the people like them. So far the results are most encouraging.

19. More elaborate schemes of water-supply have been investigated in certain union villages, but in almost every case have had to be given up on financial grounds. It is proposed to alter the law so as to allow non-municipal areas to levy a special tax for water-supply if the people are willing.

20. Except in some of the major unions, where inexpensive and partial systems of open drainage have been put down, no advance in draining non-municipal towns has been made.

CONTROL OF EPIDEMICS.

Cholera.

21. Pure water, proper drainage and other measures of sanitary reform are calculated to prevent cholera, but few towns are as yet equipped with them and until this has been everywhere effected it is essential to make special arrangements to meet sudden outbreaks and bring them under control at the earliest possible moment. As early as 1896 the Gov-

Preventive arrangements in Towns. government laid down a set of rules to be observed in municipal areas threatened with an outbreak

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of cholera and these are in force in 32 municipalities. Under them, each town is divided into certain well-defined circles, each with a complement of sanitary inspectors and staff with the necessary stock of medicines and disinfectants. This establishment is formed as soon as the need arises. Its duty is to search for cases, treat them with medicine, see to the removal and safe disposal of all infected matter, hankinise wells and tanks, etc. In rural areas similar organised action has recently been attempted. As an experiment, two reserve cholera parties, each consisting of ten sanitary inspectors with an assistant surgeon in charge, have been formed

**Cholera
Parties.**

Reserve

to work under the Sanitary Commissioner to combat cholera. They form a compact force of trained men who can be despatched to any rural centre of infection at a moment's notice to fight the epidemic in a systematic manner. The first two parties formed were successful and two more have since been constituted. When not engaged in combating cholera, these parties are sent in batches of five to tour in the union villages of selected districts, to remove the more crying sanitary defects found therein, and generally, by example and precept, to familiarize the people with the principles of sanitation.

D.S.

Small-pox.

22. Vaccination has always been compulsory in municipal areas. In

Vaccination.

consequence, mortality from small-pox in towns is usually much smaller than in rural areas. In some of the latter a special system has been tried under which a better paid staff, under better supervision, is employed and compulsory vaccination and registration of births is simultaneously introduced. This met with varying success and is not being further proceeded with. The vaccine employed is pure glycerinated or lanolised lymph manufactured by the King Institute at Guindy near Madras. A cold storage and refrigerating plant has recently been installed there to preserve the lymph from deterioration pending its distribution.

Plague.

23. Plague in this Presidency is now princi-

Distribution of plague.

pally confined to the districts bordering on Mysore, Hyderabad and the Bombay Presidency. When the disease first appeared, in 1898, it was more widely distributed and restrictions on the

Passport system.

movement of passengers from infected areas were deemed to be essential for the safety of the public. The "passport system," which required

persons moving from infected areas to provide themselves with a passport and submit to medical examination for ten days on reaching their new destination, was accordingly introduced. This was abolished in June last and replaced by

Plague Notification System. a simpler system of "notification" under which a traveller from an infected area and the owner of the house where he stays are required to give prompt notice of any rat-falls or illness or suspicious sudden deaths in the house, and thus to direct the activities of the preventive staff at the earliest possible moment to the infected spot. The usual measures, when plague has broken out, consist in the employment of trained observation and preventive staffs in and about the affected areas, evacuation, disinfection, destruction of rats and voluntary inoculation, which last, the most effective of all, is slowly becoming more popular. Systematic measures are taken in the off-season to diminish the rat population of affected parts. Inspection stations have been established at all the frontier railway

Observation Circles. stations to check the inflow of infection by rail and permanent preventive circles have been formed in all the border districts to watch arrivals by road.

TUBERCULOSIS:

24. A committee of medical experts appointed by the Government to consider and formulate the measures necessary to meet this disease recommended

(1) the construction of a hospital near Madras for advanced cases of consumption ;

(2) the institution of three sanatoria for the treatment of the less advanced cases, to be located in suitable places, one in the northern, one in the central, and a third in the southern portion of the Presidency ; and

(3) the provision of special phthisis wards in each district head-quarter hospital.

25. The General Committee of the Edward VII Memorial Fund decided

that the memorial should take the form of a hospital for consumptives with one or more sanatoria attached to it in different parts of the Presidency. The hope of providing these sanatoria had eventually to be given up for want of funds, but the building and maintenance of a well-equipped Central

Tuberculosis Institute at Madras has been decided

upon. In addition to a grant of nearly two lakhs and a quarter, the Government have undertaken to give a site near the new General

Hospital which is to be constructed on the Spur Tank at Egmore in Madras. The Institute will include a tuberculin dispensary and provide for the conduct of research work, for the dissemination of information relating to tuberculosis and for the training of practitioners and nurses in the treatment of the disease. It will thus form a nucleus of the staff required to man any tuberculosis dispensaries that may be opened in the districts.

26. The opening of such dispensaries will naturally depend upon local needs and circumstances, but the Government have expressed their willingness to make grants in aid of local bodies which are desirous of opening them and are able to provide the necessary qualified staff to manage them on approved lines.

27. As already stated, the provision of State sanatoria for the open-air treatment of consumptives had reluctantly to be given up. But the South Indian Missionary Association has started a sanatorium at Madanapalle and the Government have sanctioned it a half grant up to a limit of Rs. 30,000 towards the building and equipment and a recurring grant, not exceeding Rs. 10,000 per annum towards the working expenses.

One of the conditions of Government aid is that the attendance of patients at religious lectures or services shall be entirely optional.

28. Other suggestions made to prevent the spread of tuberculosis included the giving of special instruction regarding the disease in schools in the larger towns, the establishment of special classes for tuberculous children, the visitation of patients in their homes by qualified medical men and nurses and the formation of anti-tuberculosis leagues. The advisability of introducing the system of compulsory notification of tuberculosis is at present under consideration.

**Compulsory
notification
of
tuberculosis.**

**notifi-
cation
of
Tuber-
culosis.**

LEPROSY.

29. Another matter in which the Government have decided to make a definite move forward is the care and treatment of lepers in this Presidency. For many years a leper hospital at Madras and a lazaretto at Palliport in Cochin (Malabar) have been at work and in recent years seven or eight leper homes have been started in various parts of the Presidency by mission agency. These are all voluntary asylums and are not available for the segregation of pauper lepers, who form the chief danger. At the last census it was found that the number of lepers was increasing and the absence of any

restrictions on their movements or on their engaging in occupations likely to convey contagion attracted attention. In the City of Madras the Corporation has enacted by-laws

Application of the Indian Leper Act. prohibiting lepers from following certain occupations connected with the sale and manufacture of food and drink, but they are applicable only in the Presidency town. The Government have now decided to apply the provisions of the Indian Leper Act throughout the Presidency and to build a Central Home for some 300 lepers at Chingleput.

Central Home for Lepers.

MALARIA.

30. Systematic efforts to combat malaria date from the Malaria Conference held at Simla in October 1909. A Malaria

Malaria Board.

Board composed of the Forest Member of the Board of Revenue as President and the Surgeon-General and the Sanitary Commissioner as members was constituted for this Presidency.

Early in 1910 Major Ross pressed on the attention of the Government the serious menace offered to Madras by the fact that Ennore and other adjacent villages were centres of a virulent type of malaria. An exhaustive

Antimalarial Operations around Ennore.

examination of this locality was carried out by the Malaria Board and preventive operations at a cost of nearly a lakh of rupees were sanctioned. The work carried out so far, which consisted chiefly in removing all pools and pits in which mosquitoes might breed, has proved effective and there is now a considerable improvement in the health of the locality.

31. Side by side with these operations the **Antimalarial Operations around Madras.** Madras Corporation carried on a vigorous campaign against malaria, especially in the northern half of the city. A thorough malarial survey has been completed ; wells and pools which are known to breed the special carriers of malaria are being systematically closed or drained ; and medical relief and helpful advice to people attacked are brought to their homes by a special staff of European nurses.

32. A Special Malaria Officer was appointed **Special Malaria Officer.** and has recently completed an exhaustive examination of the vital statistics of the Presidency. His researches confirm the general impression already entertained of the distribution of malaria. The Agency tracts, the Ghat tracts of the West Coast, the Ceded districts, parts of Nellore, certain low hills and a few low-lying lands on the East Coast are the

special haunts of the disease. This preliminary survey has become the starting point for field work and for a series of detailed surveys of

Stegomyia Survey.

special localities. A stegomyia survey was carried out in the ports of Madras, Negapatam and Tuticorin. An enquiry into elephantiasis in Cochin made by Captains Cruickshank and Wright of the Pasteur Institute, Coonoor, incriminated the mosquitoes of that locality and a later and more complete survey of this town has resulted in a war of extermination against these pests. Antimalarial operations have followed

Malarial Survey.

the survey of Koraput in the Vizagapatam Agency. In Wynaad the planting community formed a Medical Association to rid the estates of malaria. The plan of operation submitted by their medical officer led to a survey of these tracts by the Special Malaria Officer and active preventive operations have now been started there. Major Ross also investigated the malaria problem in parts of the Kurnool district and in the town of Cuddapah and his recommendations are being carried out.

33. Mr. Wilson, the Piscicultural Expert,

Larvicidal Fish.

has prepared a set of instructions in regard to the stocking of ponds and tanks with different kinds of larvicidal fish and in regard to

watertidiness in general. It has been circulated to all local boards and municipalities and should be of great assistance to those bodies in their efforts in getting rid of mosquitoes.

ITINERATING DISPENSARIES.

34. Malaria is endemic in the Agency tracts. In September 1910 two temporary travelling dispensaries to carry medical relief to the doors of the people were started in the Godavari Agency. As these were not successful it was decided to try the experiment on a larger scale. Selected sub-assistant surgeons have been trained in malaria field work and also in the etiology of the commoner diseases and trained to give popular lectures and demonstrations. They have been sent out, in the first instance, to work in parts of the Godavari and Vizagapatam Agencies, and in Kurnool and Salem districts. They are to treat people for all simple ailments—not only malaria—and at the same time to educate them (especially school children, their teachers and the village authorities) in elementary notions of hygiene. They will also carry out a rough malarial survey of the localities they travel through.

QUININE TREATMENT.

35. The use of quinine as a prophylactic against malaria has long been encouraged. It is

sold in ten-grain powders at all post offices and by all village officers and certain select revenue officers, the price being a pice per powder. Its sale is encouraged by giving a liberal commission to sellers. The question of appointing elementary schoolmasters and vaccinators as agents for its sale is now being considered.

RESEARCH.

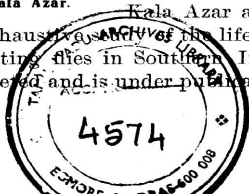
36. The centre of research work in this Presidency is the King Institute at Guindy.

The work done in the **King Institute of Preventive Medicine.** vaccine section of this and also in training the sanitary staff has already been mentioned. In the micro-biological section, in addition to much valuable work on serum-therapy, a series of important experiments has been carried on in the analysis of samples of water, in the fixation of a standard of purity for drinking-water for this country, in the comparative merits of mechanical and sand filters and in the value of different methods of sewage treatment. The researches of Colonel Donovan and Captain

Kala Azar.

Patton in the etiology of Kala Azar are well known.

An exhaustive survey of the life histories of all the biting flies in Southern India has been completed and is under publication.



37. Recently the Government have been enabled by the generosity of the Raja of Pithapuram to engage a Beit Memorial scholar to conduct researches into the causation, prevention and, if possible, the cure of diabetes, which annually takes such a heavy toll of the best talent of the Presidency.

MILK SUPPLY.

38. The question of improving the milk-supply, which has an important bearing upon infant mortality, has so far been considered as regards Madras city alone.

The Government requested the Corporation to make an examination of the problem there and Captain Russell, the Health Officer, suggested among other things that as an immediate measure model cow-houses should be constructed in selected places in the city, where milch cattle could be housed under effective supervision, the owners being allowed to rent the stalls. The scheme has been approved and is in course of execution.

SCHOOL HYGIENE AND EDUCATION.

The need for the medical inspection of scholars in schools under public management has been under consideration and it is proposed to effect a preliminary examination by a competent medical officer of those in all

the elementary schools maintained by the Corporation of Madras. The medical officer is to report on the existing conditions of school life ; the physical conditions of the scholars (including cleanliness of person and clothing) ; defects and diseases of the organs of sense ; acute diseases and chronic diseased conditions affecting the capacity for school-work ; defects and deformities, congenital or acquired, requiring special arrangement in the class-room or special systems of training ; the site, surroundings, size and arrangement of rooms, lighting, ventilation, water-supply and other sanitary arrangements of school-houses.

Instruction in elementary hygiene is now a part of the regular curriculum of all elementary schools and teachers are specially trained in the subject at the training schools. A specially selected officer of the Indian Medical Service lectures every year to the students of the Teachers' College on physiology and school hygiene while in the training schools for mistresses special instruction is given in health and house management. A proposal is under consideration this year to engage lady doctors to deliver a course of lectures to the

First aid and Hygiene in Training Schools for Mistresses.	mistresses under training at Madras on First Aid and Hygiene. Mention has
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already been made of the function of itinerating dispensaries in certain areas in imparting useful instruction to boys on simple sanitary matters. The Sanitary Commissioner is now

Magic Lantern Lectures and Demonstrations.

engaged in preparing a set of simple lectures on such common subjects as water, air, light, malaria, plague, cholera, etc., and the necessary magic lantern slides for use with them. These will be handed to inspecting educational officers so that they may hold demonstrations at the schools they inspect.

CONCLUSION.

39. It will be seen from the foregoing brief account that sanitary progress has been rapid in recent years. This has been possible only through the increasing measure of popular co-operation and voluntary aid which has met the Government on all sides and of which many instances could be given. It is to encourage and stimulate this further that the present summary has been compiled.



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