

Dr. R. Deane Sweeting's report to the Local Government Board on the sanitary circumstances and administration of the Bedford Rural District.

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REPORTS

TO THE

LOCAL GOVERNMENT BOARD

ON

PUBLIC HEALTH AND MEDICAL
SUBJECTS.

(NEW SERIES No. 58.)

Dr. R. Deane Sweeting's Report to the Local
Government Board on the Sanitary Cir-
cumstances and Administration of the
Bedford Rural District.

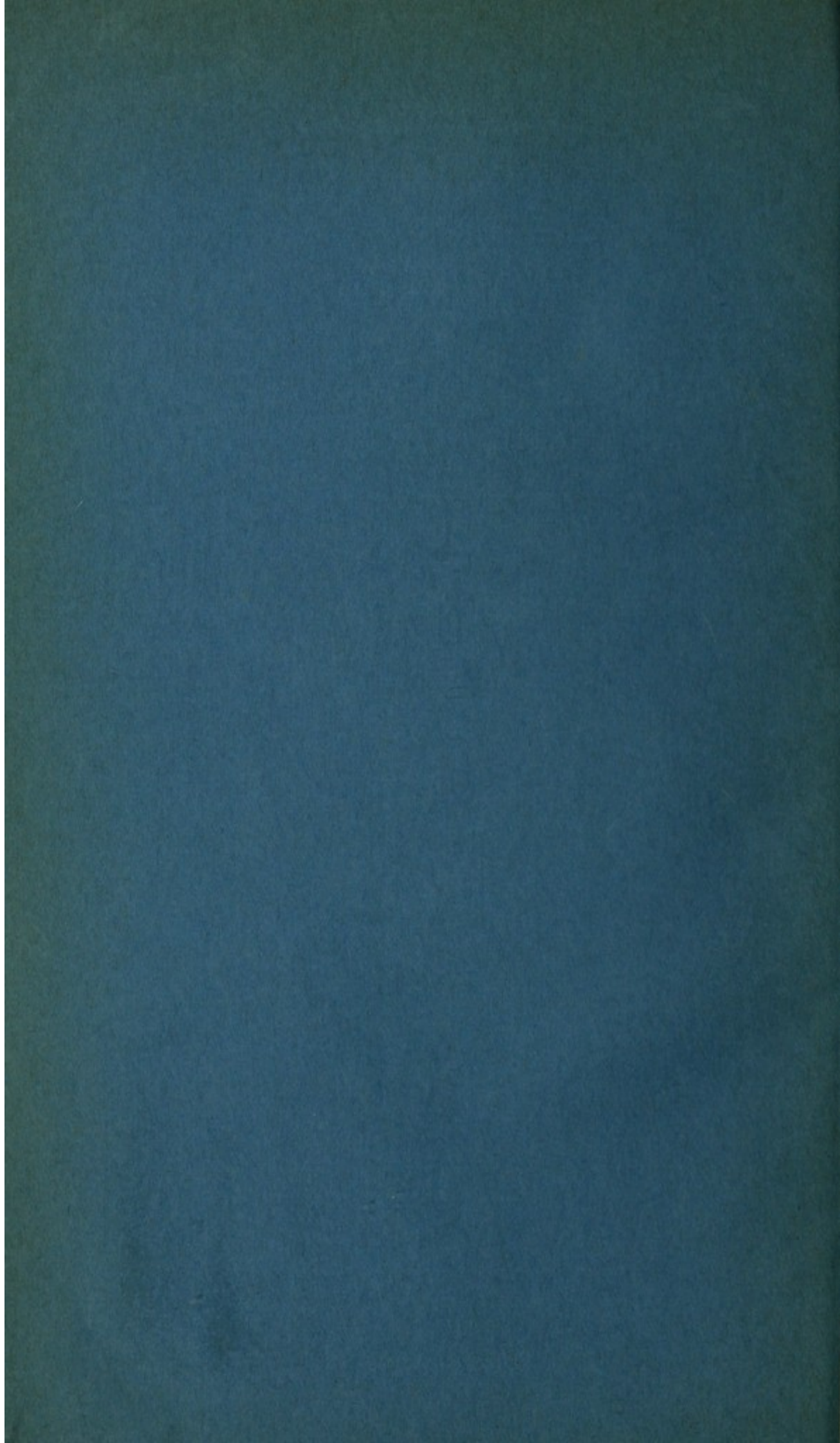


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Dr. R. Deane Sweeting's Report to the Local Government Board on the Sanitary Circumstances and Administration of the Bedford Rural District.

ARTHUR NEWSHOLME,

Medical Officer,

22 August, 1911.

The Bedford Rural District, which is the Bedford Registration District, less the Borough of Bedford and the Urban District of Kempston, is the northernmost sanitary district of the County of Bedford, and adjoins the counties of Northampton on the north-west and Buckingham on the west. It is bounded on the east by the Biggleswade Rural District, on the north-east by the Eaton-Socon Rural District, on the north-west by the Wellingborough Rural District, on the west by the Newport Pagnell Rural District, and on the south by the Ampthill Rural District.

The area of the district is 98,452 acres. The number of inhabited houses diminished from 5,247 in 1891 to 4,622 in 1901; the population diminished, in the same inter-censal period, from 20,280 to 18,851. The present population, as enumerated at the 1911 Census, is 19,214. The density of the district is very low, viz., about one person to 5 acres.

There are 41 contributory places or parishes, the area, number of inhabited houses, and population in 1891 and 1901 of each of them being given in the following Table (A) :—

BEDFORD RURAL DISTRICT.

Table (A), showing for each parish of the district the area, number of inhabited houses, and population in 1891 and 1901.

Parish	Area in Acres.	No. of Inhabited Houses.		Population.	
	1901.	1891.	1901.	1891.	1901.
Biddenham	1,586	74	79	352	325
Bletsoe	2,250	77	73	337	286
Bolnhurst... ..	2,333	58	50	233	188
Bromham... ..	1,827	69	77	319	321
Cardington	2,523	104	103	438	433
Carlton	1,530	101	101	379	351
Chellington	549	29	26	95	87
Clapham	1,995	163	179	725	788
Colnworth	2,323	82	66	365	297
Cople	2,132	94	93	424	377
Eastcots	2,816	185	187	830	871
Elstow	1,617	105	114	478	479
Felmersham-cum-Radwell	1,991	100	100	430	395

Parish.	Area in Acres.	No. of Inhabited Houses.		Population.	
		1901.	1891.	1901.	1891.
Goldington	2,588	127	146	587	587
Great Barford	2,868	172	180	746	681
Harrold	3,242	253	244	976	909
Kempston Rural... ..	3,771	152	147	747	719
Keysoe	3,699	167	136	662	525
Knotting	1,739	35	29	161	107
Melchbourne	2,638	40	44	165	174
Milton Ernest	1,599	97	92	413	367
Oakley	1,786	66	74	250	299
Odell	2,901	87	76	388	281
Pavenham	1,370	99	90	387	333
Poddington	3,516	124	122	504	529
Ravensden	2,290	99	91	440	375
Renhold	2,211	105	100	481	425
Riseley	3,103	190	182	839	735
Roxton	2,941	113	100	441	349
Sharnbrook	2,418	165	172	767	685
Souldrop	1,076	50	46	221	171
Stagsden	3,419	113	108	470	429
Steventon... ..	1,821	133	131	601	536
Thurleigh... ..	3,418	132	127	529	485
Turvey	4,011	209	201	882	782
Wilden	2,266	89	82	388	319
Wilhampstead	3,131	190	174	787	689
Willington	1,660	56	53	234	204
Wootton	3,788	268	265	1,253	1,252
Wymington	1,760	74	106	336	509
Yielden	1,950	60	56	220	197
Total (41)	98,452	4,706	4,622	20,280	18,851

Most of the parishes contain a scattered population, but there are several compact villages, *e.g.*, at Clapham, Harrold, Sharnbrook, Wootton.

The River Ouse traverses the district from west to east, taking a circuitous course, first proceeding north, then bending south to pass through Bedford Borough, finally leaving the district on the east of that borough.

The valley of the Ouse is composed of gravel and alluvium, with some boulder clay. The northern part of the district is placed chiefly on the great oolite formation (clay and white limestone); the southern part on the Oxford clay. There are considerable irregularly-shaped patches of cornbrash (clay and blue limestone), especially marked in the north and west of the district. The land is generally of an undulatory character.

Agriculture is the main occupation of the inhabitants. But there are a few flour mills and leather factories in the district.

The rateable value is £160,586; a penny in the £ produces £548. The general district rate at the last half-year was 3d. in the £. Outstanding loans at Lady Day, 1910, were £7,770; £400 a year is paid off these.

Kempston Parish was inspected by me in 1885 on account of the prevalence of diphtheria, as shown in the returns of the Registrar-General. An abstract of my report appears in the Medical Officer's Report to the Board for 1885, from which it is seen that diphtheria, which had been imported from Bedford Borough into Kempston, was spread chiefly by the medium of a certain school there, and that its incidence was not determined by any special local insanitary conditions. There were, however, abundant circumstances of this sort, viz., shallow wells exposed to pollution, foul pit privies, faulty refuse disposal, dilapidated cottages, and absence of drainage. In 1896, 1,255 acres of Kempston Parish, including the village of that name, were formed into an urban district, the remainder constituting the present "Kempston Rural" parish of the Bedford Rural District, which is a very scattered and sparsely inhabited portion of that district. It may be convenient to state here that there has been some improvement in the sanitary state of this newly-formed parish, compared with that of the old Parish of Kempston, especially in the replacement of pit privies by movable pails.

Dr. Fletcher conferred in 1907 with the rural district council as to the appointment of medical officer of health, when the combination with the Biggleswade districts was about to be dissolved: and Mr. Huddart made inquiry in 1909 as to the sufficiency of the arrangements for the discharge of the duties of inspector of nuisances.

SANITARY CIRCUMSTANCES.

Condition of Roads.—Nearly all the road mileage in the district represents main roads repairable by the County Council, but I am unable to give any numerical proportion. Some 38 miles of district roads are said to be metalled and 20 unmetalled. On the whole, the condition of both main and district roads may be said to be satisfactory.

Housing.—Cottages are usually of brick and with slated roofs; but there are a few wooden cottages in the district and a considerable number of thatched roofs. Many defective and leaking roofs are to be found, as well as dilapidated ceilings. Eave-spouting is deficient in many places, conducing to damp foundations. Not a few floors, too, are damp, and some of them are below ground level. Some walls are damp from faulty bricks. A few cottages were found without through ventilation, but none actually back-to-back. No definite over-crowding of persons was met with, though there were suspicious borderland cases. Some curtilages are narrow, others are encroached upon by obstructive buildings, materially reducing the rear space. In many yards paving is either defective or absent, conducing to their general unsatisfactory condition.

But it cannot be said that the rural district council are not alive to the need for improvement in housing conditions in their district. Active steps are being taken to enforce the provisions of the Housing Act of 1909, five houses having already been closed,

and one demolished under this Act. And Major Norton, one of the Board's Engineering Inspectors, held an inquiry on April 18th of this year into an application of the Council to borrow £1,100 for the purposes of a scheme under Part III. of the Housing of the Working Classes Act, 1890, for the provision of cottages for persons of the working classes in the parish of Sharnbrook.*

The number of new houses erected has increased from 42 in 1909 to 50 in 1910.

The bye-laws relating to new streets and buildings were sanctioned in 1898, and are now undergoing revision.

Water Supply.—The principal public supply to the district is that of the Biggleswade Water Board, derived from a well 175 feet deep in the lower greensand beneath the gault, about $2\frac{1}{2}$ miles south of Biggleswade town. The water is pumped from this well to a reservoir holding $1\frac{1}{2}$ million gallons at Topler's Hill, a mile south of Biggleswade, passing thence to a tank containing 78,300 gallons, whence it descends by gravitation to taps and standpipes. The water of the well has been favourably reported upon by the late Dr. Stevenson and by local analysts.

Sanction to loans for the use of this water has been granted by the Board, viz., to Cardington Parish for £800 in December, 1906; to Elstow Parish for £600 at the same time, and for £35 excess in January, 1908; to Goldington Parish for £4,524 in July, 1910, and to Renhold Parish for £1,276 at the same time. The schemes for the two latter parishes are in course of being carried out. Cardington and Elstow are now supplied with Biggleswade water from the Water Board's mains which pass through Kempston Urban District. This district also has the Board's sanction to supply Cople and Eastcots, but this has not yet been done. In addition, some parts of Eastcote Parish, viz., at Harrowden, are privately supplied by landlords with this Biggleswade water. Another public supply is at Biddenham Parish, where a few villa residences have the Bedford borough mains extended to them. Lastly, Wymington is within the statutory limits of supply of the Higham Ferrers and Rushden Water Board, and is supplied at present from this source. There is provision in the Act for extending this supply to Poddington. The other sources of supply comprise wells, shallow, "dip" and deep, pond-water and rain-water. Shallow wells still constitute the major part of the supply of the district; they are usually dry-steined, some 6 feet to 8 feet deep, and generally fitted with pumps, though some are dipped by buckets. They are exposed to manifold sources of pollution; some are fed by filthy ponds. Unsatisfactory shallow wells abound in parishes such as Barford and Cople, where the Biggleswade water mains are available. At New Fenlake, in Eastcots Parish, the wells are sunk in the gravel subsoil, and one usually serves from two to five houses. They are exposed to contamination from leaking drains and pervious cesspools (*see later, p. 6*). The "dip wells" are usually roadside surface water receptacles, though a

* The Board's consideration of this application was deferred until certain suggested alterations in the design of the cottages have been considered by the Council. Sanction has now been promised.

few are fed with impounded spring water. They, too, are liable to contamination of various sorts, *e.g.*, at Keysoe and Thurleigh. There are several good deep wells in the district, some 70 feet to 80 feet deep, as at Milton Ernest and Steventon, which are apparently well protected from pollution; but other deep wells, as at Coton End (Eastcots Parish), receive some surface water which is turbid and full of flocculent suspended matter. Some of the deep wells, as at Wilhampstead Parish, are not sufficiently accessible, considerable distances having to be traversed to get to them. Pond-water forms an occasional supply at Stagsden when the well-water here runs short: such pond-water is very turbid and full of green, flocculent substance. Some shallow wells, as at Clapham and Riseley, are fed by pond water.

Rain-water from underground tanks forms the chief supply at Ravensden; it is not always filtered. Part of one parish (Bromham) is supplied from a private source, *viz.*, a deep well from which water is raised by a wind-pump to iron tanks, badly placed in a farm building quite close to cow-sheds, and thence distributed to stand-taps.

Sewerage, Sewage Disposal, and House Drainage.

There are fairly complete systems of sewerage at Wootton, Wymington, and Poddington, and less complete arrangements at Sharnbrook and Turvey.

At Wootton there is a 9 inch main with manholes and ventilating grids; flushing is effected by a rain-water penstock. The effluent passes to a ditch, and thence to the River Ouse, three-quarters of a mile away; the ditch was silted up with black sewage at my visit. At Wymington there is likewise a 9-inch main provided with an automatic syphon flushing tank, but only two 6-inch upcast shaft ventilators: a 6-inch branch pipe serves some eighteen houses at New Wymington. These pipes converge to the disposal works, which consist of two small septic tanks and contact beds of coarse and fine slag, on an area of 27 feet by 12 feet, and of a depth of 4 feet. The effluent from these works passes to a ditch, which was fairly clean at my visit. At Poddington there is a short length of a 6 inch pipe which receives the contents of a few water closets and most of the slops of the place. This pipe discharges into a small septic tank and a coke breeze bacteria bed. The effluent passes to a ditch, which was not very clean at my visit; it is supposed to be looked after by the owner of the chief estate at Poddington.

There are two small systems at Sharnbrook—one consisting of gravel filters with discharge into the River Ouse—an unsatisfactory arrangement, the effluent being very turbid; and another by which sewage passes through a series of tanks to be automatically distributed over about half an acre of land by subsoil irrigation. These works were in a somewhat neglected state at my visit, and appeared to require considerable overhauling. At Turvey there is a short length of a sanitary 15-inch pipe which delivers directly into a brook, the banks of which are silted up with foul sewage.

Highway drains are commonly used as sewers, *e.g.*, at Barford and Eastcots; storm culverts for the same purpose, as at Carlton; and culverted streams, as at Harrold. The ultimate destination of all sewage so conveyed is into ditches, brooks, streams, and ultimately the River Ouse.

Similarly cesspool overflows directly reach such water-courses as at Goldington and Stagsden; at Renhold there is some intermediate coke filtration.

At New Fenlake (houses 60, population 270), a hamlet of Eastcots Parish, closely contiguous to the Bedford Borough boundary, and only about one-third of a mile from the centre of the borough, the cesspools are almost without exception badly constructed, foul, and overfull. There are 34 cesspools to 60 houses, and most of them were overflowing at my visit, so much so that the cottagers were using sump-holes in their gardens for slops, instead of throwing these down the gullies. The pipes connecting these gullies with the cesspools are badly laid agricultural pipes, and few are water-tight. Mr. Parbury, the medical officer of health, has fully reported upon the drainage and water supply of New Fenlake to the rural district council, and has analysed several samples of suspicious water there. He has found an excess of nitrates on several occasions, pointing to prolonged contamination. On one occasion he actually saw a drain leaking into a well.

I understand that a committee of the council has been appointed to deal with the water supply and drainage of New Fenlake.

House drainage is imperfect in many parts of the district, *e.g.*, at Barford and Harrold—blocked gullies and drains being often found. The common destination of house sewage is the nearest ditch or water-course.

Slop nuisances, indeed, of the gravest kind abound in the district, and with this there is widespread pollution of the tributaries of the River Ouse, and through them of the river itself.

Excrement Disposal.—The common village "privy vault" still forms the chief mode of disposing of excrement, scavenging being effected irregularly and at long intervals. Some of the vaults are, in semi-urban parts, quite close to cottages; others are placed on river banks and liable to have their contents swept into the river during flood. There are also a good many middens, *e.g.*, at Clapham and Riseley; some of them are quite close to wells (Eastcots); a few, however, are cemented (Sharnbrook).

Conversion of privies into pail closets is proceeding steadily, 245 such conversions having been carried out under the auspices of Mr. Chapman, the inspector of nuisances, during the last two years. Earth or sawdust is occasionally applied to the contents of these (usually galvanised zinc) pails, but this is the exception rather than the rule, which is that the pail contents have nothing added to them at all. Some of the pails that I saw were badly and inconveniently placed, others leaky.

There are very few water-closets in the district, only at better class residences, as at Sharnbrook. Their contents usually discharge into cesspools with overflow to streams, but in some cases to water-courses after gravel filtration, or to land after sedimentation in tanks.

Refuse Disposal.—As a rule, house refuse is found lying about haphazard in back-yards and gardens, being sometimes gathered into heaps with decaying vegetables. Occasionally household slops are thrown on to these heaps. There are, however, a considerable number of brick ashpits in the district, but the majority of these are uncovered and deep, and usually overfull. A small number are covered with corrugated iron or wood.

Some refuse is taken by occupiers to their allotments; otherwise it is dug into garden ground at irregular intervals. But in the majority of instances it remains unremoved for indefinite periods, causing grave nuisance. Fowl-keeping of an ill-regulated kind adds in some parts to the general nuisance.

Public Scavenging.—This exists in only one parish of the district, viz., Wymington, where there is an agreement between the parochial committee and a Rushden contractor. The terms are £14 a year for weekly removal of night soil, and 3s. a month for monthly removal of ashes and house refuse. Judging by the condition of Wymington village at my visit, the carrying out of this agreement leaves a great deal to be desired, and the present arrangements are very faulty.

Regulated Trades.—There are nine slaughter-houses in the district. In the absence of urban powers under the Public Health Act, none of them is registered, and there are no bye-laws controlling them. Some are, on the whole, satisfactory; but the majority are badly placed and floored; have dirty walls, and are without bloodholes.

There are 104 registered cowsheds and 16 registered dairies controlled by regulations drawn up in 1899 under the Dairies, Cowsheds and Milkshops Order of 1885. I visited the majority, and found about an equal number satisfactory and unsatisfactory. The main defects of the latter class were dilapidation of structure, bad flooring, defective through ventilation, absence of proper lighting, and uncleanness. In this latter regard, I met with many very dirty cows, and one case in which milk exposed for sale was not only dirty, but contained hair and straw. On the whole, however, I am satisfied that steady progress is being made in improving the cowsheds, and I found evidence of activity in this respect on the part of Mr. Chapman, the inspector of nuisances, especially in the matter of proper flooring. The dairies are mostly clean, but many serve as larders.

There are no milkshops in the district.

There are 42 registered bakehouses. Most of them are, on the whole, satisfactory; but some are badly kept and dirty (cobwebs being found in a considerable number of them); others are deficient in through ventilation, and yet others are badly floored.

There is a considerable amount of pig-keeping in the district, which is unregulated by bye-laws. Many of the styes are in too close proximity to cottage dwellings.

SANITARY ADMINISTRATION.

The Bedford rural district council consists of 38 members who meet once every quarter. There is no sanitary committee. The clerk, medical officer of health, and inspector of nuisances informally confer together every week to decide on the sending out of notices.

Mr. W. Payne is clerk at a salary of £135 *plus* £20 for office rent. He is also clerk to the Bedford board of guardians and to Kempston urban district council.

Mr. W. K. Parbury, M.R.C.S., L.R.C.P., D.P.H. (Camb.), appointed in 1907 on the dissolution of the combination with Biggleswade urban and rural districts, is medical officer of health at a salary of £200, half re-paid by the county council. He is also district medical officer for the Sharnbrook district of the Bedford Union. He lives at Sharnbrook village, conveniently situated for his work, much of which is carried out with the aid of a motor-car. Though engaged in considerable private practice, in which, however, he is assisted by a medical subordinate, Mr. Parbury devotes considerable time to his public health duties. He keeps his journal well, and attends the meetings of the district council with regularity, where he reads out his monthly reports and advises the council upon the sanitary needs of the district. He makes besides occasional special reports to them, as that upon the water supply and drainage of New Fenlake, and his annual reports contain much useful information. Mr. Parbury is a thoroughly satisfactory officer, and has a good knowledge of his district and of its needs.

Mr. F. R. Chapman is inspector of nuisances at £160 a year, half re-paid by the county council, and building surveyor at £50. He holds the certificate of the Royal Sanitary Institute, and was appointed to his present position in 1908, having previously held a similar appointment elsewhere.

Mr. Chapman keeps his books well and has a full knowledge of his district. He has been active in endeavouring to improve the condition of the cowsheds, and has already succeeded in bringing about many improvements in them, especially as regards proper flooring and general cleanliness. Systematic house-to-house inspection of each parish is made, according to a scheme drawn up by Mr. Parbury and himself, whereby certain parishes are visited yearly in stated months, and re-visited the next month, in order to ascertain what improvements have been carried out. A great many verbal intimations are given at these inspections, which often have the desired effect; but, in addition, many intimation notices and statutory notices have been served. Thus, in 1909, there were 163 intimation notices relating to 792 nuisances; 728 of these were abated at the end of that year; and in 1910, 112 intimation notices, relating to 635 nuisances, were served, of which 622 were abated at the end of that year. Again, 14 statutory notices were served in 1909 and 18 in 1910; no proceedings were necessary after these notices. The above notices related in 1909 (the latest available data) chiefly to offensive accumulations, dilapidated privies and ashpits, defective drains and foul water-courses. In the same year (1909) 3,164 houses were visited during the systematic inspection, at which 699 nuisances were found, 650 of which were afterwards abated. Similarly, 125 cowsheds were inspected, at which 41 nuisances were found, 34 of which were abated. The above is a creditable record, and I have no hesitation in regarding Mr. Chapman as a thoroughly competent officer.

Bye-laws relating to cleansing and scavenging were confirmed by the Board in 1881; with respect to new streets and buildings in

1898. The latter code is in process of revision, which might with advantage be extended to the other series also, since this is of somewhat obsolete character.

Adoptive Acts.—The provisions of Part III. of the Public Health Acts Amendment Act, 1890, applicable in rural sanitary districts, were adopted in 1898 for the district as extended.

Infectious Diseases (prevalence of and dealing with).

During the last eight years (1903-10) scarlet fever and diphtheria have been the most prevalent diseases, there having been, during this period, 285 cases of the former and 159 cases of the latter disease. The fatality of scarlet fever has been only 1 per cent., that of diphtheria has been 9.4. Anti-toxin is freely used for this disease; all the hospital patients are injected with it, and the Council pay 2s. 6d. for the administration of a prophylactic dose of anti-toxin to every diphtheria contact. This is performed by the contact's own medical man. Enteric fever has been little prevalent, only 13 cases in the eight years. More than half the erysipelas, of which there were 65 cases, was notified in the first two years (1903 and 1904) of the period. Of the scarlet fever cases notified 81 per cent. were isolated in hospital, and 83 per cent. of diphtheria. Six of the 13 cases of enteric fever were so isolated.

The parishes most affected with scarlet fever during the above period were Wootton (1906), Barford (1907), and Milton Ernest (1910). Goldington village was the subject of a severe epidemic of diphtheria in 1908, when 62 cases of that disease were notified, 61 of which were removed to the isolation hospital. Reports upon this epidemic by Dr. McCleary, then County Medical Officer, and by Mr. Parbury were forwarded to the Board in April of that year. They concurred in the view that diphtheria had been introduced into the village school and had spread there by personal infection; that various local insanitary conditions at Goldington had predisposed the school children to take the disease; and that the unsatisfactory position and character of the Bedford Borough refuse tip on the adjacent borough sewage farm had also materially conduced, as a predisposing factor, to the disease. There had also been local allegations of nuisances from the sewage farm as conducing to diphtheria, but Dr. McCleary failed to corroborate them, pronouncing the farm well managed, though Mr. Parbury was inclined to criticise the relation of a certain ditch traversing the farm to diphtheria in Goldington village. Since their reports the Bedford Corporation have put up a refuse destructor on their sewage farm for dealing with house refuse and rubbish; the administration of the farm itself has greatly improved; and no further allegations of nuisance have been made. As for the local sanitary measures that Dr. McCleary and Mr. Parbury advised, the Biggleswade water is about to be laid on, loan for the purpose having been sanctioned, and drainage has been somewhat improved there, though a general scheme of sewerage seems necessary. But the public scavenging that they both strongly recommended has not yet been inaugurated, and excrement disposal is still of a very faulty character.

Notification of infectious disease is promptly made to the medical officer of health, who arranges to receive it by wire from many practitioners, so that cases can be removed to hospital the same day. Directly a notification is received the medical officer of health informs the inspector of nuisances, who makes arrangements for removal and accompanies the patient to hospital. After removal the infected house is at once disinfected by the inspector of nuisances with formic aldehyde vapour; woodwork is sometimes washed down and walls stripped. The infected clothing and bedding are taken up to the fever hospital for treatment in the steam disinfector there. The inspector of nuisances disinfects dwellings after puerperal fever and erysipelas, and schoolrooms after measles and whooping cough. Houses, where there has been fatal phthisis, are also gratuitously disinfected. In 1909, 18 rooms in such houses were so treated. There have been only four notifications of phthisis under the recent Order as to Poor Law patients, three by the medical officer of health himself and one by another practitioner. Printed advice for consumptives is left at invaded houses by the sanitary staff.

There are two hospitals for isolating infectious diseases, viz., for fevers in Oakley Parish, near the village of Clapham, about three miles from the borough of Bedford, and for small-pox in the parish of Milton Ernest.

The Oakley "fever hospital" for 18 beds was erected after loans of £7,300 in 1900 and £2,200 in 1901 had been sanctioned by the Board after public inquiry. The cost per bed was, therefore, £528. The accommodation consists of an administration block, a scarlet fever block of two wards (six and four beds respectively), a diphtheria block of four two-bedded wards, laundry block, disinfecting block, discharging rooms, ambulance shed, and mortuary. A temporary building of match-board and corrugated iron on brick piers laid in concrete was erected out of current rates for eight beds in two wards during the Goldington diphtheria epidemic of 1908. This was empty at my visit. I made a careful inspection of this hospital, and discovered several matters in which its administration is open to serious criticism. The chief point is the inadequacy of the sleeping accommodation for the present nursing staff of the hospital as extended, and the faulty arrangements made to compensate for this. The female staff consisted, at my visit, of the matron, three charge nurses, and four housemaids. For these there are only five bedrooms in the administration block, which are supposed to be reserved, respectively, for the matron, three housemaids, one housemaid, and a single room each for two nurses. One nurse was sleeping in one of the scarlet fever wards. This was ostensibly in order to be near to a patient who was severely ill. But I learnt that this nurse habitually sleeps in the duty room of this scarlet fever block. Again, in the diphtheria block—two wards only of which were occupied—there was a nurse sleeping in each ward. So that, as a matter of fact, none of the three hospital nurses were sleeping in the administration block at all, though two bedrooms were reserved for them there. There is need both of increase in the nursing staff and of more sleeping accommodation for them in the administration block; it is altogether inexcusable that they

should have to sleep in wards where they have already performed their daily work. There should be nurses set apart for night duty in addition to the usual daily staff. One such night nurse for each of the blocks at present in use would probably suffice, in addition to the minimum of three nurses required for day duty in them. Four day nurses would be preferable, to allow for emergencies, such as the possible re-opening of the temporary building, in which case another night nurse would be wanted. Again, the wards of each block are prone to be overcrowded. I found ten beds in the scarlet fever ward intended for six, and six beds in the scarlet fever ward intended for four. Similarly, there were four beds instead of two in each of the wards of the diphtheria block. I was also told that adult males are placed in the duty room of this block when a nurse is sleeping in one of the male wards. Duty rooms are thus improperly used for sleeping purposes, both by nurses and patients.

Further, the sewage disposal arrangements were unsatisfactory at my visit. There are three coke filter-beds over which the hospital sewage is pumped, the effluents passing into adjacent ditches. The filter-beds were in a very neglected condition, the coke not having been renewed for some time. The effluents appeared foul and turbid, and the ditches were silted up with filthy material.*

Mr. Parbury is not medical officer to this hospital, this post being held by a medical practitioner in Bedford, who receives a yearly salary of £25 and a capitation fee of 10s. for each patient. His duty, however, seems entirely confined to treating the patients. Neither he nor Mr. Parbury appears to regard himself as responsible for the administration of the place; in my presence each deprecated such a position, and referred it to the other. It is highly important that such *hiatus* in responsibility should at once be closed, and that the rural district council should choose either the Bedford practitioner or Mr. Parbury as the responsible administrator of their hospital. In my view, there would be considerable advantage if Mr. Parbury were to undertake that duty. The problem of who is to treat the patients—not a formidable task in such a case—would thus be solved at the same time.

For small-pox isolation purposes an acre of land near Milton Ernest village has been acquired for £60, and a temporary building (matchboard and corrugated iron on brick piers) has been erected upon it for £225. There is a small block of four rooms for administrative purposes, and a hospital block of two wards, each holding two beds. Water will be brought in tanks from the village; slop sewage will be irrigated; excrement is to be received in earth closets, and, after mixture with earth, dug into the ground. No building for laundry or mortuary purposes has yet been put up, but this will shortly be done. This hospital, which has been provided out of current rates, has not yet been used. Mr. Parbury is to administer it when necessary.

* I understand, however, that, since my visit, the filter-beds have been reconstructed and the coke renewed. Moreover, three septic tanks have been constructed for liquefaction of the sewage before it passes to the filter-beds.

In concluding this report, I desire to cordially recognise the help afforded me during my inquiry by the officers of the council.

Although defects were found, on which the following recommendations are made, it is right to state that this district council has shown commendable activity in sanitary administration. The officials are zealous and energetic; the council have provided a hospital for infectious diseases in which, in spite of certain defects mentioned above, during eight years about 81 per cent. of the total notified cases of scarlet fever and 83 per cent. of the corresponding cases of diphtheria have been isolated. The council are proposing to erect houses for the working classes under Part III. of the Housing Act, 1890; and systematic efforts are being made to convert privies and middens into pail closets.

RECOMMENDATIONS.

The following are the chief sanitary requirements of the district:—

1. All suspicious sources of water supply, such as shallow wells, dip wells, and badly constructed deep wells should be, as far as possible, protected from pollution. Where this is not possible wholesome sources should be substituted. Where pond-water and rain-water are obliged to be used they should always be filtered. The water supply to Stagsden, Ravensden, Keysoe, Thurleigh, and New Fenlake (Eastcots Parish) is in urgent need of improvement. The Biggleswade water should be extended, as soon as practicable, to Great Barford, Roxton, Wilhampstead, Cople, and to other parts of Eastcots Parish.

The Bedford Borough mains should, if possible, be extended to Clapham, Bromham, and to further portions of the Biddenham Parish.

Similarly the Higham Ferrers and Rushden Water Board mains should be extended from Wymington to Poddington.

2. Expert engineering advice should be sought as to the feasibility of sewerage some of the larger villages which are at present unsewered, such as Sharnbrook, Goldington, Harrold, Biddenham, Clapham, and Elstow. The question of extending the Bedford Borough sewers to the latter three parishes should receive attention at the hands of the council. No delay should ensue in dealing with New Fenlake (Eastcots Parish).

Sewage disposal needs improvement at Wootton, Poddington, Sharnbrook, and Turvey, and more adequate sewer ventilation is required at Wymington.

House drainage needs amelioration in many parts of the district, and more attention should be paid to it.

The present pollution of the River Ouse and its contributory streams should be minimised as far as possible, pending improvements in sewerage and house drainage throughout the district.

3. In converting privies into pail closets, care should be taken that there should be provided means for admixture of dried earth or similar absorbent substance with the contents of the pails.

4. The rural district council should themselves undertake the scavenging of house refuse in Wymington. They should fully

consider the question of establishing a general system of public scavenging which should include the larger centres of population, as at Sharnbrook, Goldington, Harrold, Great Barford, Eastcots, Elstow, Riseley, Milton Ernest, Clapham, Wootton, Turvey. This system would be best undertaken by the council themselves, the inspector of nuisances being entrusted with its general superintendence. Movable pails should be generally used, but where brick ashpits are retained they should invariably be roofed over.

5. Application should be made to the Local Government Board for urban powers with respect to slaughter-houses, with a view to the registration of existing slaughter-houses and the making of bye-laws.

6. Bakehouses require more frequent supervision.

7. The existing series of bye-laws as to cleansing requires revision. Urban powers should be sought in order to draw up bye-laws for the prevention of nuisances and the keeping of animals in any premises so as to be injurious to health.

Urban powers under Section 23 of the Public Health Acts Amendment Act, 1890, should be obtained, and bye-laws with regard to the paving of back-yards should be drawn up under that Act and submitted to the Board for approval.

8. The administration of the infectious diseases hospital at Oakley should be improved in the senses indicated in the text of the report (pp. 10 and 11 above).

R. DEANE SWEETING.

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