

012/002

PROOF.]

[For the use of the Committee only.

West Riding County Council.

---

REPORT  
OF THE  
COUNTY MEDICAL OFFICER  
UPON THE  
SANITARY CONDITION  
OF THE  
SETTLE UNION.

---

Presented to the West Riding Sanitary Committee, 14th June, 1897.

WITH MAP.

WAKEFIELD :  
PRINTED BY W. H. MILNES, THE RADCLIFFE PRESS.

## SUMMARY OF TABLES.

---

	PAGE.
Introduction ... ..	1—2
Table I Area, Population, Rateable Value, &c. ... ..	3
„ II Growth of Population from 1801 to 1891 ... ..	4
„ IIIA Density of Population ; and Sex Distribution ... ..	5
„ IIIB Census Tenements, 1891 .... ..	5
„ III Adoptive Acts, Bye-laws, &c. ... ..	6
„ IIIA Urban Powers conferred ... ..	7
„ IV Isolation, Disinfection, Burial Grounds, Public Scavenging ... ..	8
„ V Water Supplies and Drainage ... ..	9—11
„ VI Milk Supplies ... ..	12
„ VII Slaughter Houses ... ..	12
„ VIII Offensive Trades ... ..	12
„ IX Common Lodging Houses ... ..	12
„ X Vital Statistics, Mean Annual Rates, for five years, 1889-93 ... ..	14
„ XA „ „ „ for two decades, 1871-90 ... ..	14
„ XI Ages of Population in 1891 ; and Sex Distribution ... ..	15
„ XII Vital Statistics for the decade 1886-95 ... ..	15
„ XIIA Comparative Statistics for two decades 1871-90 ... ..	16
„ XIII Vaccination ... ..	16
„ XIV Appointment, &c., of Medical Officer of Health and Sanitary Inspector ... ..	17

## INDEX OF PARISHES.

---

	PAGE.
Airton ... ..	24
Arncliffe ... ..	24
Austwick .. ..	17
Bentham ... ..	17
Burton-in-Lonsdale ... ..	18
Clapham-c-Newby ... ..	18
Giggleswick ... ..	19
Halton Gill ... ..	24
Halton West ... ..	24
Hanlith ... ..	24
Hawswick ... ..	24
Hellifield ... ..	20
Horton-in-Ribblesdale ... ..	19
Ingleton ... ..	20
Kirkby-Malham ... ..	24
Langcliffe ... ..	21
Lawkland ... ..	25
Litton ... ..	25
Long Preston ... ..	21
Malham ... ..	25
Malham Moor ... ..	25
Nappa ... ..	25
Otterburn ... ..	25
Rathmell ... ..	25
Scosthrop ... ..	25
Settle ... ..	22
Stainforth ... ..	23
Swinden ... ..	25
Thornton-in-Lonsdale ... ..	23
Tosside ... ..	25
Wigglesworth ... ..	25

## THE SETTLE UNION.

THE Rural Sanitary District of Settle embraces the whole of the Union, and is coterminous with the Registration District. It occupies, with the Sedbergh Rural District, the north-west corner of the Riding. Upon reference to the sketch map attached to this Survey, it will be seen that the Union touches two portions of country outside the Riding, namely, the North Riding at Horton-in-Ribblesdale, and Lancashire along the western boundary, the intervening portion between these being occupied by the Sedbergh District, while the Union of Bowland runs along the southern and that of Skipton adjoins the eastern boundary in the whole of its length.

The Settle Union, according to the last census, comprises 31 parishes, covering an area of 151,942 acres, and forming an irregular square of 21 miles from north to south or east to west, and inhabited by a population of 14,071 persons, living in 2,875 houses. The 1891 population may be approximately distributed as follows:—

Five Parishes having less than 50 inhabitants.				
Four	„	„	100	„
Five	„	„	200	„
Six	„	„	300	„
Seven	„	„	712	„
Giggleswick, having 1015 inhabitants.				
Ingleton	„		1568	„
Settle	„		2253	„
Bentham	„		2273	„

Table II., in the text, displays the growth and decay of the various parishes, and it will be noted there that the total population of the Union in 1891 was practically the same as that of the census year 1841, but several hundreds more than at the beginning of the present century. Only ten parishes exhibit an increase, three are stationary, while in eighteen the decrease is well marked. The increase in the population of Ingleton and Horton, noted in the 1871 census, is accounted for by the introduction of navvies temporarily engaged in the construction of the Settle and Carlisle Railway.

As bearing upon the sanitation of the district, brief reference might be made to the following topics:—

The physical features of the Union may be studied from Table I., where the difference in altitude expressed in Cols. 9 and 10 affords some idea of the general surface in its division into mountains, uplands, and valleys. The mountains forming part of the Pennine Range, or backbone of England, are not in a continuous chain, but in broken ranges intersected by the valleys. The Ribble, arising in the Cam and Ingleton Fells, courses southwards through Ribblesdale to Settle, and leaves the Union at Nappa, and its course forms a bisecting valley, along which the Settle and Carlisle Railway is laid. The margins of the Ribble Watershed run in remarkably even parallelism, not only to each other, but to the windings of the river itself, until in the south a broadening takes place to include Hellifield and Rathmell.

On the eastern margin of this watershed several well-known peaks can be seen, as Penyghent, rising to the height of 2,231 feet, and, a little further south, Fountain Fell (2191 feet), and still further south, but at a much lower altitude of 1,000 feet, appears the bold limestone escarpment of Malham Cove 285 feet above the river bed.

The River Wharfe, arising in Langthorpe Chase, is increased by the Skirfare tributary in the Union from the north side of Penyghent, and south of Fountain Fell the gathering grounds of Malham Tarn provide the origin of the River Aire, which issues from underneath Malham Cove.

If we now go from north to south, on the western margin of the Ribble watershed, we find Whernside, 2,414 feet, and Ingleboro' towering to the height of 2,373 feet, and, not far away, Simons Fell, 2,088 feet. These mountains are partly within the gathering grounds of the Greta, and further south is the head of the Wenning, both important tributaries of the River Lune. The Union, therefore, gives rise to two important rivers, viz., the Ribble and the Aire, and also large tributaries to the *Lune* and *Wharfe*. These rivers, it might be mentioned, have not yet been polluted to any extent by manufacturing effluents in this Union.

The district has suffered, as most rural districts, through the townward drift of the working population. The cessation of hand-loom and water-power weaving with the advent of steam-power, and also the absorption of smaller farms to form larger areas for agricultural purposes have helped to deplete the population. As several old inhabitants said, "The weaving has gone, and the people with it."

With the exception of several fields in the south-west, there is no land under the plough, which appears to be very different to the state of agriculture fifty years ago, when every farmer had his breadth of corn. The district is now almost wholly pasture and meadow land, on which grazing and stock-breeding is largely carried on, but in some places coal is obtained, as in the Ingleton and Bentham Districts. In the latter, also, there are silk and linen mills; at Langcliffe, cotton mills; and at Burton-in-Lonsdale employment is found in potteries. Many old-fashioned lime-kilns are now in ruins, but these have been superseded by more modern ones on an extensive scale, especially at Horton, Ingleton, and near Langcliffe.

The railways will best be followed on the sketch map appended hereto. There are three companies running in or through sixteen out of the thirty-one parishes. The Midland Railway is laid northward through Ribblesdale, where one of the highest points is reached at which any railway has been laid for general passenger traffic in England. The London and North Western Railway runs from Ingleton westward to the boundary at Thornton-in-Lonsdale; and the Lancashire and Yorkshire from Hellifield through Nappa to Lancashire.

The geology of the district is specially interesting, not only as a revelation of the past, but as a source of information with regard to the soil, the climate and the water supplies. Without going into detail, it might be broadly, though not quite correctly, divided into three well-defined areas, according to the predominance of the rocks. First, the mountain limestone, occupying the greater portion of the northern half, while the southern half is occupied on the west by the millstone grit, and on the east by the yoredale series. In some places these three may be combined, for example, on Whernside, Penyghent, and Ingleboro', which are capped with millstone grit overlying the limestone shales, and these again resting upon the scar limestone, with a floor of the ancient silurians.

The district owes in a large measure its singularly romantic features to the fact that it lies across the double dislocation known as the Great Craven Fault. Nowhere in England is the carboniferous series on so extensive a scale. The rocks, with few exceptions, are stratified and of aqueous origin. They present two interesting features, first, wonderfully figured gigantic ice scars, seen at their best in the neighbourhood of Hanlith; and second, numerous caverns at various heights in these bold escarpments, notably Clapham Cave, which exhibits such wonderful scenery, and the Victoria Cave, near Settle, in which so much evidence of prehistoric times has been brought to light.

TABLE I.—AREA, POPULATION, RATEABLE VALUE, ETC.

RURAL PARISH. (Those marked with an asterisk have a Parish Council).	Area in Acres.	Population.		Inhabi- ted Houses, 1891.	Density of Population, 1891.		Rate- able Value 1895. £	Elevation above Sea Level.		Drainage Area.
		1881.	1891.		Persons per House.	Persons per Acre.		Max.	Min.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Airton ...	2558	203	212	43	4·9	·083	2434	1550	575	Aire
Arneliffe ...	3139	147	137	29	4·7	·044	1490	2050	675	Wharfe
*Austwick ...	7912	504	449	99	4·5	·057	5719	2066	425	Lune
*Bentham ...	7711	2211	2273	482	4·7	·295	11991	1318	175	Lune
*Burton-in-Lonsdale ...	1558	626	589	122	4·8	·378	2962	422	175	Lune
*Clapham-cum-Newby ...	12037	676	712	145	4·9	·059	7708	2350	350	Lune
*†Giggleswick ...	4338	976	1015	157	†6·5	·234	7150	1100	425	Ribble
Halton Gill ...	7862	86	77	16	4·8	·010	2080	2231	875	Wharfe
Halton West ...	2290	142	132	24	5·5	·058	1853	625	375	Ribble
Hanlith ...	965	34	26	7	3·7	·027	688	1350	550	Aire
Hawkswick ...	3078	51	45	12	3·8	·015	1211	1900	650	Wharfe
*Hellifield ...	3401	424	601	106	5·7	·177	7606	950	387	Ribble
*Horton-in-Ribblesdale...	17257	526	666	116	5·7	·039	9772	1900	700	Ribble
*Ingleton ...	17508	1625	1568	328	4·8	·089	11637	2400	275	Lune
Kirkby Malham ...	1145	145	107	26	4·1	·093	880	1787	575	Aire
*Langcliffe ...	2552	683	681	127	5·4	·267	3537	1700	497	Ribble
Lawkland ...	5350	270	280	56	5·0	·052	5196	1225	475	Lune
Litton ...	3924	78	61	13	4·7	·016	1351	2048	750	Wharfe
*Long Preston ...	3578	706	734	186	3·9	·205	8287	1212	400	Ribble
Malham ...	4282	148	163	32	5·1	·038	2128	1800	625	Aire [Ribble
Malham Moor ...	10976	126	118	20	5·9	·011	2388	2163	906	Wharfe, Aire,
Nappa ...	579	21	32	4	8·0	·055	851	650	350	Ribble
Otterburn ...	1127	39	47	10	4·7	·042	2003	825	475	Aire
Rathmell ...	3423	219	216	59	3·7	·063	3044	1100	400	Ribble
Scosthrop ...	1275	67	80	16	5·0	·063	978	1723	550	Aire
*Settle ...	4490	2213	2253	459	4·9	·501	11505	1793	400	Ribble
*Stainforth ...	3696	207	203	45	4·5	·055	3334	1500	600	Ribble
Swinden ...	1049	47	23	4	5·7	·022	1527	700	375	Ribble
*Thornton-in-Lonsdale...	7482	320	295	71	4·2	·039	4654	2300	300	Lune
Tosside ...	1112	66	69	14	4·9	·062	821	900	625	Ribble
Wigglesworth ...	4288	214	207	47	4·4	·048	3396	875	400	Ribble
Settle Union ...	151942	13800	14071	2875	4·9	·093	130181	2400	175	

† Includes the Workhouse and Grammar Schools.

TABLE II.—GROWTH OF POPULATION IN NINE DECADES, 1801—1891.

	AREA IN ACRES. — 1891 Census.	POPULATION.									
		1801	1811	1821	1831	1841	1851	1861	1871	1881	1891
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Airton	2558	139	176	187	179	217	225	236	244	203	212
Arncliffe	3139	241	200	189	213	182	165	174	136	147	137
Austwick	7912	478	471	556	614	599	651	561	413	473	449
Bentham	7711	1487	1654	2102	2179	2180	2143	2342	2237	2211	2273
Burton-in-Lonsdale	1558	617	671	746	711	629	718	597	696	626	589
Clapham-cum-Newby	12037	847	872	982	944	890	914	809	695	676	712
Giggleswick	4338	556	674	746	780	875	855	727	874	976	1015
Halton Gill	7862	139	141	114	88	90	77	89	84	86	77
Halton West	2290	180	171	190	171	166	122	131	126	142	132
Hanlith	965	81	51	46	42	25	36	40	33	34	26
Hawkswick	3078	69	72	86	81	68	57	55	69	51	45
Hellifield	3401	237	252	279	250	273	279	272	226	424	601
Horton-in-Ribblesdale	17257	570	531	558	567	520	467	417	916	526	666
Ingleton	17508	1106	1268	1302	1228	1355	1391	1247	2541	1625	1568
Kirkby Malham	1145	167	175	204	219	195	139	128	174	145	107
Langeliffe	2552	260	332	420	550	664	601	376	665	683	681
Lawkland	5350	368	363	351	351	364	379	338	313	301	280
Litton	3924	114	99	102	102	107	114	93	59	78	61
Long Preston	3578	573	610	733	808	708	590	536	622	706	734
Malham	4282	262	306	262	259	233	188	184	164	148	163
Malham Moor	10976	98	97	88	94	102	92	115	124	126	118
Nappa	579	82	23	44	43	35	21	31	25	21	32
Otterburn	1127	26	47	40	66	48	54	59	54	39	47
Rathmell	3423	306	319	328	347	290	308	304	248	219	216
Scosthrop	1275	90	80	102	95	48	75	64	85	67	80
Settle	4490	1136	1153	1508	1627	2041	1976	1586	2163	2213	2253
Stainforth	3696	203	282	235	263	261	225	194	390	207	203
Swinden	1049	52	56	37	36	26	28	25	19	47	23
Thornton-in-Lonsdale	7482	443	481	535	441	364	412	441	385	320	295
Tosside	1112	—	—	—	—	120	110	96	82	66	69
Wigglesworth	4288	371	393	479	443	421	350	267	272	214	207
TOTALS	151942	11,248	12,020	13,551	13,791	14,096	13,762	12,528	15,134	13,800	14,071

6  
7  
130  
140  
  
137  
2102

The District, especially about Arncliffe, has some notoriety with regard to rainfall:—

ANNUAL RAINFALL IN THE VARIOUS DRAINAGE AREAS  
IN THE SETTLE UNION.

DRAINAGE AREA	Lune	Ribble	Aire	Wharfe
PLACE OF OBSERVATION	Austwick	Settle	Malham Tarn	Arncliffe
HEIGHT ABOVE SEA LEVEL	570 feet	525 feet	1296 feet	750 feet
ANNUAL RAINFALL, 1896	41.05	42.93	55.39	58.0
1895 1894 } AVERAGE 1893 }	44.18 (1895 only)	42.44	57.75	60.38
1892 1891 } AVERAGE 1890 }	?	40.83	57.82	60.38
1889 1888 } AVERAGE 1887 }	?	43.88	58.09	60.58

NOTE—The mean daily temperature recorded at Austwick for the year 1896 was 46.84 degrees, as compared with 45.48 in 1895. There is a great preponderance of westerly winds.

TABLE IIa.

Census.	HOUSES.		POPULATION.			Persons per Inhabited House.
	Inhabited	Uninhabited.	Males.	Females.	Total.	
1871	2977	163	7827*	7807	15134	5.1
1881	2854	252	6848	6952	13800	4.8
1891	2875	251	6894	7177	14071	4.9

\* This excess of male over female population is due to immigrants engaged in railway construction.

TABLE IIb.

Size of Tenement.	Number of Tenements occupied respectively by												Total.
	1 person	2 persons	3 persons	4 persons	5 persons	6 persons	7 persons	8 persons	9 persons	10 persons	11 persons	12 or more persons	
1 Room	1	1	—	1	—	—	—	—	—	—	—	—	3
2 Rooms	25	30	7	14	2	4	3	1	1	—	—	—	87
3 Rooms	25	30	18	20	30	11	10	6	1	2	1	—	154
4 Rooms	46	91	93	85	86	52	34	24	17	13	5	1	547

Number of Tenements with less than five rooms ... 791  
Total Number of Tenements ... 2912



House accommodation may be said to be fairly sufficient for the present demands of the district. Want of suitable house accommodation, however, was complained of, and formed an excuse in several places for living in insanitary dwellings. This was so at Hellfield and Giggleswick. Reference to Column 5 in Table I. will show that the population density per house is above the average (4.9) in eleven districts. The houses are invariably built of stone, and, except at Bentham, Settle, and Ingleton, there is little new building being carried on. The means of ventilation of many of the older houses is inefficient. Many of the windows do not open at all, while there are numerous examples of stand-sheets, with only a small pane opening casement-wise. In many instances the subsoil is very imperfectly drained, giving rise to dampness. There are also many houses without back doors; others built back-to-earth, and at a period long before it was considered necessary to insert damp courses or to concrete the area built upon.

Throughout the Union many old houses can be found bearing dates of erection towards the end of the seventeenth and the beginning of the eighteenth century. These are generally hygienically defective, especially with regard to ventilation, but gradually these relics are disappearing, and giving place to superior buildings.

TABLE III.—DATES OF FORMATION OF THE SANITARY DISTRICT, AND ADOPTION OF ACTS, BYE-LAWS AND REGULATIONS.

RURAL PARISH.	Date of Formation.	Adoptive Sanitary Acts in Force.			Bye-Laws, with Date of Adoption.							Regulations under Dairies, Cowsheds, and Milkshops Orders.		
		Infectious Disease Notification Act, 1889	Infectious Disease Prevention Act, 1890	Public Health Acts Amendment Act, 1890	New Streets and Buildings	Cleansing of Footways & Pavements	Prevention of Nuisances	Common Lodging Houses	Slaughter Houses	Offensive Trades	Other Markets		Cemeteries.	
Airton														
Arneliffe														
Austwick														
Bentham					1880									
Burton-in-Lonsdale					1880									
Clapham-c-Newby...														
Giggleswick					1880									
Halton Gill														
Halton West														
Hanlith														
Hawkswick														
Hellfield					1880									
Horton-in-Ribblesdale														
Ipgleton					1880								1888	
Kirkby-Malham	1872	1890												1890
Langcliffe					1880									
Lawkland														
Litton														
Long Preston					1880									
Malham														
Malham Moor														
Nappa														
Otterburn														
Rathmell														
Scosthrop														
Settle					1880									
Stainforth														
Swinden														
Thornton-in-Lonsdale														
Tosside														
Wigglesworth														

This Table serves to shew where certain bye-laws do apply, and also the districts excluded, and for which bye-laws are equally necessary. The bye-laws now framed resemble those of the model series of the Local Government Board.

By Section 276 of the Public Health Act of 1875, the Local Government Board may, on the application of the Authority of a Rural District, declare any provisions of this Act relating to urban districts to be in force in such Rural District. The Settle Authority have taken advantage of this Section in the following matters, denoted by × :—

TABLE IIIa.—URBAN POWERS CONFERRED UNDER SECTION 276 OF THE PUBLIC HEALTH ACT, 1875.

RURAL PARISH.	Public Necessaries. Sec. 39.	Scavenging and Cleansing. Sec. 42.	Receptacle for Temporary Deposits of Refuse. Sec. 45.	Provision of Slaughterhouse and Bye-laws. Sec. 109, Parag. 1, 2, 3.	Keeping of Animals. Sec. 44.	New Buildings, &c. Sec. 167 and 168.	Special Expenses under Public Health Act Amendment Act, 1890. Sec. 49.	
Airton ... ..	—	—	—	—				
Arncliffe ... ..	—	—	—	—				
Austwick ... ..	—	—	—	—				
Bentham ... ..	×	×	×	×				
Burton-in-Lonsdale ... ..	—	×	×	×		×		
Clapham-cum-Newby ... ..	—	—	—	—		×		
Giggleswick ... ..	—	×	×	×		×		
Halton Gill ... ..	—	—	—	—		—		
Halton West ... ..	—	—	—	—		—		
Hanlith ... ..	—	—	—	—		—		
Hawkswick ... ..	—	—	—	—		—		
Hellifield ... ..	—	×	×	—		×		
Horton-in-Ribblesdale ... ..	—	—	—	—		—		
Ingleton ... ..	×	×	×	×		×		
Kirkby-Malham ... ..	—	×	×	—		×		
Langcliffe ... ..	—	—	—	—		×		
Lawkland ... ..	—	—	—	—		×		
Litton ... ..	—	—	—	—		—		
Long Preston ... ..	×	×	×	×		×		
Malham ... ..	—	—	—	—		—		
Malham Moor ... ..	—	—	—	—		—		
Nappa ... ..	—	—	—	—		—		
Otterburn ... ..	—	—	—	—		—		
Rathmell ... ..	—	—	—	—		—		
Scosthrop ... ..	—	—	—	—		—		
Settle ... ..	×	×	×	×		×		
Stainforth ... ..	—	—	—	—		—		
Swinden ... ..	—	—	—	—		—		
Thornton-in-Lonsdale ... ..	—	—	—	×		—		
Tosside ... ..	—	—	—	—		—		
Wigglesworth ... ..	—	—	—	—		—		
	For the whole of the Union (1895)				No Bye-laws framed.			
	For the whole Union. (1891)							

TABLE IV.—ISOLATION, DISINFECTION, BURIAL GROUNDS,  
PUBLIC SCAVENGING.

RURAL PARISH.	Isolation Hospital.	Disinfecting Apparatus.	Destructor.	Burial Grounds.	Public Scavenging.
Airton ...	Six Wards, with twenty beds, and administration under same roof.	None. Hot air chamber has been discarded.	None.	Friends' ...	None in the whole District.
Arncliffe ...				Churchyard ...	
Austwick ...				Extended Churchyard ...	
Bentham ...				Churchyard (2); Friends' ...	
Burton-in-Lonsdale ...				Churchyard ...	
Clapham-cum-Newby ...				Churchyard; Burial Ground ...	
Giggleswick ...				Churchyard ...	
Halton Gill ...				—	
Halton West ...				—	
Hanlith ...				—	
Hawkswick ...				—	
Hellifield ...				—	
Horton-in-Ribblesdale ...				Churchyard ...	
Ingleton ...				Churchyard (2); Cemetery ...	
Kirkby-Malham ...				Churchyard, extended 1861 ...	
Langcliffe ...				Churchyard ...	
Lawkland ...				—	
Litton ...				—	
Long Preston ...				Churchyard extended; Baptist ...	
Malham ...				—	
Malham Moor ...				—	
Nappa ...				—	
Otterburn ...				—	
Rathmell ...				Churchyard ...	
Scosthrop ...	—				
Settle ...	Churchyard, Independent, and Friends' ...				
Stainforth ...	Churchyard ...				
Swinden ...	—				
Thornton-in-Lonsdale ...	Churchyard ...				
Tosside ...	—				
Wigglesworth ...	—				

As provisions against infectious disease the Settle Rural District Council have adopted the Infectious Disease (Notification) Act, 1889, but not the Infectious Disease (Prevention) Act, 1890, which is a highly desirable supplement to the defences against infectious disease.

An infectious hospital has also been provided, consisting of six wards, with accommodation for twenty beds, but with an air capacity of only 800 cubic feet per bed. At present no proper apparatus is provided for the effectual disinfection of articles of clothing and bedding, a defect which to some extent may render futile the energetic action of the officials. The ambulance in use cannot be considered satisfactory. It is a converted provision van.

House disinfection and the free use of disinfectants is well attended to by the Sanitary Inspector, who also acts as Building Surveyor. The Sanitary Authority wisely make no maintenance charges, but in a number of cases the medical attendance has been paid for by masters of employes and servants. No permanent staff is now maintained at the hospital.

The burial grounds are well kept, but some of them are becoming filled up, especially at Burton-in-Lonsdale and Giggleswick, while at Horton-in-Ribblesdale and Chapel-le-dale there is urgent need for increased burial space. A Cemetery under the Public Health Interment Act, 1879, has been urged for Horton by the local medical officer of health.

Throughout the district some of the systems in vogue for the removal of excrement and house refuse are extremely unsatisfactory: firstly, the open privy midden; secondly, pails; and thirdly, hand-flushing closets. The open privy middens, with their varied contents of manure, refuse, decomposing vegetable and animal matter, are at best insanitary appliances, and in the neglected state are undoubtedly a source of much danger as most suitable media for the propagation and dissemination of infective germs. The pails, as we observed some of them, are frequently allowed to overflow, and the liquid to soak into the surrounding soil. This neglect, aggravated by the incrustations on the pail from defective cleansing, renders them highly objectionable, and much the same remarks apply to hand-flushed closets, especially where the water is scarce or has to be carried for some distance.

As a result of the absence of public scavenging, the back-lanes and gardens and back-yards about dwellings are made the receptacles for the indiscriminate disposal of filth, house refuse, and even excrement. All garbage and refuse should be looked upon as harmful, and dealt with accordingly, and therefore the Authority should adopt public scavenging in populous parts, and in other places push the rigid enforcement of bye-laws in relation to the frequent emptying and cleansing of privies.

TABLE V.—WATER SUPPLY AND DRAINAGE.

Rural Parish.	Centres of Population.	Approximate number of Inhabited Houses, 1897.	Approximate Population, 1897.	Water Supplies.		Sewerage.		Sewage— Destination.
				Public.	Other.	System.	Kind.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Airton	Airton	38	188	—	Wells	No	Rubble	Mill Dam, thence to Aire
	<i>Rest of Parish</i>	5	24	—	Do.	No	—	Chiefly to fields
Arncliffe	Arncliffe	26	123	Pump	Wells and streams	No	Rubble	To River Skirfare to Wharfe
	<i>Rest of Parish</i>	3	14	—	Wells	No	—	Chiefly to fields
Austwick	Austwick	80	363	—	Wells and springs	No	Rubble	Chiefly to Austwick Beck
	Wharfe	12	54	—	Do.	No	—	Chiefly to fields
	<i>Rest of Parish</i>	7	32	—	Do.	No	—	Chiefly to fields
Bentham	Bentham (High)	292	1372	Bentham Waterworks	Wells	Yes	Pipes	Broad irrigation
	Bentham (Low)	127	596	Do.	Do.	Yes	Do.	Effluent to Wenning Do.
	<i>Rest of Parish</i>	65	305	—	Springs and wells	No	—	Chiefly to fields
Burton-in-Lonsdale	Burton-in-Lonsdale	113	545	Waterworks Company	Wells	No	Pipe and rubble	To River Greta. Scheme before L.G.B.
	<i>Rest of Parish</i>	9	44	—	Springs and wells	No	—	Chiefly to fields
Clapham-cum-Newby	Clapham	57	280	Clapham water supply	—	No	Pipe and rubble	To Clapham Beck to Wenning Scheme sanctioned by L.G.B.
	Newby and Newby Cote	26	128	—	Springs and wells	No	Rubble	To watercourses to Wenning Scheme sanctioned by L.G.B.
	<i>Rest of Parish</i>	62	304	—	Watercourses, springs, and wells	No	—	Chiefly to laud
Giggleswick	*Giggleswick	109	786	Settle and Giggleswick Waterworks	Wells	Yes	Pipes	Broad irrigation to Ribble
	Stackhouse	12	57	Do.	Do.	Yes	Pipes	Do.
	<i>Rest of Parish</i>	36	172	—	Springs and wells	No	—	Chiefly to fields
Halton Gill	Halton Gill	6	29	—	Stream	No	—	To streams
	Foxup	3	14	—	Spring	No	—	To fields
	<i>Rest of Parish</i>	7	34	—	Springs and streams	No	—	Chiefly to fields
Halton West	Halton West	15	82	—	Private water works and wells	No	Rubble	To watercourses
	<i>Rest of Parish</i>	9	50	—	Springs and wells	No	—	Chiefly to fields
Hanlith	Hanlith	7	26	—	Springs	No	—	Chiefly to fields
Hawswick	Hawswick	8	30	—	Wells	No	Rubble	Chiefly to Skirfare
	<i>Rest of Parish</i>	4	15	—	Do.	No	—	Chiefly to fields
Hellifield	Hellifield	109	618	—	Private water-works and wells	Yes	Pipes	Intermittent downward filtration
	<i>Rest of Parish</i>	10	56	—	Springs and wells	No	—	Chiefly to fields

\* Including Grammar School and Workhouse.

TABLE V.—WATER SUPPLY AND DRAINAGE, continued.

Rural Parish.	Centre of Population.	Approximate number of Inhabited Houses, 1897.	Approximate Population, 1897.	Water Supplies.		Sewerage.		Sewage Destination.
				Public.	Other.	System.	Kind.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Horton-in-Ribblesdale	Horton	20	115	—	Springs, wells, and stream	No	Rubble and pipe	Stream, cesspool, and land
	Blind Beck	36	207	—	In some cases spring water to houses, others to a stand - pipe, or from river and stream	No	Rubble and pipe	Chiefly to Ribble and its tributaries
	Station Cottages							
	Beecroft Cottages							
	New Inn							
	Foredale Cottages	16	92	—	Spring	No	Pipe	Land and stream
	Selside	14	80	—	Springs, wells, and stream	No	Rubble	Fields, stream, road-side ditch
Selside Cottages								
<i>Rest of Parish</i>	30	172	—	Springs, wells, and stream	—	—	Chiefly to fields	
Ingleton	Ingleton	216	1033	Ingleton Waterworks	Wells	Yes	Pipes	Broad irrigation Effluent to River Greta
	<i>Rest of Parish</i>	112	535	—	Springs and wells	No	—	Chiefly to fields
Kirkby-Malham	Kirkby-Malham	20	82	—	Private water supply; also wells and stream	No	Rubble	Kirk Gill Beck to Aire
	<i>Rest of Parish</i>	6	25	—	Springs and wells	No	—	Chiefly to fields
Langcliffe	Langcliffe	85	456	Fountain centre village	Wells	Yes	Pipes	Broad irrigation Effluent to Ribble
	<i>Rest of Parish</i>	42	225	—	Springs and wells	No	—	Chiefly to fields
Lawkland	Lawkland	10	50	—	Do.	No	Rubble	Fields and streams
	Eldroth	5	25	—	Do.	No	Do.	Do.
	Feizor	6	30	—	Springs and wells	No	Do.	Do.
	<i>Rest of Parish</i>	35	175	—	Do.	No	—	Chiefly to fields
Litton	Litton	10	47	—	Springs, wells, and streams	No	Rubble	Chiefly to streams
	<i>Rest of Parish</i>	3	14	—	Springs and wells	No	—	Chiefly to fields
Long Preston	Long Preston	183	722	—	Private supply and wells	Yes	Pipes (inefficient)	Long Preston Beck to Ribble. Scheme sanctioned by L.G.B.
	<i>Rest of Parish</i>	3	12	—	Springs and wells	No	—	Chiefly to fields
Malham	Malham	32	163	—	Private water supply, river, and wells	No	Rubble and pipes	To Aire
Malham Moor	Malham Moor	—	—	—	—	—	—	—
Nappa	Nappa	4	32	—	Wells	No	Pipe and rubble	To Ribble
Otterburn	Otterburn	7	33	—	Springs and wells	No	Pipe and rubble	Cesspools and Otterburn Beck
	<i>Rest of Parish</i>	3	14	—	Do.	No	—	Chiefly to fields

TABLE V.—WATER SUPPLY AND DRAINAGE, continued.

Rural Parish.	Centres of Population.	Approximate number of Inhabited Houses, 1897.	Approximate Population, 1897.	Water Supplies.		Sewerage.		Sewage— Destination.
				Public.	Other.	System.	Kind.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rathmell	Rathmell	24	88	—	Private supply, Springs and wells	No	Rubble	Stream, cesspools, and land
	<i>Rest of Parish</i>	35	128	—	Do.	No	—	Chiefly to fields
Scosthrop	Scosthrop	12	60	Pump	Wells	No	Rubble	Beck to Aire.
	<i>Rest of Parish</i>	4	20	—	Springs and wells	No	—	Chiefly to fields
Settle	Settle	521	2553	Settle Water-works	Wells	Yes	Pipes (inefficient)	Broad irrigation. Effluent to Ribble
	<i>Rest of Parish</i>	15	73	—	Springs and wells	No	—	Chiefly to fields
Stainforth	Stainforth	40	180	—	Do.	No	Rubble	Stainforth Beck to Ribble
	<i>Rest of Parish</i>	5	23	—	Do.	No	—	Sewerage and outfall works completed Chiefly to fields
Swinden	Swinden	4	23	—	Springs and stream	No	Rubble	Small stream to Ribble
Thornton-in-Lonsdale	Masongill	11	46	—	Watercourse and wells	No	Do.	Cesspools, land, roadside ditch, and field drain
	Westhouses	8	33	—	Springs and wells	No	Do.	To small stream
	Westhouses, Higher	17	71	—	Wells	No	Do.	Stream and cesspools
	Westhouses, Lower	16	66	—	Do.	No	Do.	Cesspools, fields, and roadside ditch
	<i>Rest of Parish</i>	19	79	—	Springs and wells	No	—	Chiefly to fields
Tosside	Tosside	14	69	—	Springs, wells, and stream	No	Rubble	Chiefly to Tosside Beck to Ribble
Wigglesworth	Wigglesworth	14	62	—	Springs and wells	No	Do.	To Wigglesworth Beck to Ribble
	<i>Rest of Parish</i>	33	145	—	Do.	No	—	To fields and cesspools

In Table V. the constituent villages and hamlets in each district have been inserted, it being difficult otherwise to make clear their position with regard to the water supply and sewerage.

The principal places in the Union are provided wholly or partly as follows:—

*By the Sanitary Authority.*—Settle (Giggleswick, Stackhouse), Ingleton, High and Low Bentham; and a public pump at Scosthrop.

*By Private Companies.*—Long Preston, Burton-in-Lonsdale.

*By Owners of Property.*—Clapham, Hanlith, Halton West, Halton Gill (6 houses), Langcliffe (fountain), Stainforth (standpipe), Arncliffe (pump), Rathmell (most houses), and Kirkby Malham (standpipe).

In other places water is obtained from springs, wells and running streams. Numerous dipwells being dependent upon surface water soon become dry. This is especially the case at Horton, Newby Cote, outlying farms and dwellings. In some places during wet weather the supply is sufficient, but in times of drought, or after a few weeks of dry weather, it runs short, owing to inadequate provision or want of storage, as at Burton, Bentham, Ingleton, and Settle. For the health of the community the supply should be constant, wholesome, and within reasonable distance.

In the Table also it will be seen that sewerage has been completed at Settle, Giggleswick, Langcliffe, Stainforth, Ingleton, Bentham, and Hellfield. Schemes are now sanctioned for Clapham, Long Preston, and Newby, and under consideration for Burton-in-Lonsdale. At other places rubble highway drains are utilized as sewers.

TABLE VI.—MILK SUPPLIES.

	Number of—			Regulations	Registration	Inspection
	Dairies.	Cowsheds.	Milkshops.			
Settle Rural District ...	No	information		1889	None	None since 1899

The cowsheds generally deserve condemnation, the commonest defects having to do with the state of the floor, cubic space, lighting, ventilation, and drainage. Invariably the byres are quite devoid of light, with low ceilings, and often overcrowded. All chinks are stopped to prevent the entrance of fresh air, while the walks behind the animals are either improperly or not channelled at all. The floors are generally uneven, often of rubble, and therefore wet and dirty. The water supply is frequently at a distance, the feeding troughs primitive, and the surroundings untidy from the neglect of the proper disposal of the manure. In some parts, especially in the south-east of the Union, the manure is thrown through an opening into a covered shed. In many instances, the valuable liquid manure trickles and sinks away, and in several cases is permitted to enter the sewers.

TABLE VII.—SLAUGHTER HOUSES.

	Number.	Bye-Laws.	Registration.	Inspection.
Settle Rural District ...	20	1880	Yes	Yes

Slaughter-house bye-laws prepared in 1880 apply to only eleven parishes. The Slaughter-houses generally are inadequate, and do not comply with the model bye-laws. The flooring, drainage, and walls are often defective, and seldom is any special provision made for the blood, offal, and garbage. No notice appears outside to indicate the business, as required by the Public Health Act, 1875. At Hellifield, where the bye-laws do not apply, the slaughtering was being temporarily carried on in an old barn, under conditions likely to injuriously affect the meat. In one instance, at Ingleton, slaughtering is occasionally carried on in unsuitable premises awkwardly situated, with an ashpit situated against the end of the Slaughter-House.

TABLE VIII.—OFFENSIVE TRADES.

	Number and Description.	Bye-Laws.	Inspection.
Settle Rural District ...	None	—	—

TABLE IX.—COMMON LODGING HOUSES.

	Number.	Bye-Laws.	Registration.	Inspection.
Settle Rural District ...	4	1888	Yes	Yes

The four Common Lodging Houses are situate as follows:—One at Bentham, one at Ingleton, and two at Settle. The premises are old structures. The one at Ingleton bears the date 1668 on the lintel, and does not comply with the bye-laws. In none was there any notice outside to distinguish them, and inside no certificate or regulations could be produced by the occupier. One of the Lodging Houses at Settle is badly ventilated.

*Canal Boats.* There are no Canals in the district.

*Workshops.* The supervision of workshops falls upon the Sanitary Authority under the Factory and Workshops Acts, and the responsibility of enforcing fire-escapes in factories is now added under the Act of 1895. In the Settle Rural District practically no inspection of these premises has been made by the Local Authority.

## SCHOOLS.

The object of the following Table is to show the method of excrement disposal. With the exception of the schools provided with the water-carriage system the method is unsatisfactory. The privies are either in connection with middens—often too large—or on the block system, which is equally insanitary. With regard to ventilation, it might be noted that this is generally provided by means of windows and doors, and in some cases it is supplemented by artificial means, but without any apparatus for warming the incoming air natural means must be insufficient in cold weather.

With respect to water supplies, complaints were heard as to quality at the Giggleswick National School, while at the Horton Mixed Schools no supply at all is provided.

RURAL PARISH.	NAME OF SCHOOL.	Approximate Number of Children.	Date of Erection.	CLOSET ACCOMMODATION.
AIRTON	... See Scothrop Parish			
ARNCLIFFE	... National, mixed ...	20	1876	Open privy-midden
AUSTWICK	... Mixed ...	86	1842	Block privy
BENTHAM	... Higher Bentham National... (Girls and infants) ...	86 girls 70 infants	1879	Trough closets
	... Lower Bentham National (mixed) ...	146	1869	Privy-midden
	... Grammar School ...	?	1726	—
	... Boys' Elementary ...	52	1830	Privy-midden
	... Catholic, mixed ...	88	1888	Block privy
BURTON-IN-LONS-DALE	... Endowed, mixed ...	Boys & girls 119 Infants 51	1853	Block privy
CLAPHAM-C-NEWBY	... Clapham Endowed, mixed ...	90	1864	Block privy
	... Newby, mixed ...	?	1711	Privy midden
GIGGLESWICK	... Grammar School ...	?	Re-built several times	Water closets
	... National, mixed ...	146	1815	Trough water closets
HALTON GILL	... Mixed ...	20	1626	Privy-midden
HALTON WEST	... Mixed ...	88	1876	Privy-midden
HANLITH	... None ...	—	—	—
HAWKSWICK	... None ...	—	—	—
HELLIFIELD	... National, mixed ...	143	1865	Trough closets
HORTON-IN-RIB-BLESDALE	... Selside, endowed ...	85	1725	Block privy
	... Horton, endowed ...	86	—	—
INGLETON	... National, mixed ...	230	1846	Open privy-midden
	... Chapel-le-dale, endowed, mixed ...	42	1862	Open privy-midden
KIRKBY-MALHAM	... United School ...	100	1874	Privy-midden
LANGCLIFFE	... National, mixed ...	153	1825	Covered privy-midden
LAWKLAND	... Eldroth, infants ...	88	1861	Block privies
LITTON	... National, mixed ...	Not in use	1848	—



RURAL PARISH.	NAME OF SCHOOL.	Approximate Number of Children.	Date of Erection.	CLOSET ACCOMMODATION.
LONG PRESTON	Boys, endowed Girls, endowed Infants, endowed	50 56 48	1819 1819 1819	New Schools just erected, but not yet opened
MALHAM	None	—	—	
MALHAM MOOR	Subscription School, mixed	14	1874	
NAPPA	None	—	—	—
OTTERBURN	See Scosthrop Parish	—	—	—
RATHMELL	National, mixed	30	1874	Privy-midden
SCOSTHROP	Board School	52	1851	Privy-midden (Joint with Airton and Otterburn)
SETTLE	National, mixed	450	1842, enlarged in 1884	Automatic flush closets
STAINFORTH	Mixed	40	1867	Block privy
SWENDEN	None	—	—	—
THORNTON-IN-LONSDALE	National, mixed	54	1845	Privy-midden
TOSSIDE	None	—	—	—
WIGGLESWORTH	Free, mixed	50	1779	Privy-midden

### Vital Statistics.

In the following Table the various Rates are based upon the Census Population in the central year 1891, and upon the data recorded in the Annual Reports of the local Medical Officer of Health:—

**TABLE X.**—MEAN ANNUAL RATES, PER 1,000 LIVING, DURING THE FIVE YEARS 1889—93.

	Birth Rate.	Death Rate.	Death Rate from				Infant Mortality.
			Zymotic Diseases.	Respiratory Diseases.	Phthisis.	Injuries.	
Settle Rural Sanitary District	26·8	16·4	0·8	3·1	1·1	0·5	119

**TABLE Xa.**—In the subjoined Table a comparison is made of the two past intercensal periods.

PERIOD.	ANNUAL RATES PER 1,000 LIVING.			Per 1,000 Births.
	Deaths.	Births.	Marriages.	Infantile Mortality.
1871—1880	19·24	31·85	15·15	123
1881—1890	16·66	29·09	12·63	105

The Table seems to show an all round reduction in the second period in the movements of the vital statistics. Though such statistics for small populations do not afford reliable deductions, still the comparison of the crude death-rate and infantile mortality, in the two periods, is encouraging. The decrease in the birth and marriage rates is partially accounted for by the emigration of the youthful population (see Table XI).

TABLE XI.—AGE AND SEX-DISTRIBUTION, OF POPULATION *PER CENT.*  
OF TOTAL POPULATION IN 1891.

LOCALITY.	SEX.		AGES.				
	Male.	Female.	0-5	5-15	15-25	25-65	Over 65
England and Wales ...	48·5	51·5	12·3	22·8	19·3	40·9	4·7
West Riding ...	48·7	51·3	12·0	22·7	20·0	41·6	3·7
Settle Rural District ...	49·0	51·0	12·1	22·9	18·8	39·7	6·5

With respect to sexes, the above figures reveal an expected excess of female population, although it is not so accurately marked in the Settle District as in the rest of the Riding or in England and Wales. With regard to ages, while the relative proportion at ages between 15 and 65 is notably below the average of the United Kingdom generally, the proportion of persons over 65 years of age is considerably in excess.

The tabular statement below is calculated upon data abstracted from the Registrar-General's Annual Reports for the ten years reviewed.

TABLE XII.—SETTLE UNION 1886-97.

<i>Mean Population</i> 14,065.		
<i>Births</i> 8,844, of which 159, or 4·1 per cent., were illegitimate, No data as to sex ...	...	Annual Birth Rate ... 27·3
<i>Deaths</i> 2,271, of which 1,168 were males and 1,103 females ...	...	Annual Death Rate ... 16·1
<i>Ages at Death.</i> No data; hence <i>infant mortality</i> cannot be stated here, but see Table X.		Male ... 16·9 Female ... 15·4
<i>Deaths in Public Institutions.</i> There were 78 or 3·4 per cent., in the Workhouse.		
<i>Deaths from particular causes.</i>		
Small Pox ...	2	} 123 Zymotic Death Rate ... 0·87
Measles ...	17	
Scarlet Fever ...	19	
Diphtheria ...	22	
Whooping Cough ...	22	
Typhus ...	—	
Enteric (Typhoid) Fever... ..	16	
Simple Continued Fever ...	4	
Diarrhœa ...	21	
Cancer ...	87	
Phthisis ...	157	Phthisis " 1·12
Diseases of Respiratory System ...	402	Respiratory " 2·86
Diseases of Circulatory System ...	335	Heart Disease, &c. " 2·38
Diseases of Nervous System ...	328	Nervous Diseases " 2·33
Violence ...	66	Violence " 0·47
<i>Inquests</i> ... 60		

The above figures serve to show that the percentage of illegitimacy to the total births registered is below the average of the country generally. It is noticeable also that diseases of the respiratory organs are credited with the highest mortality, but still below the average for England.

It is interesting to note in the following Table the incidence of various disease mortalities in a purely rural district during the last two decades. In the latter period a decrease is recorded in the mortality from scarlet fever, enteric fever, puerperal fever, and diarrhoea—diseases more amenable to sanitary influences—while the large increase in the deaths ascribed to cancer is noteworthy. Diphtheria, here as elsewhere, would appear to be increasing in fatality.

**TABLE XIIa.**—COMPARATIVE ANALYSIS OF DEATH CAUSES IN TWO DECADES.

Settle Rural District.	Ten Years. 1871-80.	Ten Years. 1881-90.		Ten Years. 1871-80	Ten Years. 1881-90
MEAN POPULATION ...	14,467	13,935	Cancer ...	0.36	0.62
<i>Annual Death-rates per 1,000:—</i>			Scrofula ...	0.10	?
ALL CAUSES ...	19.24	16.66	Tabes Mesenterica ...	0.27	0.18
Small-pox ...	0.30	0.01	Phthisis ...	1.86	1.48
Measles ...	0.20	0.19	Hydrocephalus ...	0.33	?
Scarlet Fever ...	0.21	0.12	Diseases of Nervous System ...	2.55	2.51
Diphtheria ...	0.02	0.14	Circulatory ...	1.86	2.30
Whooping Cough ...	0.26	0.17	Respiratory ...	2.93	2.64
Typhus ...	0.08	0.01	Digestive ...	1.08	0.93
Enteric Fever ...	0.51	0.19	Urinary ...	0.33	0.40
Simple Continued Fever ...	0.10	0.02	Generative ...	0.04	0.01
Puerperal Fever ...	0.10	0.06	Childbirth ...	0.11	0.10
Diarrhoea and Dysentery ...	0.26	0.11	Suicide ...	0.07	0.48
Cholera Nostras ...	0.03	0.01	Other Violence ...	0.71	
			Other causes ...	4.57	3.41

**TABLE XIII.**—VACCINATION.

Percentage of Children, born in year stated, and reckoned as "unvaccinated," because not accounted for as "successfully vaccinated," "insusceptible of vaccination," "had smallpox," or "died unvaccinated."

Year.	Settle Rural District.	West Riding.	England and Wales.
1883	1.6	6.9	5.1
1884	3.1	8.5	5.5
1885	2.9	9.2	5.8
1886	3.4	8.8	6.4
1887	1.9	9.6	7.1
1888	2.6	12.2	8.5
1889	3.2	15.0	9.9
1890	5.9	16.6	11.3
1891	4.2	17.5	13.4
1892	6.8	17.3	14.9

Vaccination, though evidently carried out more generally in the Settle Union than in the West Riding generally, shows a tendency during the years 1890-1-2 to be less rigorously enforced.

**TABLE XIV.—MEDICAL OFFICERS OF HEALTH AND INSPECTORS OF NUISANCES.**

	MEDICAL OFFICER OF HEALTH.						SANITARY INSPECTOR.				
	NAME.	Term of Appointment.	First Appointed.	SALARY.	Repayment by County Council.	Reports Printed.	NAME.	Term of Appointment.	First Appointed.	SALARY.	Repayment by County Council.
Settle Rural District	F. E. Atkinson	Triennial	1880	*£ s. d. 108 13 7	Yes	Yes	T. A. Foxcroft	Annual	1898	*£ s. d. 105 0 0	Yes

\* The Salary is inclusive of Travelling Expenses, an arrangement which is unsatisfactory.

IN proceeding to criticise seriatim the various parishes, reference shall be limited as far as possible to the more important circumstances relating to the sanitary administration. The locality, elevation, area, population, density of dwellings and population will be found in Table I., while cursory reference is made to the geology and industries in the introductory remarks.

### AUSTWICK.

AUSTWICK is a parish of 449 inhabitants, now engaged in agriculture, but twenty years ago largely occupied in weaving. There are two villages—Austwick, including 80 houses occupied by 363 persons, and Wharfe, consisting of 12 cottages with 54 inhabitants. In the former place, some houses left unoccupied on account of emigration, have been absorbed into larger dwellings.

The water supply of Austwick village, as stated in Table V., is obtained from wells and springs, most of them affected by drought and discoloured by rainfall. The principal pump, known as Shopkeeper's Well, has been recently reconstructed by the Parish Council, but is placed at an unreasonable distance from some of the houses. At Wharfe, most of the houses are provided with dip-wells.

The existing sewers are highway drains made of rubble, and in some cases simply covered up by stone flags. The sewage is discharged unpurified into the streams or on to the land, and there is great need of proper sewers.

House drainage, such as there is, shows a general defective state, and should be remedied as proper sewers are provided.

Receptacles for excrement and refuse are principally on the open privy midden and block privy principles. Many of the former are wet and offensive, improperly placed, and badly constructed. Other sanitary defects were noted, such as dampness of dwellings due to want of eaves-spouts and being built back to earth. Defective window ventilation also exists.

#### Chief Sanitary Requirements:—

The sanitary requirements of this parish are the provision of a proper system of sewers for the effectual drainage of the village of Austwick, and the provision of wholesome water to several of the houses at present unreasonably distant.

### BENTHAM.

ACCORDING to population, this is the most important Township in the Union. It contains the two Villages of Upper and Lower Bentham, while the remainder of the district is very thinly populated. Besides agriculture, silk and linen mills afford employment to several hundreds of the inhabitants.

Since 1882 the water supply has been provided from the Bentham Waterworks of the Rural Sanitary Authority to both Villages. It is obtained from a moorland streamlet about two miles distant at Mewith, but is not free from liability to pollution, notably at Mill Dam

Farm, where it is open to the cattle and receives washings from domestic premises and soakage from a manure tank. Below this farm the water is conveyed into a covered reservoir, but is not filtered. From this point upwards to its source the water should be protected by conveyance in pipes. Recently complaints were heard of the turbid state of the water, which was remedied by the cleansing of the storage reservoir. At Lower Bentham, too, complaints were made of want of pressure, ascribed to the smallness of the bore of the water mains.

Since 1882 a system of sewerage has been provided for the populous parts, and the sewage is disposed of by broad irrigation at two separate outfalls.

*House Drainage.*—The majority of sink waste pipes, though not trapped, are disconnected from the sewers, but the drainage generally, as far as inspection revealed, is fairly satisfactory.

Excrement and refuse is disposed of by open privy middens, too often unsatisfactorily near the dwellings. In one case the privy midden is underneath a workshop, and in another against a pantry. At some of the schools the middens, which are uncovered, emitted an offensive odour, and cannot be other than a source of danger to the health of the scholars. There is a pressing need throughout the district for public scavenging. Many of the ashpits were observed to be overflowing.

The houses generally are well built, but several at Upper and Lower Bentham are damp and somewhat dilapidated.

#### *Chief Sanitary Requirements:—*

Better protection of the source of the water supply.

Provision of adequate and properly constructed privy and ashpit accommodation.

Public scavenging.

### BURTON-IN-LONSDALE.

THIS is a parish with a diminishing population, chiefly aggregated at the village of Burton. Agriculture is the chief labour, but there are several potteries and one silk mill. Since 1885 a private company has provided water supply from a spring, and now most of the houses are connected with the system. Complaints were heard of insufficiency at times, and the scheme is not altogether a satisfactory one.

The sewerage system is defective and fragmentary. There are several pot-pipe sewers, but with these exceptions the sewage is conveyed in old rubble drains or in roughly constructed roadside channels, and discharged unpurified into the River Greta.

The private branch drainage is in some instances of rubble construction, and therefore leaky and defective, but, generally speaking, improvements have followed Dr. Atkinson's special report of 1883.

The question of sewage disposal is one of long standing, and a point of frequent reference in the reports of the local Medical Officer of Health. On March 5th, 1897, the Local Government Board held an Inquiry on an application to empower the Rural District Council to acquire compulsorily certain lands on which to dispose of the sewage.

The method in vogue for the reception of the excremental and domestic refuse is the open privy midden, often in a foul and wet condition, and in some instances too near to the dwellings. There is no methodical removal of refuse, and very large accumulations were noticeable, as is invariably the case when refuse removal is left to the owners and tenants.

The means of house ventilation is on the whole satisfactory, sash windows being generally provided, but notes were made of several badly ventilated houses, some built back to earth, and several foul backyards. Many of the houses have no slop stone, but dispose of their slops by grates outside.

#### *Chief Sanitary Requirements:—*

Some improvement in the water supply.

Effectual drainage and disposal of sewage.

Public Scavenging.

### CLAPHAM-CUM-NEWBY.

THIS large parish of 12,037 acres has two aggregations of population,—one of 57 houses at Clapham, and the other of 26 known as Newby and Newby Cote. In Clapham village water is supplied to all the houses, after filtration, from Ingleborough Lake. It might be here noted also that water power from this lake provides electric lighting in the village. Special reference is necessary to the Flying Horse Shoe Hotel about one mile west of the village and close by

Clapham Station. In summer time it affords accommodation for a large number of visitors, and is then frequently without a sufficient supply of water, when it becomes necessary to shut up the water closets and take steps against danger to the health of the inmates and visitors. At Newby and Newby Cote the water supply has been insufficient for many years, and since 1889 this question has been repeatedly advocated by Dr. Atkinson. In December, 1896, a scheme was presented at a Local Government Board Inquiry and consent granted to borrow £285. The Rural District Council have advertised the work for tenders.

No proper system of sewerage exists in either Clapham or Newby, but Inquiries have been held by the Local Government Board, when loans were asked for, to provide sewerage and sewage disposal for both hamlets. Sanction has been obtained for both schemes.

The house drainage is not sufficiently ventilated. The sink waste pipes, though chiefly untrapped, are disconnected from the drains.

Refuse removal, where dependent upon owners, as in Clapham, or on the tenants as elsewhere, is not satisfactory. Block privies are common in this parish and are as dangerous to health as the open privy middens, of which there are a number,—several of them in a semi-ruinous condition. Both in Clapham and Newby these structures are frequently in too close proximity to the houses, and in some instances against the house walls. In Clapham village there are about 20 water closets and a few pails.

Many of the houses are insufficiently ventilated. Examples were noted of small casements, immovable upper sashes, back-to-back houses and absence of back doors. Dampness was also observed, due to want of spouting, unsound roofing, and defective slop stone wastes, and partial erection in earth.

*Chief Sanitary Requirements:—*

Sewerage (scheme for Clapham under consideration of Local Government Board).

Suitable drainage and sewage disposal in other parts should be provided by the owners.

---

## GIGGLESWICK.

GIGGLESWICK has a population of 1,015, including 216 persons at the Grammar School and 47 at the Workhouse. The centres of population are the hamlet of Stackhouse, with a population of 57 in 12 houses, and Giggleswick village, with 786 persons living in 109 houses.

The water supply is obtained from the Settle and Giggleswick Waterworks, which are fed from springs. During recent years, shortness of supply has resulted in the summer months.

The village was seweraged in 1879, and the sewage conveyed to about four acres of land for treatment by broad irrigation, which requires greater attention.

With regard to house drainage, the disconnection of waste pipes is general, but they are untrapped. The receptacles for excrement and refuse removal vary. They consist chiefly of open privy middens, block privies, a few pails, and water closets. Some of the privy middens are either too near or abut against the houses, and in one case the smell penetrates into the living room, while in another case the privy is partly under the premises.

Absence of proper scavenging was obvious on all sides. Other insanitary conditions noted were:—houses ventilated only by doorways and small openings in stand-sheet windows, several houses partly built against earth, others with no eaves-spouts, a few with defective walls and roofs. A goodly number of houses bear dates of erection upon their lintels varying from 1608 to 1711 A.D.

*Chief Sanitary Requirements:—*

Public scavenging and constant water supply.

---

## HORTON-IN-RIBBLESDALE.

THIS extensive parish embraces an area of 17,257 acres, but is sparsely populated with a slight tendency to grouping of houses as at Horton, with 20 cottages, Beecroft 36, Foredale 16, Selside 14, inhabited by 115, 207, 92, and 80 persons respectively. Altogether there are 116 houses in the parish.

The inhabitants are largely engaged in agriculture, but there are several limestone quarries in operation.

The water supply of Beecroft, Foredale, and Railway Cottages is obtained from springs. At Horton several complaints were made of the scarcity of water in times of drought. Skin disorders affecting the children of the village school have been ascribed to the drinking of stagnant water from the river bed. Though some of the better class houses in Horton have the water introduced, yet generally speaking Horton village is badly off for a constant supply of wholesome water. In Butt's Lane the supply is unprotected, rendering it liable to dangerous pollution, and in summer time it dries up.

Such sewers as exist invariably discharge their contents into the stream, and sundry pollutions are very noticeable along the bank in front of Horton Farm.

Numerous defects were noted in House Drainage. The method, condition, and position of the receptacles for excrement and house refuse correspond to those generally in use throughout the Union. At the grocer's shop in the west of the Village, the stench from the privy which abuts against the house is perceptible in the dwelling. The more recently erected houses have conveniences excluding the rain. One house was observed to be unprovided with an ashpit, and all rubbish was thrown into the bed of the stream.

Other defects noticed were, want of ventilation and eaves spouting, several damp and dilapidated houses scarcely fit for habitation.

*Chief Sanitary Requirements:—*

General water supply to the Village and to the school.

Disposal of sewage otherwise than directly into the stream.

---

## HELLIFIELD.

The last census population numbered 601, chiefly congregated in the village. This is rapidly increasing, largely owing to the introduction of railway operatives and their families.

The water supply of the village is derived from four sources:—first, the deep-well of the Midland Railway Company from which the water is pumped into a tank and gravitates to the houses; second, supply from Auction Mart Company, the Hellifield Beck, the water of which, after rudimentary filtration, flows into a tank from which it is piped to supply several houses from standpipes, supplying about 20 houses; third, spring water piped to 10 houses; fourth, a dip-well supplying a few houses.

The sewerage was completed in 1895 with sewage disposal by intermittent downward filtration. House drainage generally is satisfactory, and the slop sinks are disconnected from the drains.

With regard to receptacles for excrement and house refuse there are a variety of methods, but chiefly by the covered privy-midden, often of bad construction, unnecessarily large, too deep, and wet. The open privy-middens are still more objectionable. There are a few pails and hand-flushed closets. Several slop-waste closets have been recently erected.

Especial reference is necessary to the row of concrete houses known as Midland Railway houses, and on which Dr. Atkinson has made a Special Report. I would particularly emphasize the absolute necessity of immediate attention to these dwellings which were constructed about 17 years ago. Many of them are extremely damp from unsound roofing, and numerous bedrooms with damp walls, one scarcely habitable and at times not fit for use. There are two wooden huts close by the Lancashire and Yorkshire Railway which are inhabited and one is still unprovided with drainage or proper privy accommodation.

The by-laws with regard to slaughter houses do not apply here, and on the day of inspection slaughtering was being carried on in an old barn most unsuitable for the purpose.

*Chief Sanitary Requirements:—*

Speedy action with regard to the Midland Railway cottages.

The obtaining of Urban Powers, and framing of Bye-laws with regard to slaughter houses.

---

## INGLETON.

THIS parish is the largest, having an area 17,508 acres, with a population of 1,568 living in 328 houses. With the exception of Ingleton village, which includes 216 houses, the district is very sparsely populated.

The Ingleton Waterworks provide a good supply of water from springs. It has good pressure, but is scarcely adequate, especially in times of drought, for the wants of district.

In 1880 the sewerage, and also sewage disposal by broad irrigation, was adopted in Ingleton, but the present area of three acres cannot adequately cope with the flow of sewage. To overcome this it will be necessary to extend the area or adopt an improved system of precipitation followed by filtration. Systematic and efficient attention is necessary to obtain a good effluent.

House drainage has received much attention, but several cases of defective drainage were under notice. In a small yard the soil pipe of the water closet leaks into the ashpit, and in the Bull Ring a surface rubble drain is used for slop-water, which is said to give rise to foul smells by tenants lower down the road.

The condition, position, and construction of the open privy-midden system, which is most general, does not differ from that generally in the Union. There are several pails and a few water-closets. The necessity of public scavenging is manifest all round in overflowing ashpits, and numerous accumulations of filth rendering the back premises untidy and insanitary. The necessity for public scavenging here has been a question of chronic discussion, which has been wisely referred to at intervals by the local Medical Officer of Health since the year 1879.

Instances of buildings back to earth with fixed windows and unsound roofs were noted, and special observation was made of Court Row and Back Gate, where there are several buildings rapidly becoming unfit for habitation.

*Chief Sanitary Requirements:—*

- Extension of storage provision for water supply.
- Urgent necessity for public scavenging.
- Action with regard to insanitary dwellings.

---

## LANGCLIFFE.

THIS parish with a population of 681 contains only one village of Langcliffe, with 85 houses accommodating 456 persons.

In addition to agriculture, cotton spinning, lime burning, and stone quarrying is carried on.

Spring water is conveyed to a public fountain in the centre of the village. In summer time it runs slowly and insufficiently. Repeated reference has been made to this in the Reports of Dr. Atkinson, and further, in 1885 he stated that the water was liable to pollution. An Engineer has advised the Authority, but the matter is still in abeyance. There is certainly need for a proper water supply, which should have really preceded the sewerage of the village, which latter was carried out in 1879.

The sewage is treated at the Settle Outfall Works.

Most of the sink wastes are disconnected, but not trapped, which is necessary to prevent the foul air from neglected gullies ascending through the waste-pipe into the house.

There are many open privy-middens and block privies, both wet and foul, several covered privy-middens, and hand-flushed water closets. As early as 1879 public scavenging was advocated for this village, but now it is much more necessary than ever.

Several houses are built back to earth and inefficiently ventilated. Several, again, are without eaves spouts.

*Chief Sanitary Requirements:—*

- Constant supply of wholesome water.
- Public scavenging.

---

## LONG PRESTON.

ALL the houses in this parish, with the exception of about a dozen, are aggregated in the village of Long Preston, which chiefly occupies both sides of the highway for about half-a-mile.

In 1870 a water supply was provided by a resident who vested its management in trustees in perpetuity. About 153 houses in the village are provided, but owing to the absence of a sufficiently large storage reservoir, the supply is not adequate at all times, and having regard to the fact that there are a number of water closets, the insufficiency is doubly dangerous. The charge of 10s. a year for each water closet renders their erection practically prohibitive. Any profits arising from the fixed scale of charges required by the trust deed of the donor, to



be utilized for the lighting or beautifying of the village, or the repairing of footpaths. Another source, which is well-known as the Ratten Row Pump, provides for about 12 houses and for the neighbourhood, but the water is regarded with suspicion by the local medical officer of health. A sample analysed in my laboratory.

A scheme has been prepared for the sewerage of the village with outfall works on the combined system of intermittent downward filtration and broad irrigation. This scheme was confirmed by the Local Government Board, in March, 1897. The house drainage requires general overhauling again as the sewerage scheme proceeds. Several nuisances from defective drainage, noted by the officials of the Sanitary Authority, have been left over pending the completion of the sewerage scheme.

The closets chiefly in use are the open privy-midden and the block privy. Many of the former are wet and foul, and the latter are as objectionable. There are also a few pail closets and about 33 water closets. Some of the outside and a few of the inside water closets are flushed by hand. Several of them are imperfectly ventilated. A constant supply of water by a storage reservoir, and the completion of the sewerage system should encourage an increase in the water carriage system.

Instances were noted of want of ashpit accommodation.

Other sanitary defects observed were:—houses built back to earth, several very damp, insufficiently ventilated, and, others in want of eaves spouts. Several houses in Moor Lane are in a dilapidated condition and the roofs are not sound.

The schools here require special comment. There are separate buildings for boys, girls, and infants respectively, and all of them in an unsatisfactory condition; but the local authority have taken action and have been informed by the school managers that plans are being prepared for the erection of new schools.

#### *Chief Sanitary Requirements:—*

Further provision of Storage Reservoir for Water, and abolition of the Ratten Row Pump.

Improvement in the School Accommodation.

Public Scavenging.

Action with regard to Insanitary Dwellings.

## SETTLE.

SETTLE is one of the most important centres in the Union. Its history accounts for the condition of a number of dwellings, especially in the neighbourhood of Albert Hill. The town can boast of a history extending to a period prior to the Conquest. In 1249 its first market charter was granted, and it is at the present time the market town for the surrounding districts. Not half a century ago it was described as a small market town, with about a dozen good-looking houses, and the rest old and low, with little wooden porticos in front, but since then many changes have taken place. During the last few years there has been an increase in the number of buildings erected, so that there are now about 521 houses, with a population of 2,553.

Water is supplied by the Local Authority from a series of springs, partly in the limestone and partly in the grit, in the Scaleber district. The water is impounded in a small reservoir near the town, but the insufficiency of the supply has long been under consideration. Since 1882, and particularly during the last three years, it has been found necessary to restrict at times the hours of supply.

An engineer has reported in favour of augmenting the supply from springs in Stockdale, but as yet nothing has been done.

In 1879, Settle was sewered in combination with the Langcliffe and Giggleswick districts by a scheme sanctioned by the Local Government Board. In December, 1896, owing to a complaint, the County Medical Officer, by instructions, reported upon the condition of the sewers. These are generally defective, and not being sewage-tight, in the absence of proper ventilation and insufficient gradients, allowing deposits and necessitating frequent hand-cleansing. The conditions under which the sewage disposal at the outfall works are carried on are not at all satisfactory. It is said to give rise to a nuisance in summer time, and is largely caused by the small amount of land utilised, and the ponding of the sewage in various spots in the field which has been improperly prepared. It may be approximately assumed that instead of 300 persons to the acre, as generally accepted, in this instance there are at least 600 persons per acre. In 1890, four additional tanks were laid down with a view to improve the condition of the field, but apparently this effort has not been successful.

Generally, the drainage is, as far as one can say, satisfactory; the sink waste pipes are disconnected by discharging on to trapped gullies outside the houses.

Excrement and refuse is commonly deposited in the open privy-middens, which are often in a wet and offensive condition. Several of them are erected against the house walls, and in a few instances the contents are removed through the dwellings. A grave source of danger is a number of hand-flushed closets, aggravated in this place by the scarcity of water.

The scavenging is very imperfect, ashpits with large accumulations of decomposing filth being noticeable, and little improvement can be expected until this important sanitary operation is undertaken by the Sanitary Authority. At Proctor's Buildings, a row of sixteen cottages, the water obtained from a pump is complained of, chiefly because of its discoloration at times, evidently due to surface washings after rain.

Other insanitary conditions noticed were:—houses damp, badly ventilated, and built back to earth. Such conditions are specially existent in the Upper Settle portion of the town—Twistleton's Yard for example. The houses here are externally dirty, and often internally unclean. In a House underneath the Primitive Chapel overcrowding was noticed. In the Market Place, in a seventeenth century building, the houses are over the shops, and the shops are used as slaughter houses.

*Chief Sanitary Requirements:—*

Adequate supply of water. Extension to Proctor's Buildings and Twistleton Yard.

Pressing need for public scavenging.

Renovation of the sewerage system and means of sewage purification.

---

## STAINFORTH.

THIS is a purely agricultural village, with a population of about 200 persons living in 45 houses irregularly erected upon both sides of the beck which joins the River Ribble a little below the village. Little Stainforth is a hamlet of three or four houses on the West bank of the Ribble.

The principal supply of water is conveyed from a spring in Sannat Bottom to a fountain in the centre of the village, which is at an unreasonable distance from some of the houses, but this supply is only on sufferance of the owner. As, however, it is never-failing, arrangements should be made by the Authority to obtain the rights of this or other supply and extend it to each house in the village where necessary. At present 19 houses have the water piped into them from springs. At Little Stainforth the supply from a dipping well is liable to contamination in wet weather.

The sewerage has just been finished, and the sewage disposal works are practically completed.

House drainage will be attended to when the various connections are made with the sewers.

With respect to receptacles for excrement and refuse, there are several systems—water closets, block privies, open privy-middens, and a few pails. As elsewhere, the block and privy-middens are highly objectionable in their present condition. Several of the houses are not provided with ashpits, and in 1894 Dr. Atkinson recommended the purchase of a public tip.

In my inspection a cowshed was noticed in which ten heifers were standing in a row, two in a stall, with an air capacity of less than 120 cubic feet for each animal.

A few of the houses are in want of better means of ventilation, several having no back doors; but the general accommodation is satisfactory.

*Chief Sanitary Requirements:—*

Extension of the water supply.

---

## THORNTON-IN-LONSDALE.

THE population of 295 is chiefly collected at West Houses, Lower and Higher West Houses, and Mason Gill.

The water supply generally in these hamlets is unsatisfactory, both in respect of quality and quantity. Dr. Atkinson has repeatedly drawn attention to this matter.

There is no proper system of sewerage, and the sewage is disposed of as set forth in col. 9 of Table 5.

The house drainage corresponds with the sewerage.

The receptacles for excremental and house refuse are open privy-middens, some of them dilapidated, wet, and offensive. Many of them require emptying.

Other sanitary defects noticed were,—defective ventilation, want of eaves-spouts, and houses built back-to-earth.

*Chief Sanitary Requirements:—*

Better provision for an adequate and wholesome supply of water.

Attention to the removal of house refuse.

Attention to the disposal of drainage.

The following tabular statement is a short synopsis of the main facts elicited during the survey of the various parishes not represented by a Parish Council:—

## INSANITARY CONDITIONS IN OTHER PARISHES

NOT DESCRIBED BEYOND REFERENCE IN TABLE V.

Parish.	Houses.	Receptacles for Excrement and Refuse.	Water Supply.
AIRTON ...	Built back to earth; with defective roofs and ventilation. Also faulty drains	Generally open privy-middens; some wet and foul, dilapidated, and too near houses. Houses at Mill without ash-places; refuse goes to stream. Mill closets discharge into the "Tail Gait"	Generally wanted (Special Report by local M.O.H., 1883)
ARNCLIFFE ...	Several built back to earth; house drains defective. Houses sometimes flooded owing to partly blocked sewers	Generally open privy-middens; wet and foul; some too near houses and dilapidated. Privy over watercourse at Vicarage	Doubtful; village pump complained of as probably polluted from rubble sewers. Supply from watering troughs liable to pollution; also from streams and wells
HALTON GILL ...	Several damp from being built back to earth. Drainage defective in most cases	Generally open privy-middens of bad construction	Piped direct from stream to houses; polluted at times; cisterns needed for storage.
HALTON WEST ...	One house damp from want of pointing. Several defective house drains	A few foul open privy-middens. One dilapidated privy	Good
HANLITH ...	Several built back to earth; house drainage generally defective	Open privy-middens, and block privies of defective construction	Chiefly a succession of dip troughs, piped from one farm to another
HAWKSWICK ...	Several damp from being built back to earth, and want of eaves-spouts. Defective drainage	Open privy-middens, and block privies of bad construction	Wells. One of suspicious quality
KIRKBY MALHAM.	Several built back to earth, with defective drains	Open privy-middens, and block privies, wet and foul. One ashpit abuts against house	Proper supply wanted at the Schools

Parish.	Houses.	Receptacles for Excrement and Refuse.	Water Supply.
LAWKLAND— Eldroth	... House drains generally defective; want of eaves-spouts	Chiefly block-privies of bad construction	—
Feizor	... Some built back to earth, or badly ventilated; some leaky roofs. Faulty drainage	Ditto	Has to be carried long distance in some cases
Lawkland	... Some built back to earth; drainage defective	Ditto One privy dilapidated	Several suspicious supplies
LITTON	... Some built back to earth; one dilapidated; others with defective roofs. Drainage generally defective	Defective open privy-middens, and block privies	Piped direct from stream to houses. Cistern for storage, &c., much needed. Scarce at times; supplied on sufferance in some cases
MALHAM	... Some built partly back to earth; drainage defective. Eaves-spouts wanted	Foul open privy-middens	Unsatisfactory. In many instances supply is taken direct from River Aire, which has already received domestic sewage
MALHAM MOOR	... Defective drainage to one house	Privies too close to houses	Satisfactory
NAPPA	... Some built partly back to earth; some damp; walls not rain-proof. Drains defective	Foul open privy-middens	Unsatisfactory. In one case supply has to be obtained from land drains, or carried 300 yards
OTTERBURN	... Defective house drains	Faulty open privy-middens, and block-privies	Satisfactory
RATHMELL	... Several built partly back to earth; eaves-spouts wanted; faulty ventilation. Drainage generally defective	Ill-constructed open privy-middens and block privies	Mains for a new supply which were being laid at the time of inspection are now completed
SCOSTHROP	... Several houses built back to earth, and damp from want of pointing. Ventilation deficient. Roofs faulty. Drainage generally defective	Faulty open privy-middens, and block privies. In one instance four houses to one closet	Public Pump supplied by S.A. since Special Report of M.O.H. in 1883.
SWINDEN	... House drains imperfect	Open privy-middens and block privies	Scanty
TOSSIDE	... Defective drainage	Open privy-middens and block privies	Unsatisfactory; from stream, wells, and land drains
WIGGLESWORTH...	Houses built partly back to earth; damp. Ventilation inefficient. Drainage defective	Open privy-middens and block privies	Of questionable purity in several cases. Scanty at times

Although this survey takes note of many imperfections from a sanitary point of view it must be remembered that under the guidance of the Medical Officer of Health (Dr. F. E. Atkinson) much valuable work has been and is being accomplished, but in some cases his recommendations on defective conditions likely to influence the public health have not received from the Authority that prompt consideration which they deserve.

The County Council too, it may be recorded here, has exercised its influence in promoting schemes of sewerage and sewage disposal for Burton, Clapham, Long Preston, and Stainforth; sewerage and water supply for Newby; and renovation of the faulty sewerage and sewage disposal of Settle.

In conclusion, I have to acknowledge the kindly assistance so willingly afforded to me by Dr. Atkinson, the Medical Officer of Health, Mr. Foxcroft, the Surveyor and Sanitary Inspector, and Mr. Bygrave, the Clerk to the Rural District Council.

---

## RECOMMENDATIONS.

---

The sanitary measures of importance which require to be carried out in the Settle Union to improve its hygienic condition have been recorded under the head of each Parish, and may be generally summarised as follows:—

- (1) Adequate provision of wholesome public water supplies where necessary, and protection of existing supplies from pollution by surface water and sewage.
- (2) Public Scavenging:—the frequent periodical removal and disposal of all excremental and other refuse.
- (3) The renovation of filth receptacles which are improperly constructed, unduly large, not water-tight, open to the rainfall and roof-washings. These should be replaced by more appropriate structures, or reconstructed on the lines laid down in the model code of Bye-laws.
- (4) The replacement by proper pipes of all rubble and dry-wall drains used for domestic sewage.
- (5) The adoption and extension of Bye-laws to all parts of the Union and more rigid observance of the Bye-laws when framed, especially in connection with receptacles for excrement and house refuse, common lodging houses, and slaughter houses.
- (6) The special adoption of Bye-laws for the prevention of nuisances under Section 44 of the Public Health Act, 1875.
- (7) The adoption of the Infections Disease (Prevention) Act, 1890, and Part III. of the Public Health Acts Amendment Act, 1890.
- (8) The provision of an efficient steam disinfecter and properly equipped ambulance.

JAMES ROBT. KAYE,  
*County Medical Officer.*

Wakefield,  
May, 1897.

# SETTLE UNION 1897.

Map to accompany County Medical Officer's Report.

SCALE 1/2 INCH TO 1 MILE.



## REFERENCES

- Union Boundary
- Township Boundary
- Railways
- Watershed Lines

W<sup>m</sup> HOLMES,

MAY, 1897.