

Report on the public health administration of the Punjab.

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REPORT
ON THE
Public Health Administration of the Punjab

DURING THE YEAR 1929

BY

LIEUTENANT-COLONEL C. A. GILL, D.P.H., I.M.S.,
Director of Public Health, Punjab,

TOGETHER WITH

The Report on Sanitary Works

DURING THE YEAR 1929

BY

RAI BAHADUR AMAR NATH, NANDA, B.A., M.I.E. (INDIA),
Superintending Engineer, Public Health Circle, Punjab,

AND

REPORT

ON THE

Proceedings of the Urban Sanitary Board

During the Financial year 1929-30.



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PREFACE.

WITH a view to present in one volume a comprehensive account of the state of health of the province and of the activities of the Public Health Department, the Punjab Government decided in November, 1929, that the annual review of vaccination, which has hitherto been published as a separate report, should in future be incorporated in the annual Public Health Report. This procedure has accordingly been adopted in the present report and, in doing so, the opportunity has been taken of omitting certain obsolete sections, such as those referring to the European and Native Army, Jails and Sanitary works, Military, and of replacing the sections by chapters and numbering the latter in consecutive order. Some rearrangement of the contents of the chapters has also been made, partly with a view to the presentation of the facts in logical sequence, and partly to make provision for the inclusion of new matter occasioned by the expanding functions of the Public Health Department.

In making these changes care has been taken to preserve, so far as possible, the original form of the report and, as nothing of importance has been omitted and no change has been made in any of the annual forms or statistical tables, it is hoped that the report in its new form will not prove inconvenient to those whose duty it is to read the report or extract statistical data therefrom.



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(The text of the Public Health Report is limited to 24 pages and that of the
Superintending Engineer to 4 pages.)

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*Proceedings of the Punjab Government (Ministry of Education) in the
Public Health Department, No. 33394, dated the 13th November 1930.*

READ—

The Report on the Public Health Administration of the Punjab for
the year 1929.

THE climate of the year 1929 like that of its predecessor was one showing considerable variation from the normal but unlike 1928 the variations from the normal were not entirely favourable to health. In the end of January there was a spell of unusually cold weather, but after this the early months of the year were marked by high temperatures combined with low humidity, a condition favourable to the general health of the Province. The distribution of the monsoon was unusual, the dry western districts of the Province receiving far more rain than usual while the figures for the south-east of the Province showed a marked defect. The monsoon started late and stopped early, but not before it had caused heavy rainfall in the catchment area of the Jhelum, Chenab and Indus rivers, which caused high floods in these rivers and occasioned widespread damage followed by a serious epidemic of malaria.

2. The survey of the vital statistics for the year contained in the report brings out some interesting facts. The Punjab has the highest birth rate in the whole of India, and by far the highest excess of births over deaths. It is difficult to draw a conclusion as to the reason for a high birth rate when the three districts showing the highest rate were Hissar, one of the poorest districts in the Province which suffered during the year under report from famine conditions; Gurdaspur, a typical sub-montane district of the Central Punjab; and Lyallpur, admittedly by far the most prosperous district in the Province.

3. Apart from the somewhat severe epidemic of malaria following the heavy floods in certain districts the year was on the whole a very healthy one. The cholera figures were somewhat higher than the previous year and while no very serious outbreak occurred the disease was widely diffused and practically all the districts in the Province were affected. Government are glad to be able to endorse, whole-heartedly, the remarks of the Director of Public Health as to the promptitude, energy and resource displayed by the Public Health Staff in dealing with outbreaks spread over a wide area. Government have already placed on record their deep regret at the death of Dr. Hazari Mal Bhasin and have taken steps to give some assistance to his family until their education is completed. From a perusal of the cholera reports received at various times throughout the summer months two facts stand out with extreme clearness. The first is the extraordinary carelessness of members of the public in disseminating infection and the second is the speed with which the Public Health Staff, when it reaches the scene of the outbreak, at any rate in rural areas, is able to get the disease under control. Both these facts were well illustrated by a case from a village in the Lyallpur district during the year under review. A villager returning from a journey to another part of the Province fell ill and died of cholera. His clothes were subsequently washed at the village well and within a day or two cholera was raging in the village. In a very short time the District Medical Officer of Health arrived in the village with an emergency staff and within two or three days the disease was completely under control. Experience is a slow but sure teacher, and there is every reason to believe that in that village at any rate and its immediate neighbours the clothes of persons dying suddenly of suspicious diseases will not again be washed at the village well. Incidents like these are undoubtedly winning for the Public Health Department the confidence of

the people, a confidence which is expressed in the readiness referred to by the Director of Public Health with which, in the presence of cholera, people come forward freely to submit to preventive inoculation. The problem in the towns is no doubt much more difficult and Government agree with the Director that one of the crying needs of Punjab towns is for more efficient sanitary arrangements.

4. Government have read with much satisfaction the favourable record of the year in regard to plague statistics and congratulate the Director of Public Health and the department generally on the excellent results of their efforts to stamp out the disease. They note, however, that the Director considers that the disease is not dead but merely slumbering, and agree that constant vigilance is necessary to prevent the disease blazing up afresh after three years of quiescence.

5. The analysis of the figures of deaths from fevers proves beyond question that the increase under this head was entirely due to the autumnal epidemic of malaria in the districts which had suffered from floods. Government have compared with very great interest the terms of the malaria forecast issued at the end of August with the figures of death rate from fevers by districts ascertained at the end of the year. The extreme accuracy of the forecast when compared with the figures finally ascertained reflects considerable credit on Colonel Gill and his officers serving in the Epidemiological Bureau, and the fact that reliable information was available in advance is no doubt responsible for the success of the measures taken to have ample supplies of quinine available in the affected areas. Government are particularly glad to learn of the successful co-operation of all departments of Government in providing relief during the prevalence of the epidemic, and the thanks of Government and of the inhabitants of the districts concerned are due to all those who co-operated with the Public Health staff in providing measures to alleviate the distress.

6. The problem of pulmonary tuberculosis, the statistics of which are included under respiratory diseases, is one that is receiving increased attention, but is at the same time one that is extremely difficult to deal with. Overcrowding and bad sanitation in large towns appear to be largely responsible for the prevalence of this disease, and a heavy responsibility rests on all municipal bodies to improve their sanitation and to administer their building bye-laws in a manner calculated to improve housing conditions. The Public Health Department is apparently doing what it can to bring home this aspect of the case to the local bodies administering urban areas, and it is hoped that these bodies will co-operate with the department in bringing about improved conditions.

7. The discovery that ankylostomiasis or hook-worm is widely prevalent in parts of the Province adds yet another to the list of diseases that the department is called upon to deal with. It is hoped, however, that the discovery of the presence of the disease will now be followed by its alleviation and if possible complete eradication.

8. The separate report on vaccination previously issued has now been incorporated in the annual report of the Public Health Department of whose activities it forms an extremely important section. The benefits of vaccination are now so widely understood throughout the Province that the yearly record has now for some years been one of consolidation of results previously achieved rather than of any spectacular developments in fresh directions. Useful progress has been made in extending the system of employing one vaccinator for the area of each rural police station, and in urban areas Government are glad to note that some improvement has taken place though there is still much leeway to make up.

In reviewing the vaccination report for the previous year Government remarked that it would be interesting to trace the statistics of mortality from small-pox from the earliest years for which the Public Health Department has statistics down to the present day, with a view to seeing how far the decline in mortality has kept pace with the increase in the number of vaccinators per thousand of the population. This is now possible from a comparison of charts III and VII attached to the present report. The mortality figures in chart III start from 1867 while those of vaccination operations per thousand of the population in chart VII start from 1885. The figures in the latter chart show a steady rise especially in 1911-12 and again since 1923-24. In the mortality figures in chart III the decline is not so immediately striking, but it appears that before 1880 the figures were only on three or four occasions below 1 per thousand whereas in the subsequent half century they have only been above that figure on four occasions. Prior to 1910 the figure had only on one occasion dropped as low as .15 per thousand, but since that year the figures have been .15 per thousand or less in no less than nine years. These figures give cause for solid satisfaction, but it cannot be too often reiterated that in matters connected with any form of inoculation against disease the greater the success in warding off the disease the greater immediately becomes the danger that the public will become apathetic in periods of immunity and neglect the precautions they have taken in times of more obvious danger. In this connection Government are glad to note the progress made in the last five years in extending the compulsory vaccination provisions of the Vaccination Act in urban areas. During the year under report the Act was amended to allow district boards also to make vaccination compulsory in rural areas, and already many district boards have availed themselves of their new powers.

9. The Director brings out very clearly in his report the essential difference between the public health problems of rural and of urban areas. In almost every chapter of the report Government observe that the source of disease and ill-health in towns is invariably traced back to defective sanitation. It is, therefore, disappointing to read that the report has nothing striking to record in respect of improvements made in the conservancy arrangements of towns, but Government note with pleasure that in the three towns of Simla, Ferozepore and Rawalpindi energetic action by Health Officers backed by the support of progressive municipalities has resulted in substantial improvements.

The report of the Superintending Engineer, Public Health Circle, which appears in Appendix I of the report, shows that a considerable number of important drainage and water supply schemes have been completed in recent years, and these should have an appreciable effect in improving conditions in the towns concerned. Government have, however, read with deep concern from time to time throughout the year references in the proceedings of the Urban Sanitary Board to a number of cases where the neglect of a local body to maintain in due repair a costly sanitary work constructed to a very large extent with the help of grants from public revenues has resulted in a very short time in grave disaster. The Urban Sanitary Board is convinced that effective measures must be taken to avoid such neglect in future, and Government fully share this conviction. The efforts of the Urban Sanitary Board to assist in the provision of further schemes of drainage and water supply are gravely hampered by the attitude of a section of the general public which, by its aversion to pay even a small water rate in return for the benefits that a regular water supply ensures and its blindness to the folly of allowing water to be wasted through unmetered house connections, is making it yearly more difficult for development to take place. Where no water supply is available the urban house-holders of the Punjab see nothing unusual in paying labourers to bring them a few pitchers of doubtful water from a neighbouring pond, and will take infinite pains to prevent the waste of a drop of this purchased commodity, but once an expensive water supply is installed to bring pure water to their very doors they

resent being called upon to pay even a small price for this amenity and think nothing of letting taps run either at public standposts or unmetered house connections and thus allow much valuable water to be wasted.

10. As already noticed the problems of rural sanitation present entirely different features to those of the towns. The report brings out clearly how the leaven of the Gurgaon experiment of the last eight years has spread in other districts. Simple sanitary regulations administered by committees set up under the authority of the district boards or by regular village panchayats are being adopted in many districts. Villages are being encouraged to protect and improve their wells and the means of drawing water therefrom. The Rural Sanitary and Improvement Board has been able in several cases to give large grants for the construction of regular water supply schemes for villages in areas where water is scarce. Such assistance is inevitably confined to a very small fraction of the total number of villages throughout the Punjab, but the rural public must also remember that individual effort can help tremendously in improving their conditions in the villages.

Government have read with very great pleasure the long list of sanitary works of public utility constructed by private benefactors described in Appendix IV to the report, and desire to place on record their appreciation of the public spirit thus displayed.

11. Government fully concur in the remarks made by the Director of Public Health as to the devoted labours of Miss Simon and Miss Raynor whose eight years of fruitful work in the cause of maternity and child welfare in the Punjab terminated shortly after the close of the year under report. The services of Miss Simon were acknowledged by the bestowal of the Kaiser-i-Hind medal, and Government much regret that circumstances rendered it impossible for their services to be retained for a further period. Government are convinced, however, that during these eight years the foundations of this work have been well and truly laid, and trust that their successors, trained under their guidance, will maintain the high standard that the Punjab Health School has set.

12. Government desire to thank Col. Gill for a particularly interesting report which is rendered doubly valuable by the very clear and instructive series of charts with which it is illustrated. Government have read with great pleasure the tribute of Col. Gill to the general good work of the officers under his control and in particular to the enhanced self-reliance and keenness with which they have carried out their duties. Government are satisfied that this tribute is well-merited and consider that it is due in no small measure to the keenness and enthusiasm of Col. Gill himself, and they desire that an expression of their appreciation may be conveyed both to those officers specially mentioned in the report and to the staff of the Public Health Department in general for the results achieved.

Order.—Ordered that copies of this review be circulated with the report and be furnished with the usual number of copies of the report to the Government of India; also that the review be published in the *Punjab Government Gazette*.

Ordered further that a copy be furnished to the Director of Public Health, Punjab, for information.

By order of the Punjab Government
(Ministry of Education).

FIROZ KHAN, NOON,
Minister for Education.

ALAN MITCHELL,
Secretary to Government, Punjab,
Transferred Departments.

CHAPTER I.—Climatic and Economic Conditions.

1. One of the most conspicuous features of the Punjab is the profound influence exercised by climatic conditions upon the health and well-being of its inhabitants ; indeed, so unstable is the climate and so susceptible are the people to its influence that any important vagaries of the one are clearly reflected in the vital statistics of the other.

Chief Meteorological Features.

Some account of the chief meteorological features of the year is therefore essential to a proper understanding of the statistical data referring to the state of the public health. These features, so far as they appeared to exercise an obvious effect upon health, are briefly summarized below, whilst the monthly figures in respect of temperature, relative humidity and rainfall are given in Appendix VI.

The rainfall during the month of January was only about half the normal, the outstanding feature was a cold snap of unusual intensity during the last week of the month which lasted until February 3rd. The rainfall was again in defect during February and March and, as usually happens in such circumstances, the mean temperature in the month of March was above normal and the mean relative humidity was in defect ; in other words, March was an unusually hot and dry month.

In the month of April six western disturbances affected the province but, although they caused dust-storms and thunder-storms, they gave little rain, and the rainfall of April was again in defect.

The weather during the first four months of the year was therefore characterized by relatively low rainfall, and from March to May by relatively high temperature in association with abnormally low relative humidity—these features, at this period of the year, being unfavourable to the occurrence of plague in epidemic form. In May the rainfall was again below normal, whilst the atmospheric temperature was in excess—a combination of circumstances favourable to the early decline of plague. The chief meteorological feature of the month of June was a heat wave of considerable intensity which caused a number of deaths in the south-east of the province.

The rainfall in June was again below normal and the monsoon did not become active in the province until the second week of July. The rainfall in July and August was normal in amount in the east and north of the province, in defect in the south-east, and in conspicuous excess in the west and north-west. In the latter half of August a depression which reached the Punjab from the Bay of Bengal caused heavy rainfall in the catchment area of the Jhelum, Chenab and Indus, which caused high floods in these rivers and some loss of life and serious damage to private property and to public works.

The chief feature of the monsoon rainfall in July and August was, therefore, its unusual distribution, the rainfall being in conspicuous excess in the north-west dry area, whilst in the south-east—the Ambala Division—it was in great defect.

Owing to the withdrawal of the monsoon current early in the month of September the rainfall and relative humidity of this month were in defect, whilst the maximum temperature was in excess. October and November were, as usual, almost rainless, the total rainfall in October being in slight excess in the east and north and in large defect elsewhere. Fortunately for the spring harvest, the rainfall in December, as the result of the arrival of a series of western disturbances, was copious in amount and widespread in distribution.

The chief feature of the latter half of the year was therefore the excessive rainfall in the west and north-west of the province, and it will later be shown that this circumstance was associated with a widespread epidemic of malaria in this area.

2. The average price of food-grains, which will in future be expressed in terms of rupees *per* maund, instead of in seers *per* rupee, as was formerly the practice, prevailing in the principal markets of the province during the year 1929 and the previous year, are shown in Table I.

TABLE I.

Locality.	WHEAT.		BARLEY.		MAIZE.		JOWAR.		BAJRA.	
	1928.	1929	1928.	1929.	1928.	1929.	1928.	1929.	1928.	1929.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1. Lahore ...	5-2-0	5-3-5	3-11-9	3-12-4	4-4-6	5-2-10	3-1-3	4-13-10	4-13-3	5-2-6
2. Ambala ...	5-1-0	5-1-7	..	3-15-5	3-15-5	4-0-2	...	...	...	...
3. Multan ...	5-1-0	4-15-7	3-9-2	3-15-1	4-4-3	5-0-0	3-9-7	4-5-1	4-5-8	5-2-6
4. Rawalpindi	5-7-4	5-5-11	3-0-0	3-8-5	4-4-5	4-3-4	4-1-3	4-4-9	4-8-6	5-3-7

From a scrutiny of the figures given in Table I it will be seen, that as compared with the previous year, a small but appreciable rise in price of all food-grains, with the exception of wheat, occurred during the year under review. This state of affairs combined with the slight but steady rise in prices during the preceding year is a reflection of two successive years in which the meteorological conditions were relatively unfavourable to agriculture. The figures, however, do not imply a serious degree of economic stress, but they are average annual figures, and they fail to show that a steady rise in the price of wheat, which for a time was a cause of serious anxiety, took place during the first half of the year.

The poor harvests in the years 1927 and 1928 were followed in the year under review by a good spring harvest in the irrigated districts, but in unirrigated areas there was a poor harvest which was followed in the districts of the Ambala division, owing to the failure of the monsoon in this area, by a partial or complete failure of the autumn harvest. In this tract economic stress increased during the autumn, with the result that although the local price of wheat, which is largely determined by world-prices, was relatively low, it was so far beyond the means of the people that test-works for the relief of the famine-stricken had to be opened in Gurgaon and Hissar districts, whilst lesser degrees of economic stress were experienced throughout the division and also in Kangra and Dera Ghazi Khan districts.

3. The meteorological circumstances of the year thus exercised a profound effect upon both health and agriculture; but if the low winter rainfall adversely affected the spring crops (*rabi*) in unirrigated areas, it was likewise unfavourable to plague throughout the province; if the excessive monsoon rainfall in the west was productive of bumper crops, it likewise caused immediate damage to life and property and, later, a severe and widespread epidemic of malaria; in the south-east of the province, the monsoon failed, so likewise did the crops, but if the people suffered from famine, they at least had not to reap a harvest of deaths from malaria.

Of the rainfall of the year 1929 it may be said a little more how much it meant in the shape of sickness and death, a little less how much in the way of starvation and distress. And this maxim, which aptly

illustrates the precarious nature of the Punjab's prosperity, constitutes a basic fact which must be taken into account by administrators and more especially by those responsible for initiating and financing schemes for extending the beneficent activities of Government.

CHAPTER VI.—Vital Statistics.

4. *Population*.—The estimated population on December 31st 1929 which has been calculated by adding the births and subtracting the deaths since the last census in April 1 21, was 22,607,508. The birth and death-rates given in this report are, however, calculated on the census population of British districts (excluding military cantonments), the population of which in 1921 was 20,517,606.

The natural increase in the population during the year under review was 321,955, as compared with 442,696 in the previous year and an average of 238,846 *per annum* since the last census. All districts of the province shared in this increase, which was most evident in Lyallpur district (+23,944) and least conspicuous in Shahpur (+1,122) and Dera Ghazi Khan (+1,191). The fact that the natural increase of the population in the year under review was 120,741 less than in the preceding year—a record year—is attributable mainly to the occurrence in the west of the province of a widespread epidemic of malaria in the autumn of the year 1929.

The estimated population on December 31st, 1929, comprised 12,322,943 males and 10,284,565 females, the number of males thus exceeded the number of females by 2,038,378, as compared with 2,017,729 at the end of the preceding year, 2,000,201 at the end of the year 1927, and 1,892,062 in 1921 (census figure). The steady increase in the preponderance of males is a disquieting feature, and the fact that it is somewhat more conspicuous in the year under review, as compared with the previous year, is probably attributable, in the absence of any special cause of high mortality amongst women, to the greater wastage of female life during periods of economic stress and epidemics. This fact once more emphasizes the special need, if the grave shortage of females is to be remedied, of intensive measures designed to improve the status and to safeguard the health and welfare of women.

5. *Births*.—The total number of births registered during the year 1929 was 911,918, as compared with 949,930 in the previous year. The provincial birth-rate was 44·5 *per mille*, as compared with 46·3 *per mille* during the previous year and a mean birth-rate of 42·1 *per mille* during the preceding quinquennium. The birth-rate calculated on the estimated population was 40·3 *per mille* or 4·2 *per mille* less than the figure based on the census population.

The birth-rate in 1929 was thus 2·4 *per mille* in excess of the mean of the preceding quinquennium and 1·8 *per mille* below the figure of the previous year. In view of the effect of epidemic malaria in causing stillbirths (which are not enumerated as births), and of the absence of any other cause of a reduced birth-rate, it is probable that the decline in the birth-rate in the year under the review is mainly attributable to the autumnal epidemic of malaria. In the Punjab the birth-rate shows conspicuous seasonal variations, the maximum number of children being born in the month of October and the minimum in May. In the year under review the birth-rate of October was 4·27 *per mille* and in May 2·86 *per mille*.

The figures in respect of the male and female birth-rate are shown in Table II :—

TABLE II.

Year.	MALES.		FEMALES.		Excess of male over the female birth-rate.
	Number of births.	Birth-rate.	Number of births.	Birth-rate.	
1929	481,885	23.5	430,033	21.0	+2.5
1928	500,397	24.4	449,533	21.9	+2.5
1924—1928	...	22.2	...	19.8	+2.4

The male birth-rate in 1929 was, as usual, higher than the female birth-rate—the excess being 2.5 *per mille* in both years. The number of males born compared with every 100 females was 112.1 as compared with 111.3 during the year 1928 and 112.0 during the preceding quinquennium. The increase in the preponderance of males must therefore be ascribed partly to the higher male birth-rate (+2.5 *per mille*), and partly (*vide* Table IV) to the higher female death-rate (+2.3) during the year 1929.

6. The birth-rate of districts varied between a maximum of 53.8 *per mille* (Hissar district) and a minimum excluding Simla) of 34.6 *per mille* in Karnal district. The five districts exhibiting the highest birth-rate were Hissar, (53.8); Gurdaspur, (51.5); Lyallpur, (50.8); Amritsar, (50.1); and Gurgaon, (50.0); whilst the five districts recording the lowest birth-rate, excluding Simla, were Karnal, (34.6); Muzaffargarh, (35.9); Kangra, (36.0); Dera Ghazi Khan, (36.2); and Attock, (37.7).

The birth-rate of all districts exceeded the death-rate, the excess being greatest in Hissar, (+26.4); Lyallpur, (+25.6); Sialkot, (+23.6); Sheikhupura, (+22.2); and Gurdaspur, (+21.9).

The birth-rate of the year 1929 was lower than the corresponding figure of the preceding year in all districts with the exception of Hissar, (+6.0); Gurgaon, (+1.6); and Gurdaspur, (+0.9); the five districts exhibiting the greatest reduction being Karnal, (−9.5); Attock, (−4.7); Shahpur, (−4.4); Jhang, (−4.1) and Jullundur, (−3.8). When compared with the mean figure of the preceding five years the birth-rate of the year 1929 was relatively high in all districts, with the exception of Karnal, Kangra, Jullundur, Attock and Jhang, the increase being most apparent in the districts of Hissar, (+10.9); Sheikhupura, (+6.2); Gurdaspur, (+5.5); Lahore, (+5.4) and Sialkot, (+4.7).

7. The birth-rate of the 45 towns with a population of 10,000 or more was 45.7 *per mille* as compared with 46.6 *per mille* in the preceding year and a mean birth-rate of 42.9 *per mille* during the preceding five years. The birth-rate of the three large cities in the year under review, in the previous year and in the preceding five years was as follows :—

	1924—28	1928.	1929.
Lahore	37.20	40.39	41.06
Amritsar	51.14	53.67	52.68
Multan	46.29	47.94	45.95

The birth-rate of all towns (municipal and small towns), 198 in number, was 44.04 *per mille* as compared with 45.05 *per mille* in the previous year and a mean birth-rate of 41.93 in the preceding five years.

8. The birth-rate in rural areas, excluding the 198 towns, was 44.49 *per mille* as compared with a mean birth-rate of 46.45 *per mille* during the previous year and a mean birth-rate of 42.08 *per mille* during the preceding quinquennium.

The Rural Birth-rate.
Annual Form No. VI-A.

9. The provincial birth-rate, although remarkably high, was 1.8 *per mille* lower than the figure of the previous year. The birth-rate of the 45 large towns, all towns, and rural areas was lower in the year under review than the corresponding figures of the preceding year, but whilst the decline of the birth-rate of towns was 1.01 *per mille*, in rural areas it was 1.96 *per mille*.

As epidemic malaria mainly affects rural areas it may be concluded that the relatively large decline of the birth-rate in rural areas in the year under review, as compared with the preceding year, is largely attributable to this circumstance. Further support is lent to this view by reason of the fact that the decline, as compared with the previous year, was particularly marked in districts (Shahpur, Attock and Jhang) affected by the epidemic of malaria, whilst in districts, such as Gurgaon, Gurdaspur and Hissar, which escaped the epidemic, the birth-rate in the year 1929 was higher than it was in the previous year.

10. **Deaths**—The total number of deaths registered during the year was 589,963, as compared with 507,234 during the preceding year. The excess mortality during the year under review was therefore 82,729. The provincial death-rate was 28.8 *per mille* as compared with 24.7 *per mille* in the previous year and a mean death rate of 32.4 *per mille* in the preceding quinquennium. The death-rate calculated on the estimated population was 26.1 *per mille* or 2.7 *per mille* less than the figure based on the census population. The death-rate was thus 4.0 *per mille* in excess of the figure for the previous year and 3.6 *per mille* below the mean death-rate during the preceding quinquennium.

Provincial Death-rate.
Annual Form No. II.

The death-rate under the main heads of mortality during the years 1928 and 1929 and during the period 1924—1928 is shown in Table III.

TABLE III

Head of Mortality.	1929.	1928.	1924—1928.	EXCESS OR DEFECT IN 1929 AS COMPARED WITH—	
				1928.	1924—1928.
Cholera	0.11	0.10	0.19	+ 0.01	0.08
Smallpox	0.38	0.43	0.46	0.05	— 0.08
Plague	0.10	0.40	4.03	— 0.30	— 3.93
" Fevers "	19.61	15.41	19.15	+ 4.20	+ 0.46
Dysentery and diarrhoea	0.64	0.51	0.53	+ 0.13	+ 0.11
Respiratory diseases	2.53	2.57	2.69	— 0.04	— 0.16
Injuries	0.32	0.36	0.33	— 0.04	— 0.01
All other causes	5.05	4.95	5.03	+ 0.10	+ 0.02
Total	28.74	24.73	32.42	+ 4.01	— 3.67

From a scrutiny of this table it will be seen that with one exception the death-rates in 1928 and 1929 are almost identical. The exception is the " fever " death-rate which showed an increase of 4.2 *per mille* during the year 1929. The increase in the total deaths (+ 82,729) and in

the total death-rate (+4.0) in the year under review, as compared with the previous year, is therefore mainly ascribable to the increased number of deaths recorded under the head of "fevers", and it may be assumed in the absence of any other febrile disease in epidemic form, that, malaria was mainly responsible for the enhanced "fever" mortality.

The male and female death-rate in the year under review, in the previous year, and the mean of the preceding five years is shown in Table IV.

TABLE IV.

Year.	MALES.		FEMALES.		Excess of female over male death-rate.
	Number of deaths.	Death-rate	Number of deaths.	Death-rate	
1929	310,583	27.7	279,380	30.0	+2.3
1928	270,285	24.1	236,949	25.4	+1.3
1924-1928	...	31.2	...	33.9	+2.7

From a scrutiny of the figures given in Table IV it will be seen that the female death-rate exceeded the male death-rate in 1929 by 2.3 *per mille* as compared with 1.3 *per mille* in the previous year and 2.7 *per mille* in the preceding quinquennium. As the chief cause of the enhanced death-rate in the year under review, as compared with the previous year, is attributable to epidemic malaria (which exhibits no sex preference), the conspicuous large increase of the female death rate may perhaps be ascribed to the smaller chance of survival of females in the presence of economic stress and epidemics.

11. The mean death-rate of districts was 28.8 *per mille*, but variations occurred between a maximum of 41.8 *per mille* (Mianwali) and a minimum (excluding Simla) of 23.3 *per mille* (Sheikhupura). The five districts exhibiting the highest death-rate were Mianwali, (41.8); Shahpur, (39.1); Muzaffargarh, (33.8); Dera Ghazi Khan, (33.6); and Kangra, (32.6); whilst the five districts recording the lowest death-rates were Sheikhupura, (23.3); Gujrat, (24.4); Ferozepore, (24.6); Sialkot, (24.7); and Lyallpur, (25.2). As compared with the preceding year the death-rate of all districts, with the exception of Kangra, Hoshiarpur and Gurdaspur, was raised in the year under review, the increase being specially conspicuous in the districts of Shahpur, (+16.3); Dera Ghazi Khan, (+16.1); Mianwali, (+16.0); Muzaffargarh, (+14.0); Jhang, (+9.0), and Multan, (+8.6), and it was these six districts that were severely involved in the epidemic of malaria.

All districts, with the exception of Kangra, Shahpur, Jhelum, Rawalpindi, Attock, Mianwali, Montgomery, Jhang, Multan, Muzaffargarh and Dera Ghazi Khan, exhibited a death-rate lower than the mean figure of the preceding five years.

12. The death-rate of the 198 towns was 31.46 *per mille*, as compared with 26.92 *per mille* during the previous year, and 31.58 *per mille* during the preceding five years. The detailed figures, which are given in Table V, show that the death-rate under all the main heads of mortality, with the exception of plague and injuries, was higher in the year under review than in the previous year, the excess, in case of the "fever" death-rate, being 2.99 *per mille*.

TABLE V.

Head of Mortality.	URBAN DEATH-RATE.			RURAL DEATH-RATE.		
	1928.	1929.	Increase or decrease in 1929.	1928.	1929.	Increase or decrease in 1929.
Cholera	0.07	0.35	+0.28	0.10	0.08	-0.02
Smallpox	0.59	0.72	+0.13	0.41	0.34	-0.07
Plague	0.40	0.05	-0.35	0.40	0.11	-0.29
" Fevers "	11.81	14.80	+ 2.99	15.84	20.20	+ 4.36
Dysentery and diarrhæa	1.22	1.65	+0.43	0.43	0.52	+0.09
Respiratory diseases ..	5.79	5.97	+0.18	2.18	2.11	-0.07
Injuries	0.42	0.37	-0.05	0.35	0.32	-0.03
All other causes ..	6.62	7.55	+0.93	4.75	4.75	<i>Nil</i>
Total	26.92	31.46	+4.54	24.46	28.43	+ 3.97

The death-rate of the three largest cities during the years 1928, 1929 and the mean of the years 1924—28 is given in Table VI.

TABLE VI.

City.	DEATH-RATE.			Excess of death-rate in 1929 over the year 1928.
	1928.	1929.	1924-1928.	
Lahore City	29.15	34.63	33.95	+5.48
Amritsar City	38.64	42.99	42.72	+4.35
Multan City	28.49	41.86	33.77	+13.37

That the urban death-rate in the year under review was 4.54 *per mille* in excess of the figure of the preceding year is attributable mainly to the increased " fever " death-rate and also to a small increase under all other heads of mortality with the exception of plague and injuries. The conspicuous high death-rate of Multan city is due to the fact that it was involved in the epidemic of malaria that occurred in the west of the province. Many other small towns in this area showed, as the result of this epidemic, a death-rate varying from 54—63 *per mille*, the most conspicuous being Kot Mithan, Dajal, Rajanpur, Vahoa, Kot Chhutta and Jampur in Dera Ghazi Khan district, Karor in Muzaffargarh district, and Sahiwal, Miani and Bhera in Shahpur district. Outside the epidemic area one small town—Narot, Gurdaspur district—showed an exceedingly high death-rate (63.96), the cause being plague.

13. The death-rate of rural circles was 28.43 *per mille* in the year under review as compared with 24.46 *per mille* in the previous year and 32.52 *per mille* in the preceding five years, the increase over the previous year being 3.97 *per mille* and the decrease, as compared with quinquennial mean figure, being 4.09 *per mille*. The details are shown in Table V from a scrutiny of which it will be seen that the cause of the increase in the rural death-rate during the year under review was the rise of 4.36 *per mille* of the " fever " death-rate and of 0.09 *per mille* of the dysentery and diarrhæa death-rate, the death-rate under the other six heads of mortality being below the figure of the previous year. Eleven districts, excluding Simla, showed a death-rate above the quinquennial mean figure—these being the districts involved in the epidemic of malaria.

The Rural Death-rate.
Annual Form No. VI-A.

14. It will be seen from a scrutiny of the figures given in Table V that the urban death-rate in the year under review exceeded the rural death-rate by 3.03 *per mille*, as compared with 2.46 *per mille* in the previous year; on the other hand, the "fever" death-rate in rural areas (20.20) in the year 1929 was 4.36 *per mille* in excess of the corresponding figures of the preceding year, whilst in urban areas the fever death-rate in 1929 (14.80) exceeded the figure of the previous year by 2.99 *per mille*. "Fever" were almost the sole cause of the increased death-rate of rural areas in the year under review, whilst the increase of the death-rate of urban areas was partly due to an increase of the "fever" death-rate and partly to a small increase of the death-rate under all other heads, with the exception of plague and injuries.

15. **Seasonal Incidence of Mortality.**—The seasonal incidence of mortality varies greatly from year to year in accordance with the disease or diseases that prevail in epidemic form.

The only disease to assume epidemic proportions during the year 1929 was malaria, and, in consequence, the last quarter of the year exhibited the highest death-rate. The figures for each quarter were as follows :—

January to March	...	...	5.91 <i>per mille</i> .
April to June	...	..	6.73 " "
July to September	...	...	6.14 " "
October to December	...	...	9.97 " "

As regards months, November was the most unhealthy month, the death-rate being 3.51 *per mille*, which was closely followed by December with a death-rate of 3.43 *per mille*—the cause being the autumnal epidemic of malaria. The healthiest month of the year as measured by mortality was July with a death-rate of 1.83 *per mille*, the next, in order of healthiness, being February (1.89 *per mille*) and August (1.93 *per mille*).

16. **Age Incidence of Mortality.**—(a) *The death-rate under one year of age.*—The number of children belonging to the three age-groups under 1 year of age is not known, but the actual number of deaths of infants not exceeding one month in age was 71,745 (39,294 males and 32,451 females) as compared with 71,539 (39,129 males and 32,410 females) in the previous year. The mortality in this age-group was therefore 206 (165 males and 41 females) in excess of the figure of the previous year.

In children aged over one month and not exceeding six months the mortality was 49,197 (26,342 males and 22,855 females) as compared with 45,700 (24,517 males and 21,183 females) in the preceding year. The excess number of deaths in the year under review was therefore 3,497 (1,825 males and 1,672 females).

In children whose age was over six months and under 12 months, the mortality was 48,857 (25,820 males and 23,037 females) as compared with 41,987 (22,196 males and 19,791 females) in the preceding year. The excess mortality in the year under review in this age-group was therefore 6,870 (3,624 males and 3,246 females). The total number of deaths of children under one year of age was 169,799 (91,456 males and 78,343 females) as compared with 159,226 (85,841 males and 73,384 females) in the previous year. In spite therefore of a decrease of 38,012 in the number of births as compared with the previous year, the number of deaths of infants increased by 10,73 (5,614 males and 4,959 females) during the year under review. The infantile mortality-rate, or the number of deaths of infants per 1,000 births, was 186.20 (189.79 males and 182.18 females), which

represents an increase of 18·58 in the infantile mortality-rate during the year under review as compared with the previous year. The figures are shown in Table VII :—

TABLE VII.

Infantile Mortality-rate	1929.	1928.	1924-1928.	INCREASE OR DECREASE IN YEAR 1929 AS COMPARED WITH	
				1928.	1924-1928.
Male	189·79	171·55	..	+ 18·24	..
Female	182·18	163·25	..	- 18·93	...
Total	186·20	167·62	193·73	+ 18·58	-7·53

As regards sex, it is usual for the male death rate to exceed the female death-rate in children under one year of age and in the year under review the excess was 7·61 per 1,000 births, as compared with 8·30 per 1,000 births in the previous year. The excess is invariably most conspicuous during the first month of life and any departure from this rule calls for comment. In the year under review, female deaths in this age-group outnumbered male deaths amongst Muhammadans in Karnal and Shahpur districts and amongst Hindus in Ludhiana, Rawalpindi, Jhang and Muzaffargarh districts. The only other feature calling for remark is the fact that whereas in the previous year 45 *per cent.* of the deaths under 1 year of age occurred amongst infants during the first month of life, the figure in the year under review was 42 *per cent.* The explanation of this circumstance is probably connected with the fact that any large increase in the number of dead-births (which is a feature of epidemic malaria), would be expected to occasion a reduction in the number of deaths of infants during the first month of life. The registration of dead-births is, however, extremely incomplete—the number recorded in the year under review was 11,583 or 240 in excess of the figure of the previous year—and, when allowance is made for this fact, it is not surprising, in view of the occurrence of a severe epidemic of malaria in the west of the province, that infants under 1 month of age scarcely contributed to the increase of 10,573 in the infantile mortality during the year under review.

(b) *The death-rate of all age-periods.*—The death-rate of males and females by age periods, calculated on the census population of each age-group, during the year 1928 and 1929 is given in Table VIII :—

TABLE VIII.

Age-period.	1929.		1928.		EXCESS OR DEFECT IN 1929.	
	Males.	Females.	Males.	Females.	Males.	Females.
Under one year ..	215·21	191·79	202·00	179·65	+13·21	+12·14
1 and under 5 years ...	49·38	48·96	35·60	33·90	+13·78	+15·06
5 and under 10 years ...	10·71	11·47	7·99	8·72	+2·72	+2·75
10 and under 15 years ..	9·65	12·29	7·96	10·40	+1·69	+1·89
15 and under 20 years ..	12·92	17·26	11·20	14·99	+1·72	+2·27
20 and under 30 years ...	10·43	13·04	9·38	11·62	+1·05	+1·42
30 and under 40 years ...	12·40	15·11	11·76	13·66	+0·64	+1·45
40 and under 50 years ..	19·39	20·18	18·39	18·09	+1·00	+2·09
50 and under 60 years ..	30·06	31·70	27·10	27·01	+2·96	+4·69
60 and upwards ...	56·97	62·00	49·56	51·01	+7·41	+10·99

As the population has undergone a large increase since the census was taken, as well as some change of age composition, the figures given in Table VIII are mainly of value as affording a means of comparing the death-rate by age-periods of the year under review with the previous year. In this respect it will be seen that the death-rate of both sexes and at all age-periods in the year under review exceeded the corresponding figures of the previous year. The excess was most conspicuous in children below 5 years of age and in persons over 60 years of age—a feature which is characteristic of epidemic malaria which is peculiarly fatal at the extremes of life.

17. The Death-Rate by Religions and Classes.—The main features in respect of the death-rate by age-periods and sexes calculated on the census population of each age-group of the chief classes and religions are shown in Table IX. It may be remarked that the Muhammadan death-rate was 29·80 *per mille* as compared with 27·36 *per mille* of Hindus and 26·03 *per mille* of Indian Christians :—

TABLE IX.

Age-period.	MUHAMMADANS.		HINDUS.		INDIAN CHRISTIANS.	
	Males.	Females.	Males.	Females.	Males.	Females.
Under one year ...	221·60	291·91	208·79	193·14	142·53	120·56
One and under 5 years ...	55·76	55·72	40·86	40·18	34·44	26·75
5 and under 10 years ..	11·34	12·10	9·83	10·58	9·17	9·78
10 and under 15 years ...	9·36	11·78	9·93	13·02	10·66	10·45
15 and under 20 years ..	12·96	16·37	12·70	18·19	15·45	19·85
20 and under 30 years ...	10·72	13·40	9·94	12·36	13·19	17·55
30 and under 40 years ...	12·52	15·56	11·99	14·37	18·19	17·41
40 and under 50 years ...	19·71	19·93	18·82	20·37	21·57	19·66
50 and under 60 years ..	29·81	31·11	30·26	32·41	27·10	25·96
60 and upwards ..	55·69	61·32	58·74	62·79	41·44	51·05
Total ...	28·95	30·80	26·09	28·92	26·31	25·69

From a scrutiny of the figures given in Table IX it will be seen that the death-rate of Muhammadan children below 5 years of age was relatively high. On the other hand, the death-rate of Hindus of both sexes over the age of 60 was higher than the corresponding figure of Muhammadans and Indian Christians. So far as sex is concerned the female death-rate of Muhammadans and Hindus exceeded the male death-rate, whilst in the case of Indian Christians the male death-rate slightly exceeded the female death-rate.

As between the various religions the female death-rate of Muhammadans slightly exceeded that of Hindus and was in appreciable excess of the female death-rate of Indian Christians.

So far as it is permissible to draw any inferences from these figures, it may be said that the probable cause of the relatively high death-rate of Muhammadans—which is an unusual feature—was the occurrence of the epidemic of malaria in an area almost exclusively inhabited by Muhammadans.

18. Railway Employees.—The births and deaths amongst railway employees are included in the figures of the civil population, but the births and deaths that take place at railway stations situated outside municipal limits are registered and reported separately by the railway

authorities. In the year 1929, 94 such births (49 males and 45 females) were reported as compared with 160 births (96 males and 64 females) in the previous year, whilst 73 deaths (43 males and 30 females) were registered as compared with 109 deaths (75 males and 30 females) in the previous year. The deaths were classified as follows: smallpox, 1; "fevers", 17; respiratory diseases, 14; dysentery and diarrhoea, 2; injuries, 3; and all other causes, 36.

19. Europeans and Anglo-Indians.—The births and deaths amongst Europeans and Anglo-Indians are registered and reported separately and they are not included in the figures of the civil population. In 1929, 461 births and 123 deaths were reported, as compared with 367 births and 123 deaths in the previous year. The deaths were classified as follows:—Respiratory diseases, 45, all other causes, 39, "fevers," 29, injuries, 6; and smallpox, dysentery and diarrhoea, 2 each.

20 Cantonments.—Amongst the 140,630 persons forming the non-military population of cantonments 4,363 births and 2,772 deaths were recorded during the year 1929 as compared with 4,268 births and 2,750 deaths in the previous year. The birth-rate was 31.0 *per mille* or 13.5 *per mille* less than the provincial rate, whilst the death-rate was 20.0 *per mille* or 8.8 less than the provincial rate. As compared with the previous year the birth rate of cantonments showed an increase of 1 *per mille*, whilst the death-rate was 20 *per mille* in both years. The number of deaths from "fevers" was slightly below the figure of the preceding year, but the recorded deaths from smallpox, cholera and dysentery and diarrhoea were slightly larger than in the preceding year. It is unfortunately not possible, on the basis of these figures, to institute a comparison between the health conditions prevailing in cantonments and the civil population, owing to the relative excess of young adult males and the relative paucity of females and children in cantonments.

21. Summary of the State of the Public Health in the year 1929.—The foregoing analysis of the vital statistics of the province permits of the following appreciation of the state of health of the province during the year under review.

The year 1929, although it did not exhibit the remarkable salubrity of the previous year, must be regarded, in spite of certain vicissitudes of climate, which occasioned an epidemic of malaria in one region and economic stress in another, as a relatively healthy year. This fact is demonstrated in Chart I, where the annual birth and death-rate and the infantile mortality-rate, for the period for which vital statistics are available, is shown in graphic form.

The population underwent a large natural increase, the birth-rate was absolutely high, whilst the death-rate, although higher than the figure of the preceding year, was relatively low and appreciably lower than the mean rate of the preceding five years.

The death-rate under nearly all the main heads of mortality was not only lower than the mean quinquennial figure, but, with the conspicuous exception of the "fever" death-rate, it was lower than the corresponding figure of the previous year. Malaria, in fact, dominated the pathology of the province during the year 1929, and, if it had not been for a widespread epidemic of this disease, the year under review would have been an even healthier one than its immediate predecessor. But if the state of the public health was on the whole satisfactory, the death-rate of the Punjab during the year 1929 exceeded that of all other provinces of India with the exception of Bombay and the Central Provinces. On the other hand, the birth-rate of the Punjab exceeded that of all other provinces, in most

instances, by a large margin. In the Punjab also the birth-rate exceeded the death-rate to an extent unequalled in India and only rarely approached in any other part of the world. The figures are given in Table X :—

TABLE X.

Province.	Birth-rate.	Death rate.	Excess of birth-rate over death-rate.
1. Punjab	44.45	28.75	+ 15.70
2. Central Provinces	43.96	34.13	+ 9.83
3. Madras	37.90	25.30	+ 12.60
4. Bombay	38.18	30.53	+ 7.65
5. Bihar and Orissa	35.60	26.90	+ 8.70
6. United Provinces	34.33	24.26	+ 10.07
7. North-West Frontier Province	30.82	23.66	+ 7.16
8. Assam	32.77	20.91	+ 11.86
9. Bengal	29.26	23.52	+ 5.74
10. Burma	26.43	22.06	+ 4.37

CHAPTER III.

CHIEF DISEASES.

22. **Cholera.**—During the year under report there were 4,510 seizures and 2,309 deaths from cholera as compared with 3,070 seizures and 2,034 deaths in the preceding year. The cholera death-rate was 0.11 *per mille* (0.12 males and 0.11 females), as compared with 0.10 *per mille* in the previous year and a mean cholera death-rate of 0.19 *per mille* in the preceding quinquennium. The annual cholera death-rate during the period 1867—1929 is shown in Chart II, from a scrutiny of which it will be seen that the year 1929 was a “mild” cholera year. Nevertheless, the disease was widely diffused, and all districts of the province, with the exception of Simla and Dera Ghazi Khan, were infected. The districts mainly involved were Lahore, (456 deaths); Lyallpur, (280 deaths); Gurgaon, (247 deaths); Amritsar, (234 deaths); Sialkot, (162 deaths); and Gurdaspur, (103 deaths).

Towns suffered more severely than usual; the urban death-rate was 0.35 *per mille* or more than four times the rural death-rate. Sixty-six or 33 per cent. of the towns were infected and in these towns 780 deaths took place, the towns chiefly attacked being Sialkot, (123); Amritsar, (108); Batala, (71); Lahore, (64); Kasur, (46); Panipat, (44); Karnal, (40); Nankana Sahib, (28), and Jalalpur, (27).

In rural areas cholera was reported from 407 villages (12 per cent.) and in these villages 1,529 deaths took place.

The salient features of cholera during the year under review were, first, its widespread diffusion and low general intensity and, secondly, its persistence and high incidence in urban areas.

The province was free from infection until the end of March, at which time cases of cholera, of apparently indigenous origin, sometimes in association with outbreaks of diarrhæa, began to occur in the districts of Gujrat, Jhelum, Gurdaspur, Lahore, Jullundur, Sheikhpura and Mian-

wali. As the result of the appearance of these foci and of local spread therefrom, the disease assumed or threatened to assume epidemic form in many of the central and northern districts of the province. In the month of June several districts in the south-east of the province, more especially the districts of Ambala, Karnal and Gurgaon, were infected by importation from neighbouring districts of the United Provinces and, as the combined result of infection derived from these two sources, scattered outbreaks occurred widely throughout the province during the months of June, July, August, and September.

The disease reached its maximum, both in respect of intensity and diffusion, in the month of September, the most notable features being the occurrence of an explosive outbreak (due to infection of a well) in a village in Lyallpur district and a water-borne epidemic due to infection of the municipal mains in Sialkot city. The disease, as usual, rapidly declined in October and November and completely disappeared early in December.

The scheme of preventive operations following the usual lines, but, in addition to the disinfection of water-supplies, the control of food-stuffs, and the inoculation of contacts, an endeavour was made to establish a cordon of medical inspection posts at strategic points around infected villages, to inoculate the whole of the inhabitants, and to isolate and treat the sick in huts or borrowed buildings. It is satisfactory to note that in the presence of cholera, people freely and voluntarily submitted to preventive inoculation, and the total number of anti-cholera inoculations carried out during the year was 59,749.

In rural areas the disease was in this manner quickly brought under control and the spread of infection prevented, but these measures could not be fully applied in towns in which, in spite of strenuous efforts, the disease persisted in many cases for weeks or months. The striking association of cholera with defective sanitary arrangements is apparent in the case of Amritsar, (108 deaths); Batala, (71 deaths); Lahore, (64 deaths) and Kasur, (46 deaths). This fact serves strikingly to emphasize the need of a complete overhaul of the conservancy system and sanitary arrangements in urban areas and of providing an Infectious Diseases Hospital, or at least an infectious ward at the municipal hospital, in every large town, in the absence of which it is not possible either to treat the sick adequately or to control the spread of infection. But if it is impossible, under present conditions and in the light of existing scientific knowledge, to control cholera completely, this circumstance must not be allowed to obscure the fact that the promptitude, energy and resource displayed by the Public Health staff in dealing with a constantly recurring series of emergencies throughout a period of nearly seven months is deserving of high commendation. This remark applies also to the temporary emergency staff, one of whom (*Dr. Hazari Mal Bhasin) unfortunately succumbed to an attack of cholera contracted in the discharge of his official duties.

23. Smallpox.—The recorded mortality from smallpox during the year 1929 was 7,763 (0·38 *per mille*) as compared with 8,764 (0·43 *per mille*) during the previous year and a mean death-rate of 0·46 *per mille* during the preceding quinquennium. The annual death-rate from smallpox during the period 1867-1929 is shown graphically in Chart III, whilst the diagram attached to it displays the weekly number of reported seizures and deaths during the year 1929. It will be seen that whilst the disease prevailed throughout the year, the maximum mortality was registered in the months of May and June and the low incidence of the disease in the months of July, August, September and October was, as usual, conspicuous. Every district of the province was infected and deaths were reported from 471 out of 630 registration circles and from 2,435 villages out of 34,059. The five districts showing the highest death-rate were Shahpur, (1·17); Hissar, (0·88); Gujrat, (0·80); Lahore, (0·76); and Hoshiarpur, (0·72).

* The widow of Dr. Hazari Mal has been granted by the Punjab Government an extraordinary pension of Rs. 15 *per mensem* from the date of his death.

The lowest death-rate was recorded in Muzaffargarh, (0.03); Dera Ghazi Khan, (0.05); Kangra, (0.07) and Mianwali, (0.07); Gurgaon, (0.08).

In regard to age distribution 29 *per cent.* of the total deaths occurred in children under 1 year of age, whilst in the case of children over one and under 10 years of age, the percentage was 50 *per cent.*

As regards sex, the female death-rate (0.40 *per mille*) as usual, exceeded the male death-rate (0.36 *per mille*). The disease was more than usually prevalent in urban areas, the urban death-rate being 0.72 *per mille* as compared with 0.34 *per mille* in rural areas or an excess of 0.38 *per mille* as compared with 0.18 *per mille* in the previous year. It is noteworthy that the smallpox death-rate of towns in which the Vaccination Act is in force was 0.72 *per mille*, or nearly double the provincial rate; 179 deaths from smallpox were recorded in Lahore, 157 in Ludhiana, 139 in Amritsar, 82 in Tanda Urmar, 73 in Hissar, 64 in Bhiwani, 50 in Rawalpindi, and 43 in Miani.

The measures taken to combat smallpox by means of vaccination are detailed in Chapter IV, and it is only necessary to remark here that no town in the Province is, as yet, provided with a hospital exclusively set apart for smallpox, but a smallpox hospital is under construction at Lahore and the Infectious Diseases Hospital at Simla is mainly used for the accommodation of patients suffering from smallpox.

24. Plague.—From a scrutiny of Chart IV it will be seen that for three successive years the plague death-rate has continued to decline. In the year under review the total number of seizures and deaths was 4,816 and 2,918, respectively, as compared with 14,078 seizures and 9,922 deaths respectively in the preceding year, of which 3,621 seizures and 2,053 deaths occurred in British districts and 1,195 seizures and 865 deaths in the adjoining Indian States.

The total deaths in British districts (2,053) was only a fourth of the figure of the previous year and it is the smallest number to be recorded since plague became firmly established in the province in the year 1901. The plague death-rate was 0.10 *per mille*, as compared with 0.40 *per mille* in the previous year, and 4.03 *per mille* in the preceding quinquennium.

As regards sex, the female death-rate, as usual, exceeded the male death-rate, the former being 0.12 *per mille* and the latter 0.08 *per mille*. Towns suffered less than rural areas, the urban death-rate being 0.05 *per mille*, as compared with a rural death-rate of 0.11 *per mille*. The three cities of the province—Lahore, Amritsar and Multan—remained completely free from plague throughout the year.

The disease occurred in thirteen districts, but 1,715 out of the 2,053 death—85 *per cent.*—took place in the districts of Ambala, Gurdaspur and Karnal, the only other districts appreciably affected being Rohtak, (100 deaths); Sialkot, (79 deaths); Ludhiana, (60 deaths); and Hoshiarpur, (53 deaths).

The disease recrudesced in the autumn of the year 1928 in the districts of Ambala, Hoshiarpur, Jullundur, Ludhiana, Gurdaspur and Sialkot, and in January and February 1929 the infected area embraced these districts, with the exception of Jullundur, together with the districts of Rohtak, Gurgaon, and Karnal. No appreciable change took place during the months of March, April and May and the endemic area was, in consequence, confined to these eight districts, as compared with 12 in the preceding year and 21 districts in the year 1927. But even within this area the diffusibility of the disease was low and the number of infected villages in the year under review was 259, as compared with 856 in the preceding year, and 1,194 in the year 1927.

The seasonal periodicity exhibited no unusual features, and, it will be seen from a reference to the Chart IV, where the weekly number of

seizures and deaths is shown, that plague reached its maximum intensity in April and thereafter rapidly declined. There were only 9 deaths in June, one in July and 2 in August, and thereafter the province, except for one district, remained completely free until the end of the year. In November plague recrudesced in Gurdaspur district and three small villages in this district were the only localities in which infection was known to exist at the end of the year.

The salient features of the year were, therefore, the continued shrinkage of the endemic area, the lessened diffusibility and intensity of the disease during the epidemic season and the almost complete absence of recrudescence during the autumn.

This favourable state of affairs, which was associated with a general decline of plague in India, might well be held to portend the final disappearance of the disease from the province, but unfortunately no such inference is at present justified since, in the first place, three mild plague years, comparable to the years 1927—1929, preceded the great epidemic of the year 1924 in which over a quarter of a million people lost their lives; secondly the meteorological conditions of the past three years have been distinctly unfavourable to the disease—and, lastly, rat epizootics, unassociated with human plague, have continued to occur in many villages during the plague season. It may be therefore that plague is not dead, but slumbers.

Preventive Measures.—Little need be said on this subject. It will suffice to state the anti-plague measures were continued on the usual lines—rat destruction being mainly restricted to those towns and villages in which human or rat plague was known to have occurred after the close of the preceding plague season. In the presence of plague no difficulty is experienced in carrying out anti-plague inoculation and 59,382 persons living in infected villages were inoculated during the year under review by the Public Health Staff, as compared with 188,577 in the preceding year.

25. Fevers.—The deaths registered during the year under the head of "fevers" numbered 402,429 as compared with 316,235 in the previous year. The "fever" death-rate was 19.61 *per mille* (18.68 males and 20.73 females) as compared with 15.41 *per mille* (14.91 males and 16.02 females) in the previous year—and a mean death-rate of 19.15 *per mille* during the period 1924—1928. The annual "fever" death-rate since the year 1867 is shown in Chart V, from a scrutiny of which it will be seen that the small but distinct rise in the death-rate during the year under review has many times been greatly exceeded in the past. It is not possible to differentiate the various diseases which contribute their quota to the "fever" death-rate, but as it is known that epidemic malaria was conspicuous by its absence during the preceding year and that this disease alone assumed epidemic form in the year under review, it is possible, by comparing the "fever" statistics of the years 1928 and 1929 to determine with some precision the distribution and intensity of this epidemic. On this basis it may be assumed that the increase of the "fever" mortality during the year under review (+86,194) was almost solely attributable to epidemic malaria. It will furthermore be seen by reference to the diagram attached to Chart V, where the monthly "fever" mortality in 1928 and 1929 is shown in graphic form, that the "fever" mortality in the year 1929 appreciably exceeded the figures of the preceding year only in the months of October, November and December. There was thus an autumnal epidemic of malaria, whose distribution can in some measure be determined by comparing the "fever" death-rate of each district during the year 1929 with the corresponding figure of the previous year. It is in this manner found that, with the sole exception of Gurgaon district, the "fever" death-rate in 1929 everywhere exceeded the rate of the previous year. The difference was, however, small in 18 districts and the only districts in which the "fever" death-rate of the year 1929 largely exceeded the

rate of the preceding year, were :—Dera Ghazi Khan (+15·83) ; Shahpur (+15·12) ; Mianwali (+13·79) ; Muzaffargarh (+13·21) ; Jhang (+8·35) ; Multan (+7·59) ; Gujranwala (+7·58) ; Jhelum (+6·39) ; Attock (+5·47) ; Montgomery (+4·44) and Rawalpindi (+3·71). These districts, therefore, comprised the epidemic area, whilst the figures attached to them show that the epidemic exhibited great intensity in Dera Ghazi Khan, Shahpur, Mianwali and Muzaffargarh districts. Although therefore the epidemic was restricted in distribution to about one-third of the province, it was of high intensity in most of the districts of the Multan and in some of the districts of the Rawalpindi division. This fact is further confirmed by a study of Chart VI, where the mean spleen-rate of districts, which is based upon the examination of over 80,000 school children, is shown. It will be seen that the district spleen-rate in November, 1929, showed a conspicuous increase over the spleen-rate in June in the districts of Shahpur, Attock, Mianwali, Montgomery, Jhang, Multan, Muzaffargarh and Dera Ghazi Khan and in no other districts.

Finally, it may be mentioned that the number of persons treated for malaria in government and district board hospitals and dispensaries, (exclusive of those treated in rural areas by the agency of the Public Health Department) showed an increase of nearly one million over the figure of the preceding year, the actuals being 1,194,323 in 1928 and 2,105,174 in 1929 or a difference of 910,851 in a population of some 20 millions.

As regards towns and rural areas, the " fever " death-rate of the 198 towns was 14·80 *per mille*, or 2·99 *per mille* in excess of the figure of the previous year, whilst the rural death-rate in 1929 was 20·20 *per mille* or 4·36 *per mille* in excess of the figure of the previous year. It is thus clear that rural areas were relatively severely affected, but, as already stated in paragraph 12, many of the small towns included in the epidemic area exhibited extremely high " fever " death-rates, the excess, as compared with the previous year, being conspicuously great in the townships of Dera Ghazi Khan district, *viz.* +18·10 *per mille* in Kot Chhutta, +36·52 in Kot Mithan, +27·50 *per mille* in Rajanpur, and +20·95 in Dajal. It is thus clear that there occurred in the autumn of the year 1929 a severe and widespread epidemic of malaria which was confined to the districts in the west and north-west of the province.

Preventive Measures.—It was realised in July, for reasons which cannot be detailed here, that a severe epidemic of malaria was extremely likely to occur in the autumn and a circular letter was therefore issued outlining a scheme of operations suitable for adoption in towns, rural areas, and amongst organized bodies such as the police, railway employees, labour forces and government servants. It was not, however, possible to determine the precise distribution and intensity of the expected epidemic until the end of August (when the July—August rainfall data become available) and the malaria forecast, which is quoted *verbatim* below, could not, therefore, be prepared until August 31st. The forecast issued on that date stated that—

" A study of the forecasting factors, including the available rainfall data up to August 26th, suggests that an epidemic of malaria of considerable intensity is likely to occur over a large part of the Multan Division and in some districts of the Rawalpindi Division. The district likely to be most severely involved is Dera Ghazi Khan, the other districts being Muzaffargarh, Multan, Mianwali, Jhang, Attock, Gujrat, Shahpur, Jhelum and Rawalpindi. No widespread epidemic is expected to occur in the Ambala, Jullundur and Lahore Divisions."

On the strength of this forecast, which both on its positive and negative side was justified by the event almost to the letter, the measures to be taken in each district to meet the impending calamity were given final shape in September at district conferences called by Deputy Commissioners at the instance of Government.

The scheme comprised essentially the organization of measures to ensure that quinine should be made available in adequate quantity in every hamlet of the province, and more especially in the villages of the threatened districts. With this object in view the stocks of quinine at all government hospitals and local fund dispensaries and also at post offices were replenished and augmented, quinine depôts and sub-depôts were established in rural areas not served by dispensaries, and a special agency, which largely comprised school-masters, was created to assist the public health staff in distributing the drug in rural areas. To feed these depôts, the District Medical Officer of Health was provided by District Boards with a large stock of quinine and arrangements were made by the Director of Public Health to maintain a reserve stock of 1,500 lbs. for issue free of cost to districts in need of assistance. In addition 8,200 lbs. were available at call in Lahore, whilst the Director, Botanical Survey, Calcutta, undertook to supply an unlimited quantity of quinine at 2 days' notice.

The result of these measures was that a quinine depôt and a quinine distributor was present within 5 miles of almost every village in the epidemic area several weeks before the onset of the epidemic and it was possible to meet promptly and completely all demands for quinine throughout its course. The medical staff of rural dispensaries undertook responsibility for distributing the drug within a radius of three miles of their dispensaries. The amount of quinine distributed in this manner is, however, not known, but the number of persons treated for malaria by the medical staff of hospitals and dispensaries during the year 1929 was 2,105,174 or 910,851 in excess of the figure of the previous year.

In all 4,174 quinine depôts and sub-depôts were formed by the Public Health Department and the total amount of quinine and cinchona febrifuge actually distributed by them was 3,060 lbs. of quinine sulphate (4,284,000 5 grain tablets) and 314 lbs. (439,600 tablets) of cinchona febrifuge, which implies, if six tablets (30 grains) were given to each person, that approximately 787,266 persons were provided with quinine or cinchona febrifuge through the agency of the Public Health Department, apart from the 910,851 persons who were treated by the medical staff of hospitals and dispensaries.

No scheme of this magnitude has hitherto been attempted in the Punjab, and that it proved, at its inception, so satisfactory is due partly to the timely warning given by the forecast, but mainly to the zeal and energy displayed by the Public Health staff in carrying out the scheme, and to the support and assistance rendered by district officials, more especially by Deputy Commissioners, Civil Surgeons and District Inspectors of Schools and their respective staffs.

26. Dysentery and Diarrhœa. - The total number of deaths from dysentery and diarrhœa during the year under review was 13,208, as compared with 10,503 in the previous year. The death-rate was 0.64 *per mille*, or 0.13 *per mille* in excess of the rate of the previous year, and 0.11 *per mille* in excess of the quinquennial mean figure.

As usual the death-rate from bowel complaints in Kangra district was relatively high (4.03 *per mille*)—a circumstance which is partly attributed to the prevalence of enteric fever and hill diarrhœa in this district. The death-rate in Rawalpindi district (3.35 *per mille*) was also conspicuously high, being 2.71 *per mille* in excess of the provincial figure and 1.60 *per mille* in excess of the average death-rate of the district during the preceding five years.

The urban death-rate, which was 1.65 *per mille* as compared with 1.22 *per mille* in the preceding year, underwent an increase of 0.43 *per mille*, whilst the rural death-rate which was 0.52 *per mille*, showed an increase of 0.09 *per mille* over the figure of the previous year. The urban death-rate thus greatly exceeded the rural death-rate—the cause in great measure being, as stated in previous reports, the defective nature of the

conservancy arrangements in urban areas. The death-rate under this head of mortality in the large towns of the province was as follows:—Multan, (3·99 *per mille*); Lahore, (2·73 *per mille*); Ferozepore, (2·53 *per mille*); Jullundur, (1·86 *per mille*); Rawalpindi, (1·59 *per mille*); Amritsar, 1·11 *per mille*) and Ludhiana, (1·04 *per mille*). The relatively high death-rate in Multan city, which was 1·28 *per mille* in excess of the figure of the previous year, is mainly ascribable to epidemic malaria, and to this cause also must be attributed the rise of the death-rate from bowel complaints in many small towns and in some rural areas, for it is an established fact that an epidemic of malaria is invariably associated with an increase of mortality under this head.

27. Respiratory Diseases.—Under this head the number of registered deaths was 51,877, as compared with 52,639 in the previous year. The respiratory disease death-rate was 2·53 *per mille*, as compared with 2·57 *per mille* in the previous year and a mean death-rate of 2·69 *per mille* in the preceding quinquennium. The seasonal incidence was normal, the largest number of deaths being recorded in January and December.

As regards distribution, the five districts exhibiting the highest death-rate were the same as last year, *viz.*, Ambala, (9·53); Kangra, (6·68); Amritsar, (4·08); Gurdaspur, (3·43) and Lahore, (3·38). The cause in the case of Lahore and Amritsar districts was mainly due to the high respiratory disease death-rate in Lahore and Amritsar cities and in the case of the other three districts to the high incidence of influenza and pneumonia in the sub-montane tract.

The urban death-rate was, as usual, more than twice as high as the rural death-rate, the figures being 5·97 *per mille* and 2·11 *per mille*, respectively.

The respiratory disease death-rate in the seven principal towns was as follows:—

Amritsar, (12·79 *per mille*); Multan, (10·06 *per mille*); Lahore, (9·19 *per mille*); Ludhiana, (8·65 *per mille*); Jullundur, (7·99 *per mille*); Ferozepore, (7·81 *per mille*) and Rawalpindi, (6·57 *per mille*).

It is unfortunately impossible to determine with precision the cause of deaths registered under the head of respiratory diseases, but it is known that deaths from influenza and relapsing fever are often recorded under this head. These two diseases were, however, responsible for few deaths during the year under review,—421 cases of relapsing fever (with no deaths were treated in hospitals and dispensaries during the year—and although a mild form of influenza prevailed in many districts during the winter, it was not associated with appreciable mortality in the plains of the Province.

The chief cause of the high respiratory disease death-rate in urban areas is, without doubt, pulmonary tuberculosis, but it is unfortunately not possible, owing to the absence of reliable statistics, to state its precise incidence, or to offer any confident opinion in regard to the widely-held belief that the disease is becoming increasingly prevalent. It is, however, certain that it constitutes a grave menace to the health of the urban population, more especially in the case of those bred and born in the heart of large cities. The control of the disease, however, constitutes a problem of exceptional complexity and difficulty, but so far as its strictly public health aspect is concerned, it is clear that, if the disease is to be attacked at its source, the removal of the sanitary defects, which lead on the one hand to constant exposure to infection and on the other to lowered resistance, is a desideratum of the first importance. Apart from the important question of raising the standard of personal, domestic and municipal hygiene, the need of tuberculosis dispensaries and, in connection therewith, of sanatoria in the hills, which will enable the disease to be detected early and to be treated promptly, is imperative. This matter formed the subject of a detailed circular letter addressed to Commissioners, to local bodies, to the Urban Sanitary Board and to Government—and it is hoped that measures on these lines will shortly be initiated in Lahore, Ludhiana and Simla.

28. **Injuries.**—Under this head 6,636 deaths (0·32 *per mille*) were registered, as compared with 7,306 (0·36 *per mille*) in the previous year, and an average rate of 0·33 *per mille* during the previous five years.

The deaths were classified as follows :—Suicide, 242 (128 males and 114 females); wounds, 692 (570 males and 122 females); accidents, 4,973 (2,938 males and 2,035 females); rabies, 117 (89 males and 28 females); snake-bite, 483; and injuries inflicted by wild beasts, 129.

These figures show a small but appreciable decrease under all heads, except rabies, as compared with the figures of the previous year, and, in view of the steady increase in the number of fatal accidents during the past few years, it is particularly satisfactory that a decrease of 302 can be recorded under this head during the year under review.

The number of deaths from rabies show an increase of five as compared with last year and a decrease of 32 as compared with the mean figure of the preceding five years. As usual the recorded number of male deaths from rabies greatly exceeded the number of female deaths. During the year under review 1,815 persons from the Punjab (158 Europeans and 1,657 Indians) underwent anti-rabic treatment at the Pasteur Institute, Kasauli, as compared with 1,805 persons (124 Europeans and 1,681 Indians) in the previous year. In addition, 2,396 persons (214 Europeans and 2,182 Indians) underwent anti-rabic treatment at the King Edward Medical College, Lahore, as compared with 2,453 persons (165 Europeans and 2,288 Indians) in the preceding year. The treatment centre at Lahore has been found to meet a public want and the question of opening additional centres at the headquarters of all Civil divisions, except Lahore, is now under consideration.

29. **All other causes.**—The total number of deaths registered under this head was 103,688 (55,520 males and 48,168 females) as compared with 101,471 (54,763 males and 46,708 females) in the previous year. This figure represents a death-rate 5·05, *per mille*, which is 0·10 *per mille* in excess of the figure in the previous year and 0·02 *per mille* in excess of the quinquennial mean figure.

30. **Ankylostomiasis.**—It has always been supposed that ankylostomiasis was a rare disease in the Punjab, and the fact that out of a total number of 10·8 million persons attending the 1,026 hospitals and dispensaries in the Punjab during the year 1929, only 905 were treated for hook-worm disease lends support to this view.

In November 1929, acting on information received from a private medical practitioner that the disease was widespread in the Shakargarh Tahsil of Gurdaspur district, arrangements were made to carry out an investigation by means of an improvised survey-treatment unit and the facts brought to light in this manner have not only served to confirm the accuracy of the original report, but it is now clear that ankylostomiasis is widely prevalent in parts of Gurdaspur, Sialkot and Hoshiarpur districts where it is responsible for much sickness and ill-health.

This survey is being extended with a view to map out the extent of the infected area, and in the meantime a scheme for controlling the disease, which will involve close co-operation between the Medical and Public Health Departments, is being drawn up.

CHAPTER IV. — Vaccination.

[THIS CHAPTER AND ALL THE STATISTICAL TABLES CONNECTED WITH VACCINATION REFER TO THE PERIOD APRIL 1ST, 1929—MARCH 31ST, 1930, INSTEAD OF THE CALENDAR YEAR 1929.]

31. **Administration.**—No important change in the administrative or other arrangements in connexion with vaccination took place in the period under review.

The strength of the vaccination staff employed by local bodies underwent a substantial increase from 432 to 489 as the result of the progress made in bringing into operation the thanawar system of vaccination. The number of Superintendents of Vaccination was increased by five, four being new posts created in Montgomery district to enable a separate Superintendent to be placed in charge of each tahsil.

The number of vaccinators was increased by 57 during the period under review, seven new posts being created in Karnal district, where previously there were only twelve; six in Hissar, Gurdaspur and Jhelum, respectively; five in Lahore; four each in Rohtak and Ludhiana; three each in Jullundur and Sialkot; two each in Ferozepore, Gujranwala, Sheikhpura and Montgomery; and one each in Gurgaon, Ambala, Rawalpindi, Mianwali and Jhang, respectively. No change took place in the strength of the special staff (provincial) of vaccinators, but one vaccinator was trained for employment in the tribal area beyond the borders of Dera Ghazi Khan district.

The average number of persons vaccinated by each vaccinator during the year 1929-30 was 3,084, as compared with 3,334 in the preceding year—the decline being due to the enhanced number of vaccinators, not all of whom were employed throughout the vaccination season.

32. Number of Vaccinations.—The total number of vaccination operations performed by all establishments during the period under review was 1,588,729, as compared with 1,504,656 in the previous year and 1,292, 84 in the 1927-28. There was therefore an increase of 84,073 operations as compared with the previous year and 296,345 as compared with the year 1927-28.

The substantial progress made during the past five years in extending vaccination is illustrated in Chart VII from a scrutiny of which it will be seen that, since the year 1924-25, when the Public Health Department took charge of vaccination, there has been a marked increase both in the frequency of vaccination, as measured by the total number of operations, and in its intensity, as judged by the number of operations *per mille* of population. The increase, it will be observed, is conspicuously great in respect of re-vaccination but, whilst the re-vaccination of adults must become much more frequent before the province can be regarded as adequately protected against smallpox, the law of diminishing returns renders it likely that the rate of increase in the number of primary vaccinations must steadily decline. The next stage of the campaign against smallpox will, therefore, be especially concerned with measures designed to ensure that adults are systematically re-vaccinated about the ages of 10, 20 and 40 years, respectively. Whilst, therefore, much scope for further progress exists, more especially in towns, the measure of success achieved during the past five years in promoting the efficiency and thoroughness of vaccination is full of promise.

(1) *District Board Staff.*—The total number of operations performed by the vaccination staff of District Boards and Municipal Committees was 1,479,539, as compared with 1,380,427 in the previous year. The number of primary and re-vaccinations was 839,863 and 639,676, respectively, which represents an increase of 21,111 in the number of primary vaccinations and 78,014 in the number of re-vaccinations. Fourteen districts showed an increase in the number of primary vaccinations as compared with the preceding year, the most conspicuous being Dera Ghazi Khan (+22,630); Jhelum, (+4,335); Gurgaon (+3,199); Montgomery, (+2,491); and Rohtak, (+2,300). On the other hand in 15 districts the figures of the preceding year were not maintained, in Shahpur the decrease was 5,657, in Lyallpur 3,837, in Muzaffargarh 3,746, in Hissar 1,508, and in Hoshiarpur, 1,682.

The reasons given for the decline of primary vaccination in certain of these districts are not entirely convincing and the attention of the District Medical Officers of Health concerned is being called to the necessity of exercising close personal supervision over the work of vaccination staff.

The figures in respect of re-vaccination show an increase, as compared with the previous year, in 18 districts, the largest figures being recorded in Dera Ghazi Khan, (+19,396) ; Gurdaspur, (+17,298) ; Lahore, (+15,928) ; and Jhelum, (+15,228).

(2) *Municipal Staff.*—In the case of municipal towns, the total number of operations performed by municipal vaccinators during the year under review was 172,948 of which 85,411 were primary and 87,537 were re-vaccinations as compared with 146,032 (82,223 primary and 63,809 re-vaccinations in the previous year.

Some improvement has taken place in the arrangements for carrying out vaccination in municipal towns, more especially in Jullundur city, but the number of vaccinators and vaccination stations in large municipal towns is still inadequate, owing largely to the absence of vaccination stations in suburban areas. The progress made in towns has on the whole not been satisfactory and Municipal Medical Officers of Health generally required to give more serious attention to the problem of improving and perfecting the arrangements for vaccination and re-vaccination. In Sialkot city the total number of vaccination operations performed in six months by three whole-time vaccinators was only 3,604, as compared with 4,881 in the previous year, and in this city the number of vaccination stations has been reduced from seven to three.

In five large towns only 6 female vaccinators have been appointed, and the scheme which aims at protecting purdah women and school-girls has in consequence made slow headway. On the other hand a fair number of vaccinations were performed by Health Visitors at Infant Welfare centres. The figures, however, are small, the most noteworthy being 3,136 vaccinations in Amritsar city, and 1,100 vaccinations performed by the medical staff of the Memorial Hospital, Ludhiana. The female vaccinators employed in Sialkot and Ferozepore and Multan cities vaccinated 838, 414, and 611 persons, respectively, and the Health Visitors attached to the Punjab Health School at Lahore vaccinated 407 persons, whilst 370 women were vaccinated by Health Visitors at Ludhiana.

(3) *Special Staff.*—The total number of vaccinations performed by the special staff (provincial) during the year 1929-30 was 80,574 (23,206 primary and 57,368 re-vaccinations) as compared with 112,537 (33,259 primary and 79,278 re-vaccinations) in the preceding year. The decline of 31,963 in the total number of vaccinations (10,053 primary and 21,910 re-vaccinations) is disappointing. It is mainly attributed by the Assistant Director of Public Health, Vaccination, to the small number of persons available for vaccination as the results of the special efforts made last year to improve the efficiency of vaccination in the Simla Hill States. It is also, no doubt, in part due to the fact that, in the absence of a smallpox scare, vaccination is not popular in these States, and the number of vaccinations performed in this area is in consequence closely connected with the presence of smallpox in epidemic form ; it is also dependent upon the tact and energy displayed by the vaccinators in the performance of their duties, and last but not least upon the assistance rendered by the state officials. The rulers of some of the Hill States propose to employ their own staff of vaccinators, and they are being given every encouragement to do so. It is anticipated that the employment of local men will be the means of overcoming many difficulties and it will also permit of a gradual reduction in the strength of the provincial staff of vaccinators. In order to overcome difficulties of a somewhat similar nature in respect of the tribal area beyond the borders of Dera Ghazi Khan district, the Political Agent, at my suggestion, selected a

local man, who after being trained at the Punjab Vaccine Institute, was posted as vaccinator in this area. During the year 1929-30, 2,760 vaccinations (1,360 primary and 1,400 re-vaccinations) were carried out in this manner.

(4) *Dispensary staff*.—During the year 1929-30 the number of primary operations and re-vaccinations performed by medical officers in charge of dispensaries was 5,053 (1,680 primary and 3,373 re-vaccinations) as compared with 3,931 vaccinations (1,912 primary and 2,019 re-vaccinations) in the previous year. The small increase during the year under review does not call for comment and it is clear that, although this method of conducting vaccination is peculiarly suited to the needs of small towns and notified areas, it appears to be popular neither with the local authorities nor with the medical officers in charge of dispensaries.

(5) *Cantonment Staff*.—In cantonments that employ their own vaccinators, the total number of operations carried out in the year 1929-30 was 20,803 (4,799 primary and 16,004 re-vaccinations), as compared with 7,774 (5,060 primary and 2,714 re-vaccinations) in the preceding year. The conspicuous increase in the figure is entirely attributable to the increased number of re-vaccinations,—a satisfactory feature which indicates that a serious attempt is being made to protect the civil population of cantonments.

(6) *Railway employees*.—During the year 1929-30, 3,221 vaccinations (1,113 primary and 2,108 re-vaccinations) were carried out by railway medical officers amongst persons residing in areas under the jurisdiction of the North-Western Railway. As the corresponding figures for the preceding year were 1,444 total operations (593 primary and 851 re-vaccinations) it may be inferred that the steps taken to protect this section of the population have been attended with success.

33. **Cost of vaccination**.—The total expenditure on vaccination, excluding the cost of the provincial staff (technical and administrative), during the year 1929-30 was Rs. 2,49,735-7-4 as compared with Rs. 2,37,133-15-11 in the previous year. The increase of Rs. 12,601-7-5 is due to enhanced establishment charges consequent upon the larger number of vaccinators employed by local bodies. The cost of each successful vaccination performed by the vaccination staff of municipal committees, district boards and cantonments was Re. 0-3-6 as compared with Re. 0-3-7 in the previous year, the slight decrease being due to the larger number of successful operations (1,136,096 in 1929-30 as compared with 1,063,953 in the previous year) performed during the year under review.

The cost of each successful operation carried out by the special staff was Re. 0-8-2 as compared with Re. 0-5-3 in the previous year, the increase being due to the smaller number of successful operations performed during the year (55,172 as compared with 78,107 in the previous year). If, however, the cost of technical and administrative staff of the Public Health Department is included, the total expenditure on vaccination was Rs. 3,97,299-13-3, as compared with Rs. 3,49,217-15-5 in the previous year. On this basis the cost of each successful vaccination was Re. 0-5-4, as compared with Re. 0-4-11 in the year 1928-29.

34. **Success of Vaccination**.—The potency of the vaccine lymph was, as usual, extremely satisfactory. The percentage of success in the case of primary vaccinations and re-vaccinations reported by all establishments was 98.14 and 68.29, respectively, as compared with 97.26 and 69.32 per cent., respectively, in the previous year. The results reported by the various establishments were as follows :—

	Primary Vaccination.	Re-vaccination.
District & Municipal staff	98.13	68.07
Special Staff	98.58	70.37
Dispensary Staff	98.19	60.05
Cantonment Staff	97.73	71.71

35. **Vaccination Inspections.**—Except for special reasons the provincial administrative staff carry out vaccination inspections mainly to check the accuracy of the figures recorded in the district and village vaccination registers. The total number of vaccinations inspected by Assistant Directors of Public Health during the year 1929-30 was 17,709 primary and 6,495 re-vaccinations, respectively, the percentage of success being 96·49 in the case of primary operations, and 66·44 in the case of re-vaccinations.

Civil Surgeons, District Medical Officers of Health and Municipal Medical Officers of Health inspected 126,922 primary vaccinations and 68,499 re-vaccinations, the reported success-rate being 97·72 *per cent.* and 59·44 *per cent.*, respectively.

Superintendents of Vaccination inspected 351,472 primary vaccinations and 191,226 re-vaccinations, of which 97·63 *per cent.* of the primary vaccinations and 57·79 *per cent.* of the re-vaccinations were successful, whilst the success-rate reported by vaccinators was 98·14 and 68·29 *per cent.* in primary and re-vaccinations respectively.

36. **Vaccination in Indian States.**—The reports received from those Indian States that entertain their own vaccination establishments are summarized below :—

State.	NUMBER OF VACCINATIONS.		SUCCESS-RATE.	
	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.
Patiala	59,720	40,217	90·36	70·53
Bahawalpur	23,050	851	99·03	65·88
Kapurthala	8,554	2,612	96·02	65·16
Jind	10,351	487	96·86	93·32
Faridkot	5,996	461	98·62	67·06
Nabha	7,299	312	90·37	87·91

37. **Conclusion.**—That the steady pursuit of the policy inaugurated in the year 1924-25 is beginning to bear fruit is sufficiently evident from the facts related in this report. It may, however, be mentioned that, whereas five years ago the Vaccination Act had only been applied to 69 towns, at the end of the year under review 104 out of 106 Municipal Committees, 65 out of 109 Small Town Committees and 21 out of 28 Notified Area Committees, making a total of 190 localities had applied the Act to their respective areas. A further extension of the Act became possible on April 30, 1929 when the Vaccination Law Amendment Act, which gives power to District Boards to make vaccination compulsory in the area under their jurisdiction, came into force. It is satisfactory to be able to state that these powers have been freely utilized, and it is hoped that when the model bye-laws, which have been duly framed, have been adopted, the Act will become fully operative in rural areas of the province. Success, however, is dependent not merely upon applying the Act, but upon the much more difficult task of enforcing it. The need of so doing, more especially in municipal towns is particularly great, and if it is necessary to disabuse the public of the idea that smallpox is a matter of little or no consequence, so it is essential that Municipal and District Medical Officers of Health should realize that intense activity during the presence of an epidemic of smallpox is a poor substitute for sustained effort over a period of years. And if anyone should entertain doubt upon this point, let him study the diagram (Chart VIII) attached to this report.

CHAPTER V.

URBAN AND RURAL SANITATION.

38. *The Nature of the Problem.*—The awakening of public interest in matters pertaining to health has been an inspiring feature during the past few years and in spite of financial stringency, it was well maintained during the year. There is no doubt that it derives much of its impetus from the “uplift” movement initiated by Mr. F. L. Brayne, I.C.S., and it is now clear that the seed sown in Gurgaon district has spread far and wide in the countryside and even to some extent to the towns. It is also clear that this movement having no longer the attraction of novelty, the difficult task remains of encouraging effort and directing it along right lines.

It cannot be too often stated in this respect that the public health problems of towns and rural areas are totally distinct. In the village Nature provides an abundance of sunshine and fresh air, and it is largely on this account that the rural population, in spite of no organized system of sanitary control, enjoys a relative freedom from diseases of the respiratory and alimentary tracts. On the other hand in the intensely congested town “natural” sanitation is impossible, and, in the absence of efficient sanitary organization, the food and water of the towns-man is constantly subjected to contamination, and he rarely, if ever, breathes pure fresh air. The public health problem in rural areas therefore in large measure comprises the prevention of epidemics (cholera, smallpox, plague, malaria, etc.), whilst in cities and large towns it is primarily concerned with the provision of a pure and ample water-supply, good drainage, and efficient arrangements for the collection, removal and disposal of sewage and refuse.

(1) URBAN SANITATION.

39. The progress made in providing towns with sanitary amenities in the shape of water-works, drainage systems and other sanitary requirements is dealt with in the annual report of the Superintending Engineer, Public Health Circle, which is reproduced in Appendix I, whilst a summary of the activities of the Urban Sanitary Board is given in Appendix III. It will be seen that 66 sanitary projects were under construction during the year, 36 being on behalf of Government (provincial works) and 30 on behalf of local bodies (contribution works). In addition 29 preliminary projects, estimated to cost Rs. 51,41,642 were prepared by the Superintending Engineer and his staff, whilst the detailed projects of 26 major works (provincial) and 12 major works (contribution), estimated to cost Rs. 15,79,910 were drawn up. It is not possible to realize from this bald statement of the activities of the Sanitary Engineers the transformation in the sanitary condition of urban areas that is slowly but steadily taking place. Unfortunately, however, several instances came to light in which these sanitary installations, half or more of whose cost was met out of provincial revenue, had been allowed, owing to default on the part of the local bodies concerned, to fall into a state of almost complete ruin and the question has arisen as to whether these local bodies should not be required to entrust the maintenance of their sanitary equipment to official agency.

There is nothing striking to record in respect to improvements made in the conservancy arrangements of towns. In certain towns, notably Simla, Ferozepore, and Rawalpindi, energetic action upon the part of their Health Officers, backed by the support of progressive municipal committees, has resulted in substantial improvements, but it is clear that in the absence of a fundamental change of methods and of measures, no great and rapid improvements in the existing system of sanitary control can be anticipated.

The aggregate income of Municipal Committees, 107 in number, after excluding opening balances (Rs. 26,47,761) and extraordinary

receipts and debts (Rs. 9,93,133), in the year 1928-29 was Rs. 1,35,42,040, as compared with Rs. 1,35,86,192 in the previous year.

The expenditure incurred on public health measures, including a sum of Rs. 24,233-3-0 received from Government in the shape of grants-in-aid, amounted to Rs. 45,44,552-3-0 as compared with Rs. 41,94,087-5-0 in the year 1927-28 including Rs. 32,353-5-0 as a grant-in-aid.

The percentage of income spent upon public health measures was 33.6 per cent. whilst the cost of sanitary measures per head of population was Rs. 0-3-7.

The details of expenditure upon public health measures in 107 municipal towns in the year 1928-29 and in the previous year is shown in Table XI.

TABLE XI.

Head.	1927-28.	1928-29.
	Expenditure.	Expenditure.
	Rs.	Rs.
Water-supply	12,85,947	14,08,430
Conservancy	17,84,496	17,78,435
Drainage	6,35,965	8,91,758
Public Health Staff	2,12,432	2,24,332
Vaccination	39,878	41,085
Anti-epidemic measures	87,107	73,947
Markets and Slaughter-houses	41,135	50,497
Registration of births	18,531	12,581
Burial and burning of paupers	13,814	11,429
Other Sanitary requirements	47,429	*62,151

*Including Rs. 40,335 on account of Infectious Diseases Hospitals.

In the case of Small Towns—111 in number—the total income excluding opening balances and extraordinary receipts, was Rs. 8,09,724, whilst the expenditure on public health measures, including grants-in-aid received from Government, was Rs. 2,14,219.

Water-supply.—The view is widely prevalent that water is the gift of God, or at least that it should be provided free of cost by Government. The imposition of a water-tax or a water-rate is in consequence intensely unpopular, as also is the compulsory metering of private house connections which is held to constitute an undue interference with the liberty of the subject. Wilful waste inevitably leads to woeful want of water and this state of affairs must continue until municipal committees can be persuaded or required to instal meters and to enforce the model water-supply bye-laws approved by Government.

Conservancy.—The sum realized from the sale of sullage and manure should in large measure suffice to meet the cost of the conservancy establishment but this desideratum was by no means met. In the case of nine large towns the total receipts from this source amounted to Rs. 95,832 which is an increase of Rs. 4,965 over the figure of the previous year. To

this sum, Amritsar city contributed Rs. 58,050, whilst in the case of the much larger city of Lahore the figure was Rs. 17,177 which represents a decrease, as compared with previous year of Rs. 1,192. It is clear, therefore, that with better administration the municipal revenues could be very greatly increased without resort to additional taxation.

In many towns the land under sewage irrigation is insufficient to meet the needs of the existing population, but it is satisfactory to find that in the nine towns referred to above the number of acres under irrigation was increased during the year from 1,432.16 to 2,155.63 acres.

Slaughter-houses and Markets.—The slaughter-houses in many towns are old and dilapidated and new buildings of modern design are urgently needed. It is also clear that in many instances the slaughter-house fees are inadequate and that, here again, owing to defective administration, Municipal Committees are foregoing a legitimate source of revenue.

Infectious Diseases Hospitals.—As mentioned in paragraph 23 of this report, a most urgent need at the present moment in large towns is suitably equipped and adequately staffed hospitals for the accommodation and treatment of infectious diseases, more especially cholera and smallpox.

At present there are no Infectious Diseases Hospitals, properly so-called, in any town or city in the province, with the exception of Simla. Lahore city, however, possesses two Infectious Diseases Hospitals, one for Indians near the city and the other in the Civil Station. The former in which 512 patients (including 183 cases of smallpox) were treated during the year, is of unsuitable design and it is hoped that the new hospital, which has been under construction for several years, will shortly be opened. At Amritsar the existing hospital has been condemned and the Municipal Committee contemplates the erection of a new hospital in a more suitable site. In other towns small isolation hospitals or huts exist, but they are for the most part devoid of staff and equipment. Special attention is being directed to this subject and it is hoped that accommodation for infectious diseases will gradually become available either in special hospitals or in isolation blocks attached to general hospitals, in all municipal towns.

(2) RURAL SANITATION.

40. During the year 1928-29 the aggregate income of District Boards, excluding opening balances of Rs. 28,20,557, amounted to Rs. 2,12,36,649, whilst their expenditure upon public health measures was Rs. 6,47,256, or after excluding grants in aid from Government of Rs. 96,376, Rs. 5,50,880, which latter sum represents 2.6 per cent. of their income.

With their restricted income, District Boards were not in a position to devote much attention to sanitation, but in view of the fact that 90 per cent. of the population of the Punjab live in villages and of the importance of the rural population in the economic life of the province, their well-being is a matter of special importance. In waterless tracts assistance was freely given by the Rural Sanitary Board in improving village water supplies and in providing piped water-supplies in localities where important religious fairs are held, whilst as the result of the activities of the Irrigation Department, working in conjunction with the Waterlogging Board, great progress was made with land drainage schemes, more especially in the Shahpur, Gujrat, Sheikhpura and Sialkot districts. The Hudaira drainage scheme, which is designed to de-water parts of Lahore, Amritsar and Gurdaspur districts, was completed during the year, and so also was the Aik Nallah drainage scheme, which has occasioned an immense improvement in a hitherto waterlogged and malarious tract in Sialkot district.

A scheme for improving village sanitation in each district of the province was drawn up and submitted to Government during the year by

District Medical Officers of Health, in consultation with Deputy Commissioners and District Boards, but owing to financial stringency, funds for its immediate execution could not be provided.

Great progress was made with that aspect of rural public health work associated with the uplift movement, and Gurgaon, which was the spiritual home of this movement, has now something to learn from many other districts.

The scheme, as now carried out, involves the *voluntary* adoption by the villagers of simple sanitary regulations framed under the District Board Act or the Panchayat Act. The regulations usually aim at the removal of rubbish outside the village, the "pitting" of manure, the protection of wells, and the paving and drainage of village lanes. In nearly all districts substantial progress was made during the year under review. In Karnal district sanitary regulations under the District Board Act were extended to 33 villages during the year, making 286 villages in which the inhabitants at their own expense and of their own volition are enforcing simple sanitary precautions. In Hoshiarpur district 64 village panchayats functioned during the year, whilst sanitary committees were formed in three villages. In many of these villages the lanes have been paved and drained and an inspection of some of them showed that the work had been carried out with very beneficial results and in a manner that reflected the utmost credit upon all concerned.

In Ferozepore district also great progress has been made thanks to judicious encouragement on the part of the Deputy Commissioner and the interest displayed by the District Board and the District Medical Officer of Health. In this district during the year under review 75 villages removed the manure outside the village, 22 villages built pacca drains totalling 221,115 feet in length, 25 villages protected their wells, 109 in number, and six villages dug pits outside the village for storing manure and rubbish. All this work was carried out voluntarily and unostentatiously, and without outside assistance, except that derived from the award to the most deserving villages in each tahsil of shields, cups and money prizes by the District Board and by the Red Cross Society. In Ambala, Julundur, Rohtak, Amritsar and Sialkot, considerable progress on the same lines was achieved and in nearly all the remaining districts a beginning has been made. The number of wells cleaned during the year was 15,019 and 511 wells were repaired at a cost of Rs. 22,988.

Apart from communal efforts, an exceptionally large number of sanitary works of public utility were executed at the expense of individuals; the nature of the gifts, their cost and the names of donors, which cannot be given here owing to lack of space, are detailed in Appendix IV.

(3) RELIGIOUS FAIRS.

41. In accordance with new standing orders, the District Medical Officer of Health in whose area a listed religious fair is to take place is responsible for drawing up the sanitary scheme and for obtaining the sanction of the local body concerned to its execution. When this has been done, he sends two copies of the scheme to the Assistant Director of Public Health of the Circle for approval and the latter returns one copy, with his remarks, and sends the second copy to the Director of Public Health. The sanctioning authority in the case of all fairs, with the exception of the Sun Eclipse Fair at Thanesar and certain other fairs of provincial importance, is thus the Assistant Director of Public Health of the Circle who is held responsible for the adequacy of the sanitary arrangements and for their proper execution. In drawing up the sanitary scheme the principles adopted on the occasion of the Thanesar fair in the year 1928 are followed with such modifications in detail as local circum-

stances render necessary. As usual, all important fairs were supervised personally by the Assistant Director of Public Health concerned, whilst others were managed by the District Medical Officer of Health and his staff.

The presence of cholera in the neighbourhood rendered it necessary for the civil authorities, acting on the advice of the Public Health Department, to forbid the holding of a number of fairs, but in spite of the prohibition, the fairs were usually held although the attendance was small. The Sun Eclipse Fair, which was held at Thanesar in May 1929, in spite of the widely advertised fact that the eclipse would not be visible at that place, passed off without incident save for one case of cholera. The fact that no outbreak of disease occurred at any fair during the year suggests that the sanitary arrangements and the measures taken to protect the food and water-supply of the pilgrims were adequate. Not all fairs are at present self-supporting, but the more complete collection of the pilgrim tax is being enforced in many places and steady progress is being made in providing (at Government expense) a piped supply of filtered water at localities where important fairs are held annually. It is satisfactory to be able to state that, although local bodies do not adopt *in toto* the recommendations of the Public Health Department in connexion with the sanitary arrangements of fairs, a steady improvement in this respect is evident. Finally, it is necessary to mention the valuable assistance in preventing the spread of cholera afforded by the close and friendly relations established with the medical authorities of the North-Western Railway.

CHAPTER VI.—Administration.

42. **General.**—Lieutenant-Colonel C. A. Gill, I.M.S., held charge of the office of Director of Public Health and Secretary of the Urban Sanitary Board throughout the year, whilst the post of Assistant Director of Public Health, Technical Vaccination, was held by Khan Bahadur Dr. K. A. Rahman, who also acted as lecturer on hygiene at the King Edward Medical College, Lahore, and to the Sanitary Inspectors' class. In April 1929 the dual duties attaching to Assistant Director of Public Health, Technical, Epidemiology, were severed, the technical functions being allotted to Dr. R. B. Lal, who was given the title of Epidemiologist to Government and placed in charge of the Epidemiological Bureau, whilst the administrative duties were allotted to Dr. A. H. Butt, who was appointed Assistant Director of Public Health, Lahore Circle and Personal Assistant to the Director of Public Health. Dr. Butt was at the same time succeeded as Assistant Director of Public Health, Rawalpindi Circle, by Major R. C. Malhotra, O.B.E., I.M.S. The post of Assistant Director of Public Health, Ambala Circle, was held by Doctor A. B. Arora, M.B.E., until his departure on leave on 26th April 1929 when he was succeeded by Dr. G. R. Vohra, who held the post for the remainder of the year. Dr. S. G. Rasul held the post of Assistant Director of Public Health, Multan Circle throughout the year, but, owing to the financial stringency, the proposal to place the Jullundur division in charge of a whole-time Assistant Director was again postponed.

No appreciable progress was made with the scheme for placing headquarter towns of districts and other large towns in charge of a whole-time medical officer of health, but the sanction of Government and of the local bodies concerned was given to the scheme for providing Murree and Dalhousie with a qualified health officer during the summer months. The proposal to provincialize the service of municipal medical officers of health was also approved in principle and it is hoped that its adoption will not be unduly delayed.

The exiguous district health staff—both provincial and local—had to be supplemented by the temporary employment throughout a large part of the year of 30 Sub-Assistant Surgeons and 30 Sanitary Inspectors owing to the outbreak of cholera in the early summer and of epidemic malaria in the autumn. Part of this emergency staff was organized in mobile medical units who were placed at the disposal of Assistant Directors of Circles for prompt despatch to areas where their services were required.

43. Public Health Equipment Depot.—On the 18th May, 1929, the Public Health Equipment Depot was placed in the charge of a whole-time Superintendent, *vice* the District Medical Officer of Health, Jullundur, who had hitherto held charge of the depot as part of his ordinary duties.

The value of the stores in hand on the 1st January, 1929, was Rs. 21,897-12-9 whilst additional stores to the value of Rs. 25,593-5-1 were purchased during the year.

The cost price of the articles sold during the year amounted to Rs. 31,687-4-10 and as the amount realised by their sale was Rs. 39,409-6-9, the profit accruing to the depot was Rs. 7,722-1-11, as compared with Rs. 11,042-6-7 in the preceding year.

The total expenditure on account of maintenance was Rs. 6,037-6-9 as compared with Rs. 9,406-13-7 in the previous year. The depot therefore not only paid for itself, but a net saving of Rs. 1,684-9-2 accrued to Government, as compared with Rs. 1,635-9-0 in the previous year. The decrease in the maintenance charges is due to the smaller output from the depot, more especially of bhoosa battis, consequent upon the absence of plague, whilst the small increase of the establishment charges was due to the appointment of a whole-time Superintendent.

The issues from the depot included 102,502 doses of anti-plague vaccine, as compared with 270,894 doses in the preceding year, 334,884 bhoosa battis, as compared with 582,436 during the preceding year, and 1,157 lbs. of quinine in tablet form.

A chloronome for the manufacture of chlorine solution required in connection with the disinfection of water supplies was installed during the year and the depot will in future be responsible for meeting, free of cost, the requirements of District Medical Officers of Health of surrounding districts in respect of this disinfectant. The work of the depot was carried out with efficiency and despatch and my inspection showed its administration was characterized by method, tidiness and good order.

44. Educational Bureau and Health Propaganda.—Public Health propaganda by means of lantern lectures, mainly given to school children and at fairs, forms an important part of the routine duties of District Medical Officers of Health. During the year under review these officers gave 1,001 lectures on subjects of public health interest, whilst the usual course of lectures in hygiene was delivered by medical officers of health in all the normal schools of the province.

The photographer attached to the education bureau prepared during the year partly for departmental use, and partly for the Red Cross Society, 1,108 magic lantern slides, 299 new photographs, 743 enlargements and 347 prints.

The greater educational value of motion pictures is, however, obvious and a scheme has been worked out for providing projectors at the rate of one for each civil division and for rendering the department self-contained in respect of films dealing with health problems. In addition, District Boards have been urged to provide District Medical Officers of Health with a projector of similar pattern and one district board at least (Ferozepore) has already done so. The scheme, owing to financial stringency, has not yet come into operation, but a small beginning has been made in providing the necessary equipment and the synopsis of the first two films, dealing with cholera and maternity and child welfare, is under preparation. As practice is more telling than theory, it is felt that the object lesson in sanitation taught at every fair, during every village out-break of cholera (when promptly and properly handled) and at every Infant Welfare Centre constitutes an even more effective form of public health propaganda than even the cinematograph can provide, and it is held that in this manner much was done during the year to convey the message of health to the country-side.

45. **Public Health Chemical Laboratory.**—The work conducted in this laboratory during the year under review comprised the chemical analysis of 346 samples of water, foodstuffs and drugs as compared with 149 in the previous year, of which 141 represents water analyses, 80 analyses of ghee, 43 of atta, 19 of sugar and gur and 17 of quinine. Of the 80 samples of ghee 38 (48 per cent.) were found to be adulterated, of 43 samples of atta 17 (40 per cent.) were below standard and of 19 samples of gur no less than 17 (89 per cent.) contained an undue excess of extraneous matter. It is also a matter of concern that out of 17 samples of quinine 11 (65 per cent.) did not contain the declared amount of the drug.

Much useful work was performed by the Public Health Chemist in other directions, more especially in connection with the manufacture of a stable chlorine solution of high concentration for use in disinfecting water supplies at fairs and village wells. He was also engaged in testing edible oils with a view to determine the standard of purity to be notified under Punjab Pure Food Act, but owing to the absence of clerical assistance and to the pressure of his other duties, this investigation has not yet been completed. The number of letters received and despatched during the year was 1,057 and 1,592 respectively, and the fees realized from local bodies for analysing water and food-stuffs amounted to Rs. 336.

46. **Epidemiological Bureau.**—Much emphasis is now-a-days laid upon the essential part which a laboratory service plays in public health administration. With the appointment of a whole-time officer in charge of the Bureau this desideratum was brought appreciably nearer to fulfilment. The work carried out in the Bureau comprised experimental work, field investigations, and much routine laboratory work.

As usual malaria investigations figured prominently, the field investigations comprised a malaria survey of Shahpur district, a report of which will shortly be published, and malaria surveys in a waterlogged tract in Gurdaspur district, at the Chakanwali reclamation farm, Gujranwala district, and at Kathala village in Gujrat district.

The Bureau was also responsible for the preparation of the forecast of epidemic malaria referred to in paragraph 25. It also tabulated the results of the spleen census held in June and November. The number of school children examined in June was 80,139 and in November 83,457, of whom 8,486 and 13,587, respectively, showed enlargement of the spleen—the provincial spleen-rate being 10.58 per cent. in June and 16.28 per cent. in November 1929. It will be seen from a scrutiny of Chart VI that, whilst the spleen-rate remained stationary or even declined slightly in the area not affected by the epidemic, it showed a conspicuous rise in November in the epidemic area, more especially in Dera Ghazi Khan, Muzaffargarh and Mianwali districts.

The experimental work included an investigation carried out at the instance of the Chief Engineer, Public Works Department, Buildings and Roads Branch, to determine the largest size of mesh and the cheapest type of wire that could safely be employed in rendering houses mosquito-proof. Other experimental work comprised the study of the part played by the house-fly as a carrier of the cholera vibrio, an investigation of the efficacy of pesterine as a larvacide, and of "rat-sticker" as a raticide.

Useful work was also done in connection with the systematic bacteriological analysis of water-supplies and instructions in this matter were issued for the guidance of medical officers.

The Bureau continued to occupy the Hygiene Department of the King Edward Medical College, Lahore, and not the least important of its activities during the year was the preparation of a series of exhibits illustrating local public health problems, which thereafter formed the subject of a series of demonstrations given to the students of the King Edward Medical College, Lahore, Sanitary Inspectors, Health Visitors, and others.

47. Punjab Vaccine Institute.—The charge of the Punjab Vaccine Institute was held throughout the year by Khan Bahadur Dr. K. A. Rahman, Assistant Director of Public Health (Technical) Vaccination, whilst the post of Superintendent was filled by Lieutenant H. C. Phillips, I.M.D.

The work carried out at the Institute was mainly confined to the production of vaccine lymph, the total number of tubes issued during the year 1929-30 being 67,362 as compared with 63,900 in the previous year. The details in respect of distribution during the years 1928-29 and 1929-30 were as follows :—

	1929-30.	1928-29.
	Tubes.	Tubes.
Punjab ...	39,715	37,926
North-West Frontier Province ...	5,611	5,515
Special Staff, Punjab ...	1,803	2,319
Punjab States ...	4,054	3,529
North-Western Railway ...	384	247
Military Department ...	4,324	3,464
Foreign Countries and Indian States ...	11,472	10,900
Total ...	67,362	63,900

No change took place in the mode of preparation of the vaccine lymph and the potency of the lymph supplied by the Punjab Vaccine Institute was well maintained.

During the year under review 195 buffalo calves, 25 cow calves and 22 rabbits were used as vaccinifers, the average yield of pulp being 89.78 grammes *per* buffalo calf, 22.69 grammes *per* cow-calf and 0.876 grammes *per* rabbit, as compared with 84.0, 19.7, and 0.085 grammes, respectively, in the preceding year.

The sale-proceeds of the lymph realized a sum of Rs. 26,810-9-3 as compared with Rs. 24,018-5-0 in the preceding year.

The experiment was tried in four districts of issuing the lymph in collapsible metal, instead of glass, tubes. The reports hitherto received are favourable, but the experiment is still in progress and no conclusion has yet been reached in the matter.

During the year under report experiments were also carried out to determine the potency and keeping properties of dried lymph. The results of these experiments were encouraging but the technique involved in carrying out vaccination with dried lymph is somewhat too complicated for the average vaccinator and it is, therefore, not expedient to advocate the use of dried lymph as a routine measure.

Seven sanitary inspectors, 43 vaccinators and private individuals were trained at the Punjab Vaccine Institute in the technique of vaccination and elementary hygiene and the usual course of instruction in the technique of vaccination was given to the medical students of the King Edward Medical College, Lahore, and the pupils attending the course of training prescribed for sanitary inspectors and lady health visitors.

48. Maternity and Child Welfare.—Steady progress was made in maternity and child welfare work during the year under review. The number of infant welfare centres in effective operation at the end of the year was 34 as compared with 25 in December 1928, whilst the number of qualified Health Visitors was increased from 34 to 41. These figures, however, indicate a slow rate of progress, but the rate is determined not by the demand for Health Visitors, but by the inability of the Health School to turn out more than eight trained Health Visitors each

year. On the other hand the gradual extension of the movement has prevented quality being sacrificed to quantity and there can be no doubt that the high reputation and popularity of the Health Visitors is largely due to the individual training they have received at the Health School and to the enthusiasm and devotion displayed by their teachers.

In April a refresher course for Health Visitors was held at Simla, at which 18 Health Visitors attended at their own expense. This summer school, thanks to the generosity of those who gave their services as lecturers and demonstrators, was a complete success and the value of this new departure was appreciated both by the Health Visitors concerned and by their governing bodies.

The Inspectress of Health Centres and her assistant paid 45 visits of inspection to Infant Welfare Centres, as compared with 40 in the previous year and her inspection notes bear witness to the efficient manner in which the work at most of Health Centres was being conducted.

Considerable progress was made in the important work of training indigenous dais and there were 718 dais under training at Health Centres at the end of the year as compared with 530 at the end of the previous year.

The Punjab Health School, which constitutes a vital part of the scheme for promoting maternity and child welfare work, continued to function with efficiency and success. A new and valuable feature introduced during the year was the holding of weekly ante-natal clinics and an osteomalacia clinic at the Welfare Centre attached to the School, the first by Doctor Franklin, Medical Superintendent of the Lady Aitchison Hospital, Lahore, and the second by Doctor Curjel Wilson, to both of whom a special word of acknowledgment is due.

To assist in the work of the school and in the inspection of the Health Centres and to maintain the vital link between them, it was decided to create the post of an Assistant Inspectress of Health Centres, and Mrs. Mitra, who was appointed to fill the post, joined her appointment in June 1929.

The result achieved during the past eight years has surpassed all expectations. Not only has public appreciation of the work of the Health Visitor been widely expressed, but a keen and almost pathetic desire to make use of the opportunities provided at Infant Welfare Centres for educational and cultural advance in the home has manifested itself. Even more gratifying, since it could scarcely have been foreseen eight years ago, is the change in attitude of women towards health measures generally.

In these circumstances the decision of Government announced in the new year, that the organization, of which the Punjab was justly proud, so laboriously built up during the past few years must, on account of financial stringency, be re-cast and rendered less costly, came as an unexpected and unwelcome shock. And the reasons for this feeling are not merely departmental, for as in the report of the Indian Statutory Commission (Volume 1, page 53) states—

"The women's movement in India holds the key of progress, and the results it may achieve are incalculably great. It is not too much to say that India cannot reach the position to which it aspires in the world until its women play their due part as educated citizens. It is only through education that Indian women will be able to contribute in increasing measure to the culture, the ideals and the activities of the country."

The education of women is as much, if not more, a question of training in the home than in the school-room and it is in this sphere that great progress, buoyant with hope and future promise, had been made during the past few years. And as their part in this work has now ceased, it is only proper that the devoted labours and enthusiasm of Miss M. Simon—whose services have recently been rewarded by the bestowal of the Kaisar-i-Hind Medal—and Miss M. Raynor should receive full recognition and due acknowledgment in this report.

49. Inspections and Miscellaneous Duties.—The duties of the Director of Public Health, Punjab, at the headquarters of Government prevent him from carrying out prolonged tours of inspections, but inspections were carried out at Gujranwala, Gujrat, Jhelum, Rawalpindi, Sargodha, Shahpur, Khushab, Sheikhpura and Simla during the winter, whilst during the monsoon he visited a number of cholera infected towns and villages in the Karnal, Burgaon, Ferozepore and Lahore districts and carried out sanitary inspections of the towns of Bhiwani, Hissar, Hansi and Sirsa in Hissar district.

On the occasion of the visit to the Punjab of the Malaria Commission of the League of Nations the Director accompanied the Commission on a two weeks' tour in Gujranwala and Gujrat districts. In October the Director gave evidence before the Royal Commission on Labour, in November he proceeded to Allahabad to attend a conference of public health and railway officials in connection with the Kumbh Fair to be held at Allahabad in February, 1930, and in December he attended the Indian Research Workers' Conference at Calcutta.

Assistant Directors of Public Health inspected 142 towns and 969 villages in their respective circles. They also personally supervised the sanitary arrangements at 31 important fairs and inspected the sanitary condition of 23 schools and 17 factories, whilst District Medical Officers of Health made sanitary inspections of 173 large towns and 5,270 small towns and villages, as compared with 106 large towns and 4,760 small towns and villages in the previous year.

50. Conclusion.—In concluding this report regarding the health conditions prevailing during the year 1929 and the progress made in promoting the public well-being a few general remarks are permissible.

The year was, it has been shown, a relatively healthy year, in spite of a widespread epidemic of malaria in the west of the province, nevertheless, the facts related in this report, it is thought, justify the conclusion that a serious and sustained effort was made to grapple with the health problems which emerge in steadily increasing number as the state of health of the people becomes under closer scientific scrutiny.

Mention has already been made of ankylostomiasis (paragraph 30) and space only has prevented any reference being made to osteomalacia and trachoma, the one affecting the female population both in rural and urban areas and the other exercising, in certain districts, a serious influence upon recruiting.

In retrospect, the progress made during the past year can be regarded with a certain measure of satisfaction. The Legislature, after a prolonged tussle, passed (in March, 1930) the Punjab Pure Food Bill and it showed unmistakable interest in public health problems and more especially in maternity and child welfare work. The Vaccination Law Amendment Act also came into force during the year under review, whilst bills dealing with the registration of nurses, midwives and dais were drafted, and important proposals in connection with an extensive and much-needed revision of the Punjab Municipal Act were drawn up and submitted to Government. A revision of the Famine Code from the point of view of public health measures, rendered necessary by the appearance of famine and the changed organization of the Public Health Department, was also carried out. But much remains to be done.

The bill to ensure the better control of epidemic diseases has apparently been dropped, an Act to legalize and systematize the registration of vital statistics is greatly needed, as also is an Act to provide for the notification of infectious diseases. But perhaps the greatest need of the moment is the more ample provision of power to control recalcitrant local bodies, in the absence of which efforts to help them to help themselves are doomed to fail. To quote one example. The water-works of a certain large town, half the cost of which was provided in the first instance out of provincial revenues, are steadily advancing along the road to a catastrophic break-down, owing solely to the waste of water by a few influential

individuals with private house connections. It has proved unavailing to point out to the Municipal Committee that the installation of meters would arrest the danger, and that they have bound themselves by formal resolution, as a condition of the grant-in-aid, to meter all house connections. Attendance at special meeting of the Committee to explain in detail the position was equally useless and the appearance, by request, of representatives of the Municipal Committee before the Urban Sanitary Board has hitherto led to no tangible result. They admitted the gravity of the position and acknowledged the efficacy of the remedy, but to meter house-connections would not be popular.

The best-laid schemes of medical science for reasons of this nature gang oft agley and it would indeed seem, as is so clearly pointed out by the Indian Statutory Commission (Volume I, page 310) that progress in the sphere of local self-Government is in large measures dependent upon the adoption of measures, either legislative or administrative, which will permit of the effective intervention of higher authorities in the case of grave mal-administration by local bodies. It would not be proper in concluding this report to omit to place on record my very sincere appreciation of the manner in which the staff of the Public Health Department, almost without exception, responded to the many demands made upon their time and energy. Officers of all grades have now become familiar with their duties and one of the most striking features of the year was the enhanced self-reliance and keenness with which they performed their duties. It is satisfactory, too, to be able to state, in respect of District Medical Officers of Health, that well-intentioned zeal was not regarded as misplaced by the local bodies whose expert advisers they are; nor must they be disappointed if definite results are slow in appearing, for, as Sir Claude Hill, K.C.S.I., C.I.E., remarked in a recent publication "Anyone who, in the course of his brief career in India, hopes to see the fruits of his labours, is doomed to disillusionment, and, may even by excessive haste, diminish the permanent value of what he does; those who toil for India must be content to have their reward in terms of hope."

Space does not permit of the mention of all whose work during the year is worthy of commendation, but the names of the following are singled out as representing the good work which, in various capacities, was done by almost all officers of the department. Amongst Assistant Directors the names of K. B. Dr. K. A. Rahman, Dr. A. H. Butt, and Dr. G. R. Vohra, call for mention, as also does the name of Dr. R. B. Lal, who was recently appointed to the newly-created post of Epidemiologist to Government. The care and thoroughness with which Lieut. H. C. Phillips, I.M.D., carried out his duties as Superintendent of the Punjab Vaccine Institute also demands recognition, as does the work of Mr. Brij Lal, M.Sc., A.I.C., as Public Health Chemist.

The splendid work amongst women and children of Miss M. Simon and Miss M. Raynor, whose departure constitutes a serious loss to the province, has already been mentioned. Amongst Municipal Medical Officers of Health the good work of Dr. Jiwan Lal Kapur, Municipal Medical Officer of Health, Ferozepore and Dr. Harbans Lal Malhotra, Municipal Medical Officer of Health, Rawalpindi, came prominently to notice, whilst last, but not least, the good work performed by District Medical Officers of Health is well represented by the mention of Dr. A. R. Mehta, District Medical Officer of Health, Lahore, Dr. G. C. Sahgal, District Medical Officer of Health, Gurgaon, and Dr. R. C. Kaushash, District Medical Officer of Health, Ferozepore, Dr. Muhammad Said, Qazi, District Medical Officer of Health, Attock, Dr. N. S. Sethi, District Medical Officer of Health, Montgomery, Dr. Riaz Ali Shah, District Medical Officer of Health, Muzaffargarh and Dr. Balmokand, District Medical Officer of Health, Kangra.

C. A. GILL, LT.-COL., I.M.S.,

The 1st July 1930.

Director of Public Health, Punjab.

APPENDIX I.

ANNUAL REPORT OF THE SUPERINTENDING ENGINEER, PUBLIC HEALTH CIRCLE, PUNJAB, FOR THE YEAR 1929.

I.—ADMINISTRATION.

THE post of Superintending Engineer, Public Health Circle, Punjab, was held by Rai Bahadur Amar Nath Nanda, B.A., M.I.E. (Ind.), throughout the year.

The number of divisions comprised in this circle remained the same as before, namely 8 divisions :—

- (1) *Lahore Public Health Division*.—Executive Engineer in charge Mr. J. A. R. Bromage, A.M.I. C.E., throughout the year under report.
- (2) *Ambala Public Health Division*.—Executive Engineer in-charge Mr. B. F. Main A.M.I.C.E., throughout the year.
- (3) *Multan Public Health Division*.—Executive Engineer in-charge Mr. D. N. Gautam, B.Sc., Temporary Engineer, from 1st January 1929 to 11th November 1929, on which date he handed over the charge of the division to Mr. D. A. Howell, A.M.I.C.E., on his return from leave, who held the charge of the division for the rest of the year.

Mr. Devi Chandra Khanna.—Remained attached to the Lahore Public Health Division from 1st January 1929 to 14th May 1929, and from 15th May 1929 he was transferred to the circle office to take charge of the Office of Personal Assistant to Superintending Engineer and relieved Mr. Devki Parshad of his duties as Personal Assistant on his services having been dispensed with.

Mr. J. S. Sethi held charge of the Lahore Public Health Sub-Division for the whole year.

Lala Guran Ditta Mal, Assistant Engineer, retained charge of the Sialkot Public Health Sub-Division for the full year.

Lala Devi Chand, Senior Overseer, held charge of the Multan Public Health Sub-Division from 1st January 1929 to 13th November 1929, on which date he handed over the charge to Mr. D. N. Gautam, who reverted to that post, handing over the charge of the division to Mr. D. A. Howell. Mr. D. N. Gautam again handed over the charge of Sub-Division to Lala Devi Chand on 22nd November 1929 on his proceeding on 2 months' leave.

The headquarters of Ferozepore Public Health Sub-Division were transferred to Ludhiana in April 1929 and Lala Nand Lal held charge of that Sub-Division for the year under report.

The headquarters of Ambala Public Health Division were also moved to Ambala from Lahore in April 1929.

Miscellaneous work.—214 visits to municipal towns, notified areas and small towns were paid by the Superintending Engineer and his staff in connection with Public Health Schemes during the year.

Boring works.—18 borings were done during the year for water-supply schemes, about half of these having been carried out with Government boring plant and half by contract. The work in each case was carried out expeditiously and economically.

The average number of public health works under execution during 1929 from month to month was 50.

Thirty-three new schemes were commenced during the year and 32 were completed.

II.—PUBLIC HEALTH WORKS UNDER CONSTRUCTION.

Government works are dealt with first :—

1. *Providing water-supply and drainage for the proposed alteration in Borstal Institution, Lahore, Rs. 26,398*.—The work is proceeding satisfactorily. The main drain has been constructed and about 500 feet of 12" i/d Hume pipe sewer has been laid; internal drainage has also been completed and about 40 per cent. of the water-works has been completed.

2. *Installing a disinfecter in Central Jail, Lahore, Rs. 11,646*.—The work has not been started as funds have not been allotted as yet.

3. *Water-supply and drainage at the new Sub-Jail Gujrat, Rs. 35,651*.—Major portion of the work has been completed.

4. *Water-supply and drainage, New Sub-Jail, Kasur, Rs. 37,569*.—This scheme has been completed and is working successfully.

5. *Water-supply and drainage to the proposed Hospital Police Lines, Qilla Gujar Singh, Rs. 28,334*.—The work of water-supply has been completed and the service has begun since 15th November 1929; the drainage work has also been completed.

6. *Surface drainage, District Police Lines, Amritsar, Rs. 27,004.*—The work inside the Police Lines compound has been completed, but land for the sullage tanks and outfall drain has not yet been acquired; necessary action is being taken.

7. *Sanitary installation in the Dental Hospital and School, Lahore, Rs. 12,670.*—The work has been completed, but as no electric connection so far has been given for the Booster pumping plant, no supply of water is possible to the hospital.

8. *Addition and alteration to water-supply, Mayo Hospital and King Edward Medical College, Lahore, Rs. 71,328.*—The stand-by tube-well has been completed and brought into commission on 1st November 1929.

9. *Laboratory equipment, including water-supply, internal drainage, sinks and basins for the Dental Hospital and School, Lahore, Rs. 10,588.*—The work is well in hand and about 75 per cent. of it has been completed.

10. *Sewerage scheme for female section of Mental Hospital, Rs. 42,271.*—The work has been completed.

11. *Sewerage of main college and anatomical block, new Medical School, Amritsar, Rs. 10,187.*—The work has not been taken in hand as allotment of funds is yet awaited.

12. *Water-supply in boarding-house, Mayo School of Arts, Lahore, Rs. 12,012.*—The work has been completed and water is being supplied to the institution from the new tube-well.

13. *Water-supply, Government High School, Jhelum, Rs. 10,253.*—The work has been transferred recently to this department, excavation for the well has been done and work is in progress.

14. *Sewerage scheme, Maclagan Engineering College, Moghalpura, Rs. 90,775.*—The main and the branch sewers have been laid, the alterations to the bath-rooms and lavatories have been made, Pail Depots have been constructed and an activated sludge plant has been ordered. The disposal works are pending decision of the question of land acquisition.

15. *Water-supply to Chauburji Gardens Estate, Lahore, Rs. 110,343.*—Both the tube wells and the reservoir have been completed; water-supply connections in all the quarters so far completed have been provided.

The water-supply connections to the quarters, which have been completed in this year's programme, have been taken in hand.

Water is actually being supplied for watering the lawns.

16. *Sewerage, Chauburji Gardens Estate, Lahore, Rs. 2,40,731.*—Under-ground sewers are being laid and almost 60 per cent. of the work has been completed.

Internal drainage is in hand and it has been completed in all the quarters of which the construction is sufficiently advanced.

About 60 per cent. of the Pail Depots have been completed, dhobi ghat and one set of latrines have also been constructed.

Question of land acquisition for the disposal works is still pending disposal.

17. *Independent water-supply at G. O. R. Estate, Lahore, Rs. 32,215.*—This work has been completed, but an estimate for improvements to the tube-well and reservoir compound has been recently sanctioned chargeable to the savings of the main estimate. This work is in hand and is expected to be completed shortly.

18. *Equipment necessary for maintaining sewerage scheme, Chauburji Gardens Estate, Lahore, Rs. 17,241.*—The estimate has been sanctioned, but no funds have so far been allotted.

19. *Water-borne sewerage in the Civil Secretariat and adjoining offices, Lahore, Rs. 23,023.*—The estimate has been sanctioned technically, but funds have not been allotted.

20. *Water-supply, High Court and adjoining offices, Lahore, Rs. 29,716.*—The scheme has been completed and water is being supplied to all the buildings from the new tube-well since 1st September 1929.

21. *Water-supply to Weaving Factory industrial buildings, Shahdara, Rs. 12,498.*—This work as far as possible has been completed and the water is being supplied to the weaving factory. The new hostel building has not been constructed, and therefore water-supply connection could not be done.

22. *Sewerage and sanitary fittings in the Maternity Hospital, Lahore, Rs. 68,527.*—This work has been practically completed; the sewage pumping plant has arrived and the fitting up of the same will be taken in hand shortly. Electric connection has not so far been given to the sewage motors.

23. *Laundry equipment, New Maternity Hospital, Lahore, Rs. 11,634.*—Completed.

24. *Water supply, Maternity Hospital, Lahore, Rs. 27,091.*—Completed.

25. *Providing water-supply to lawns and shrubberies at Old Fort, Lahore, Rs. 13,320.*—About 60 per cent. of the work has been completed.

26. *Water-supply to fountains and grass plots, Old Fort, Lahore, Rs. 36,608.*—The work has been completed.

27. *Fort lands internal drainage, Rs. 22,863.*—All the drains have been completed in the blocks where houses have so far been constructed.

28. *Providing complete sanitary installations for the new Central Jail, Multan, Rs. 1,41,762.*—No tube-wells have been completed and the pumping plant is on order. A service reservoir (capacity 24,000 gallons) has been completed and a distribution system from the same has been laid and service connection has been made to all buildings.

Surface drainage.—The construction of main intercepting drains and small branch drains, outfall drain, storm channel and disposal works has been completed, while electrically-driven sillage pumping plant has arrived and is being erected.

29. *Providing disinfectant in new Central Jail, Multan, Rs. 10,899.*—A building to house the disinfectant has been constructed and the plant has been installed.

30. *New Civil Hospital, Multan, water-supply drainage and sanitary fittings Rs. 50,060.*—An overhead service reservoir (capacity 3,000 gallons) has been built and connection pipes have been laid from the municipal main to the reservoir, a distribution system has been laid to supply the various blocks, while suitable sanitary fittings have been fixed, chiefly in the main block of the hospital, in consultation with the Civil Surgeon, Multan, for the irrigation of the grass plots.

A 10' diameter percolation well has been sunk and pumping chamber has been constructed, but the plant is on order and is expected shortly.

A set of 10-seated latrines has been constructed and 5-seated latrine is under construction.

A disinfecting plant is being erected.

31. *Providing an additional pumping plant outside the Central Jail, Multan, Rs. 13,857.*—The work has been completed. It consisted of (1) construction of engine house; (2) erection of engine and pump; and (3) laying pipes from the pumping plant to the reservoir.

32. *Mianwali District Jail, water-supply, providing duplicate set for pumping plant, Rs. 8,346.*—The Engine-room has been constructed and the pumping plant is being erected, and it is expected that same will be in commission before March 1930.

33. *Warcha water-supply, Rs. 73,799.*—The work was completed and put into commission in July 1929, but, owing to extraordinary floods due to the heavy monsoon of 1929, a portion of the pipe-line was damaged in the upper reaches near the Mitha Patan Fall, which necessitated certain repair and reconstruction work. This is now approaching completion.

34. *Sargodha clerks' quarters, drainage and water-supply. Rs. 12,598.*—The work was completed in March 1929.

35. *Provision of water-supply and latrines at Government High School, Naushehra, District Shahpur, Rs. 10,248.*—The work was only sanctioned in December 1929, but good progress has been made with the dry excavation of the well.

36. *Jhang Jail Water-Supply, Rs. 11,565.*—The work comprises the provision of a duplicate set of oil engine driven pumping plant to lift water from the existing percolation well inside the Jail. The work was completed in 1929 and is working satisfactorily.

WORKS IN CONNECTION WITH LOCAL BODIES ARE DESCRIBED BELOW.

1. *Drainage extension, Khangah Dogran, Rs. 11,818.*—The work has been completed and handed over to the small town committee.

2. *Water-supply, Pathankot, Rs. 1,71,145.*—The whole scheme, barring fencing, which is being erected, has been completed.

3. *Dalhousie water-supply extension, Rs. 44,902.*—The scheme has been completed and has been handed over to the municipality.

4. *Lahore Gwal Mandi Bazar Sewerage Scheme, Lahore, Rs. 29,282.*—The scheme has been completed and handed over to the local body.

5. *Sialkot drainage scheme, Rs. 3,16,144.*—During the year under report the railway culvert to pass storm channel under railway lines was built by the Railway administration. The only work that remains to be done to complete the scheme is a portion of the southern intercepting drain near Imam Sahib, the alignment of which portion is not yet decided upon by the local body.

6. *Sialkot water-works, improvements and additions, Rs. 1,50,258.*—The scheme has been finally completed during the year by the reconstruction of the Tibba Jalian tube-well which originally failed.

7. *Choa and Katas water-supply extensions, Rs. 11,994.*—This work was commenced and completed during the year.

8. *Thal Ilaga water-supply*, Rs. 1,48,043.—Major item of work was done under this estimate during the year, except that certain improvements were done at a small cost. The accounts of this work are not finally closed as extensions of pipe-line, etc., beyond Lilla are contemplated.

9. *Rawalpindi D. A.-V. College Mohalla drainage*, Rs. 63,225.—The work was commenced during the year and about 3/4ths has been completed.

10. *Tamman water-supply*, Rs. 78,894.—The work was commenced during the year, but no actual construction work has yet been put in hand, only a fair proportion of stores required has been collected.

11. *Jawala Mukhi water-supply*, Rs. 40,000.—This scheme has been completed and is in commission now.

12. *Ferozepore drainage*, Rs. 82,944.—The drainage of bastis were completed last year and handed over to the local body. The storm water channel being a part of the main scheme, is still to be executed, but it will be taken in hand when the Weir Division, Sutlej Valley Project, decides about the cost of pumping the storm water.

13. *Abohar water-supply*, Rs. 3,25,357.—The scheme was completed and put into commission in April 1929 and is working satisfactorily since then. Some 50 metered house connections have also been completed during the year.

14. *Abohar drainage*, Rs. 2,45,209.—The work has been completed and the maintenance handed over to the municipal committee finally. Only metalling of some streets, which work was originally proposed to be done by the local body, has been left to be done and is being put in hand.

15. *Moga drainage*, Rs. 1,41,624.—The disposal works have been completed and pumping plant installed.

16. *Jullundur drainage*, Rs. 7,57,973.—The work was handed over long ago, but the engines at the disposal works not having proved satisfactory in working, were replaced by a better type and handed over to the municipal committee for maintenance.

17. *Ludhiana drainage*, Rs. 3,45,009.—The work was put in hand in April 1929; intramural drainage system in Chanoni Mohalla and blocks Nos. 1 to 6 were completed and work in Wakefield Gunj taken in hand.

18. *Jagadhri drainage*, Rs. 1,34,966.—All intra-mural system of drainage has been completed and handed over to the local body for maintenance.

19. *Karnal drainage*, Rs. 1,46,851.—The work was put in hand in May 1929; intercepting drains have been completed; outfall and disposal work will be taken in hand after acquisition of land.

20. *Rohtak water-supply*, Rs. 5,42,000.—The work was commenced in April 1929. The intake channel of about 3 miles length, the distribution system of pipe-lines and staff quarters for permanent running establishment have been completed.

The work on sedimentation and storage tanks, service reservoir and filter beds is well in hand.

21. *Multan water-supply*, Rs. 12,57,637.—The elevated steel reservoir has been completed during the year and with the completion of the tank the whole of the water-supply scheme has been completed and water is being supplied for 24 hours in the town.

22. *Multan drainage*, 1st instalment, Rs. 1,22,976, 2nd instalment, Rs. 1,34,747.—The work of both the instalments has been commenced this year and the following progress has been made :—

First instalment.—

1. Inlets to tanks have been remodelled and screens have been provided ;
2. Pump house has been constructed and tenders for the pumping plant have been called for.
3. Duplicate catch-pit at Khuni Burj is almost complete.
4. Quarters for the staff have been completed.

Second instalment.—

Construction of northern main sewer is in hand and is in good progress.

23. *Improvements to Montgomery market drainage*, Rs. 25,351.—Surface drains were constructed in the Montgomery market during 1927 and improved flushing arrangements and disposal work have been completed now during the year under report. The scheme will now be handed over to the local body for maintenance.

24. *Khushab water-supply*,—Sinking of 30-feet diameter wells, Rs. 20,085.—The work has been completed during the year under report. The yield from all the three wells is capable of coping with the demand of the town.

25. *Musakhel water-supply*, Rs. 37,394. The reservoir and engine-house have been completed and the arrival of pumping plant is awaited. The scheme will be brought into operation as soon as the plant is installed.

26. *Isakhel water-supply, Rs. 1,36,844.*—The work has recently been taken in hand. The machinery and other stores required in connection therewith have been placed on order and some of them have arrived. The area bordering the river Indus is being carefully examined and prospected in order to determine the most suitable site for the head-works.

27. *Sargodha drainage, making channel pucca. Rs. 11,192.*—A pucca channel 2¹/₂ high has been constructed and work completed in March 1929.

28. *Improvements to Maghiana drainage scheme (Flushing arrangements) Rs. 10,805.*—The engine-house has been constructed and one pumping set has been installed.

29. *Sinking 3 more percolation wells at Dera Ghazi Khan new water works. Rs. 27,406.*—The work was held up by floods, but it has now been completed in all respects and brought into operation.

30. *Improvements to Dera Ghazi Khan Water-works, Rs. 17,020.*—The work has been completed.

GENERAL.

The maintenance work of all the water supplies, etc., in Government buildings as well as of the local bodies is being carried out efficiently as usual. The aeromotor pumps in the Mianwali Civil Station, which were out of order before these were handed over to this circle, are working satisfactorily now.

The water supply arrangements of Thanesar Fair are under the charge of this Circle and satisfactory arrangements were made on the occasion of the fair held in May 1929.

As regards rural water-supply schemes, trial borings are being done in various districts of the Punjab so as to see if good potable water is available and schemes will be taken in hand when the preliminary investigations are completed.

Detail of sanitary projects prepared during the year under report by the Executive Engineers, Public Health Division, is given below :—

PRELIMINARY PROJECTS.

(a) Major Works—(Provincial).

Name of Project.	Amount.
	Rs.
(1) Taraki Quarry water-supply	88,504
(2) Improvements to Intermediate College water-supply, Pasrur	15,553
(3) Campbellpur Jail water-supply	12,624
(4) Water-supply, Hazuri Bagh, and gardens along south and south-west of Badshahi Mosque, Lahore (Central)	15,600
(5) Mental Hospital, Lahore, sewerage	1,31,305
(6) Providing underground drainage and improvements to the sanitary installation at the Intermediate College for Women, Lahore	14,752
(7) Water-supply scheme at the General Post Office, Lahore	14,752
(8) Hot-water supply, etc., at Mayo and King Edward Medical Hospital, Lahore	98,523
(9) Punjab Vaccine Institute, sewerage	24,654
(10) Water-supply, Government Intermediate College, Ludhiana	28,005
Minor Works	8,795
Total	3,93,067

(a) Major Works (Contribution) Preliminary.

(1) Drainage scheme, Jalalpur Jattan	59,104
(2) Water-supply to villages Khaur and Ahmdal, Attock District	61,759
(3) Providing compound wall gates and metalling central square at grain market, Sheikhpura	79,985
(4) Kulu water-supply	47,473
(5) Saida village water-supply	81,491
(6) Jaranwala drainage	2,75,503

Name of Project.	Amount.
	Rs.
(7) Sinking a percolation well in the village Usman Kattar, Rawalpindi District	17,723
(8) Moga water-supply	1,54,170
(9) Extension of drainage scheme, Udmipur, and Town Hall, Mohalla Rohtak	27,298
(10) Qilla Raipur drainage scheme, Ludhiana District ..	1,33,448
(11) Gidarbah water-supply	52,289
(12) Kharar water-supply	{ 54,660 37,922
(13) Sonapat water-supply	1,23,100
(14) Khanna drainage scheme	1,75,619
(15) Hoshiarpur suburbs	1,72,630
(16) Nuh water-supply, Gurgaon District	42,741
(17) Jagadhri drainage scheme, part B, extramural system and disposal works	73,898
(18) Tandlianwala drainage scheme	52,205
Tandlianwala drainage, revised	45,202
(19) Mianwali drainage scheme	2,64,210
Minor Works	85,098
Total	21,17,473
GRAND TOTAL	25,10,540

DETAILED PROJECTS.

(a) Major Works—(Provincial).

(1) Water-supply and drainage in the proposed new Sub-Jail at Gujrat	35,116
(2) Providing water-supply for lawn and shrubbries, Old Fort, Lahore	13,320
(3) Sanitary installation at Dental Hospital, Lahore ..	14,455
(4) Additional works required in Kasur New Sub-Jail in connection with water-supply and drainage ..	37,569
(5) Sewage disposal works of the MacLagan Engineering College sewerage scheme	39,567
(6) Sewerage of main school and anatomical block of the New Medical School, Amritsar	10,187
(7) Water-supply at the new cemetery on the Jail Road, Lahore (Central)	10,986
(8) Water-borne sewerage in Civil Secretariat and adjoining offices, Lahore	23,023
(9) Water-supply, Queen Mary College, Lahore	20,457
(10) Jhelum High and Normal School water-supply ..	10,253
(11) Taraki Quarry water-supply	40,383
(12) Revised design of sewage disposal arrangements at Chaurji Gardens	28,961
(13) Thanesar water-supply (Maintenance) for 1929-30 ..	13,402
(14) Proposed 20' diameter well at Sarangpur (Ambala) ..	13,081
(15) Hissar Jail water-supply scheme	29,094
(16) Water-supply, District Jail, Multan	11,367
(17) Maintenance, Dera Ghazi Khan water-works ..	10,877
(18) Sargodha water-supply—filter beds	22,337
(19) Government High School, Khanewal, scheme A ..	12,663
(20) Government High School, Khanewal, scheme B ..	14,174
(21) Shahpur Jail water-supply	13,189

<i>Name of Project.</i>	<i>Amount</i>
	Rs.
(22) Burewala Mandi drainage	1,93,151
(23) Lyallpur Agricultural College drainage	48,184
(24) Bathing platform, New Central Jail, Multan ..	35,729
(25) Construction of overhead reservoir and staff quarters, District Jail, Multan	12,004
(26) Water-supply arrangements, Government High School, Naushehra, A.	10,146
Water-supply arrangements, Government High School, Naushehra, B.	9,507
Minor Works	2,04,068
Total	9,37,250

DETAILED PROJECTS.

(b) Major Works (contribution.)

	Rs.
(1) Moga drainage sullage disposal works	31,619
(2) Moga drainage scheme disposal works	22,807
(3) Old Moga drainage scheme, 1st instalment	34,095
(4) Jagraon Mandi drainage	80,251
(5) Extension to water-supply, Pathankot	21,311
(6) Tamman water-supply	78,894
(7) Jaranwala water-supply extension	1,33,161
(8) Trial-boring in Pachnand village	11,779
(9) Trial-boring in Bhilmar village, in Attock District ..	11,460
(10) Protecting Sialkot and its suburbs from the effect of Aik Nallah flood	51,078
(11) Dalhousie water-supply extension	18,729
(12) Hassan Abdal drainage	10,784
Minor Works	1,36,692
Total	6,42,660
GRAND TOTAL	15,79,910

Detail of projects prepared in the Circle office under the supervision of the Superintending Engineer, Public Health Circle, Punjab, Lahore, is given below :—

<i>Name of Project.</i>	<i>Amount.</i>
	Rs.
(1) Arafwala Mandi water-supply (Revised—rough) ..	1,76,000
(2) Burewala Mandi water-supply (Revised)	1,70,000
(3) Vehari Mandi water-supply	1,62,000
(4) Brockhurst Estate, Simla, drainage and sanitary fittings (Rough)	16,300
(5) Gujarkhan town drainage	86,642
(6) Gujranwala town storm water drainage (Rough) ..	21,761
(7) Mianwali District rural water-supply—	
(a) Burekhal (Rough)	25,000
(b) Sultankhel (Rough)	24,000
(8) Pindi and Wahir water-supply, Shahpur District (Rough)	57,064
(9) Arafwala Mandi drainage (II Revised) (Detailed) ..	1,62,132
(10) Jagraon Mandi drainage (Detailed)	80,251
(11) Renala Khurd Mandi drainage scheme (Rough) ..	1,24,404

Name of Project.		Amount.
		Rs.
(12)	Gill Village drainage; Ludhiana District (Rough) ..	14,776
(13)	Fatehpur and Ahmdal water-supply, Shahpur District (Detailed)	34,945
(14)	Choa Village water-supply, Shahpur District (Rough)	36,490
(15)	Hafizabad and Garhi Awan drainage (Rough) ..	1,02,671
(16)	Gujranwala Grand Trunk Road storm water disposal (Rough)	23,002
(17)	Tarn Taran storm water drainage (Rough) ..	15,865
(18)	Tarn Taran water-supply (Rough)	1,56,981
(19)	Jabbi Village water-supply, District Shahpur (Rough)	33,532
(20)	Dharamkot drainage, Ferozepore District (Rough) ..	1,10,835
(21)	Kund Village water-supply, Shahpur District (Rough)	17,554
(22)	Padrar water-supply (Rough)	15,000
(23)	Khem Karan drainage (Rough)	10,500
(24)	Muzaffargarh drainage (Rough)	1,08,120
(25)	Vihari Mandi water-supply based on tube-wells as the source of supply (Rough)	1,20,000
(26)	Nurpur water-supply	62,614
(27)	Bhera drainage scheme	3,22,800
(28)	Kot Adu drainage scheme	97,263
(29)	Dharampur Sanatorium water-supply extension ..	59,920
(30)	Wasawawala drainage scheme	78,326
Minor Works		1,04,354
Total		26,31,102

STATISTICS REGARDING THE WORKING OF MUNICIPAL WATER WORKS (APRIL 1ST, 1928—MARCH 1929).

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APPENDIX III.

PROCEEDINGS OF THE URBAN SANITARY BOARD.

As the work of the Urban Sanitary Board is more conveniently considered from the point of view of the financial year, this report will embrace the period from January 1st, 1929 to March 31st, 1930, whilst future reports will deal with the financial year.

During the fifteen months under consideration the board, whose composition underwent no change, met on seven occasions. The attendance of members bore witness to the increased interest displayed by them in public health questions. Of the seven non-official members, Rai Bahadur Lala Mohan Lal, B.A., LL.B., M.L.C., for the second year in succession, attended every meeting, three non-official members attended five meetings, two three meetings and one on two occasions.

In the financial year 1928-29 a sum of Rs. 8,20,000 was placed at the disposal of the board, out of which grants-in-aid, amounting to Rs. 7,20,000, were disbursed before the close of the financial year on March 31st, 1929, whilst the balance of Rs. 1,00,000 was surrendered to Government in the late list of excesses and surrenders. This underspending on the part of the board was not the outcome of over-budgeting, but to the fact that, owing partly to unforeseen delays in complying with departmental regulations, and partly to a change of plans on the part of local bodies, several schemes which were confidently expected to mature failed to reach the stage before the close of the financial year when grants-in-aid could properly be disbursed.

In April 1929 the sum of Rs. 4,00,000 was placed at the disposal of the board. In addition, the board had to its credit the sum of Rs. 100,000, surrendered at the close of the previous year, together with a reserve of Rs. 50,000 with the Finance Department, which represents the recoveries of unspent grants-in-aid made to local bodies. Owing, however, to financial stringency, the board, at the urgent request of Government, surrendered these reserves, and the total amount available for allotment during the financial year 1929-30, was therefore reduced to Rs. 4,00,000. Out of this sum, the grants-in-aid made during the financial year amounted to Rs. 3,99,999-15-3, thus leaving a balance of 9 pies, which lapsed to Government. This state of affairs, so satisfactory from the accounts point of view, is mainly attributable to the adoption of the new procedure at the end of the preceding year whereby grants-in-aid to schemes under construction are given in instalments. As the result of the adoption of this procedure, it should now always be possible, by adjusting dates of payment, to utilize in full the budget provision without making premature grants to schemes, and thus doing violence to a financial canon of even more importance from the administrative point of view than unspending. The accounts of schemes carried out by local bodies were checked by the auditor with a view to the detection of irregularities and to the recovery of unexpended balances, and in this manner a sum of Rs. 49,104-1-4 was recovered and credited to Government.

The number of schemes assisted by the board during the period January 1st, 1929 to March 31st, 1930 was 37, as compared with 24 during the calendar year 1928. The names of the schemes and the amount allotted to each is enumerated below:—

1928-29.

	Rs.	A.	P.
Grants-in-aid given from 1st April to 31st December 1928— <i>vide</i>			
item Nos. 6 to 24 in the report for the year 1928 ..	4,54,419	8	0
Grants given from January 1st to March 31st, 1929.—			
(1) Temporary water-supply for Choa and Katas Fair area scheme ..	1,500	0	0
(2) Multan drainage scheme, Parts I and II ..	69,534	0	0
(3) Rohtak water-supply scheme ..	75,000	0	0
(4) Acquisition of land for Rohtak water-supply scheme ..	10,761	0	0
(5) Drainage scheme for factory area, Lyallpur ..	19,400	0	0
(6) Choa and Katas Fair area water-supply scheme ..	8,000	0	0
(7) Child Welfare Centres ..	7,620	0	0
(8) Bhalwal water-supply scheme ..	4,699	8	0
(9) Choa and Katas water-supply extension scheme ..	8,994	0	0
(10) Jullundur drainage scheme ..	3,281	0	0
(11) Campbellpore water-supply scheme ..	2,206	0	0
(12) Sarwana Nallah at Hazro ..	324	0	0
(13) Pulser chloronome at Rawalpindi, Jullundur and Thanesar ..	8,862	0	0
(14) Rohtak water-supply scheme ..	54,899	0	0
(15) Amount reappropriated to meet the travelling allowance of the non-official members of the board	500	0	0
Total Grants ..	7,20,000	0	0
Total surrendered ..	1,00,000	0	0
GRAND TOTAL ..	8,20,000	0	0

1929-30.

April 1st—March 31st, 1930.

			Rs.	A.	P.
(16)	Installation of pulser chloronome at the Punjab Vaccine Institute, Lahore .. ..	..	4,619	0	0
(17)	Tube-well at Tibba Jallian, Sialkot town ..	..	9,438	0	0
(18)	Rohtak water-supply scheme ..	..	20,101	0	0
(19)	Installation of pulser chloronome at Lahore ..	..	878	0	0
(20)	Gojra drainage extension scheme ..	..	2,810	0	0
(21)	Silt Clearance from the Jhelum town ..	..	7,000	0	0
(22)	Choa and Katas Fair area water-supply scheme ..	..	3,150	7	3
(23)	Rohtak water-supply scheme ..	..	75,000	0	0
(24)	Jagraon Mandi drainage scheme ..	..	40,125	0	0
(25)	Water-supply improvement at Tika Ghar, Kangra District .. ..	..	4,019	0	0
(26)	Pulser chloronome at Thanesar ..	..	167	8	0
(27)	Karna tank at Karnal ..	..	1,945	0	0
(28)	Pulser chloronome at Lahore ..	..	51	0	0
(29)	Dera Ghazi Khan water-works for providing a duplicate pumping plant .. ..	..	29,790	0	0
(30)	Karnal drainage scheme ..	..	31,000	0	0
(31)	Shahpur Drainage Scheme ..	..	8,241	0	0
(32)	Rohtak water-supply scheme ..	..	1,36,597	0	0
(33)	Trial-boring at Dajal ..	..	2,929	0	0
(34)	Nurpur (Rawalpindi District) Fair area water-supply scheme .. ..	..	4,605	0	0
(35)	Clearance of silt and drainage at Miani (Shahpur District) .. ..	..	3,100	0	0
(36)	Construction of incinerators and rubbish sheds at Murree .. ..	..	5,247	0	0
(37)	Construction of two railway, culverts over the storm water channel of the drainage scheme, Sialkot ..	..	9,187	0	0
Total ..			3,99,999	15	3
Balance lapsed to Government ..			0	0	9
Total ..			4,00,000	0	0

Apart from the schemes placed before the board for administrative approval and allotment of funds, the board submitted its considered views to Government on a number of important matters of public health policy, notably in connection with the maintenance of sanitary works by local bodies after completion, the danger attaching to the growing practice of installing the water-carriage system of sewage disposal in unsewered towns and the urgent need of executing without further delay the Lahore water-supply and drainage schemes.

APPENDIX IV.

List of Sanitary Works of Public Utility constructed by Private Benefaction during the year 1928-29.

AMBALA DIVISION.

1. *Hissar*.—One pakka tank at a cost of Rs. 15,000 by subscription raised by the public at village Gokanwali. A Dharamsala at a cost of Rs. 4,000 by Lala Kunj Lal, son of Nanak Chand, Mahajan of Rawatkhera at village Charaud. One well at a cost of Rs. 3,000 by Seth Ram Datt, Rais, Sirsa, for the use of depressed classes. One well at a cost of Rs. 2,000 by Lala Sohan Lal, son of Lala Shiv Karan Das, Mahajan, of Kharar, at village Kharar. Three wells at a cost of Rs. 2,000 each by public subscription at villages Nahla, Sarwarpur and Chandroll, tahsil Fatehabad. One well at a cost of Rs. 2,000 by Karim, son of Maru, Gujar, of Ahmedpur. One well at a cost of Rs. 1,200 by residents of Chamaran, Gali Pathron, Hissar. One well at a cost of Rs. 1,000 by Lala Nand Lal, son of Lala Ganga Das, Mahajan, Hissar. One well at a cost of Rs. 1,000 by Lala Banwari Lal, son of Lala Ruldu Mal, Mahajan, Hissar. One well at a cost of Rs. 1,000 by Lala Ram Chandar, son of Lala Nathu Mal, Mahajan, Hissar. One well at a cost of Rs. 1,000 by Dr. Badri Pershad, Sub-Assistant Surgeon, private practitioner, Hissar. One well at a cost of Rs. 1,000 by public subscription at Murree. One well at a cost of Rs. 1,000 by Bhai Narain Singh, son of Wazir Singh, Jat Sikh, of Datewas. One well at a cost of Rs. 1,000 by Sikh Community of village Budhlada.

2. *Rohtak*.—A Dharamsala at a cost of Rs. 10,000 by Kanhiya, son of Kirpa, carpenter of Kosli, Tahsil Jhajjar. A Dharamsala at a cost of Rs. 2,000, by Chandji Ram, of Khanpur Kalan, tahsil Gohana. One well at a cost of Rs. 1,000 by Lala Sheo Parshad, son of Bala, Mahajan, of Dujana State, at Gudah, tahsil Jhajjar. One well at a cost of Rs. 900 by Parbhu, son of Kura, Mahajan, of Patoda, tahsil Jhajjar. One pump cost unknown by Chaudhri Bhoupal Singh, Zaildar, Jakholi, tahsil Sonapat. Parapets, platforms and covers to existing wells at Gochhi, Dhaudlan, Nuran Khera (tahsil Jhajjar), Sunari and Khari Asra, tahsil Rohtak, by village communities concerned. (Cost unknown).

3. *Gurgaon*.—A well at a cost of Rs. 1,000 by Kirori Mal, Mahajan, at Ujina. A well at a cost of Rs. 800 by Ram Sahai, Lambardar, Bahin. A well at a cost of Rs. 500 by Mohan Lal, Mahajan, at Bharaoti. A well at a cost of Rs. 500 and a platform at a cost of Rs. 50 by Jawala Parshad, Taoru. A well at a cost of Rs. 400 by Ram Parshad, Mahajan, Jaurasi. Three platforms at a cost of Rs. 150, by village community Jhannuwas. A platform at a cost of Rs. 60 by village community, Padehina. A platform at a cost of Rs. 50 by village community Bahin.

4. *Karnal*.—Three bathing ghats at Markanda river at a cost of Rs. 3,000 by Lala Nathu Mal, Mahajan, of village Yara, tahsil Thanesar. A Johar and a well at Sambhalka and a well and a room at Kiwana at a cost of Rs. 11,00,500 and Rs. 600, respectively, by Lala Ram Narain, son of Bala, Barber, of Kiwana, Panipat. A well at a cost of Rs. 1,000 by Gopi Ram, son of Ramji Lal, Mahajan, of Jorasi Sarf Khas, tahsil Panipat. A well and a Dharamsala at a cost of Rs. 750 by Molu, son of Raja Ram, Mahajan, Jorasi. A well at a cost of Rs. 635 by Khem Lal, son of Mansa Ram, Mahajan, Ahar (Panipat). A well at a cost of Rs. 500 by Gagan, son of Kanhiya, Barber, of Ata (Panipat).

JULLUNDUR DIVISION.

5. *Kangra*.—A tank at a cost of Rs. 2,000 by Major Subedar Kanheya Singh, son of Bhola, Rajput, of Khaira, tahsil Palampur. A Dharamsala on Kaloha-Nadaun Road by Lala Sarnoon Mal, son of Gokal Chand, Sood of Pragpur—Tappa Garli, tahsil Dehra. A kutehha serai in village Rehn at a cost of Rs. 900 by Lakhu Ram, son of Radha Ram, of Takoli, Dakhli Jhomb, in Nurpor. A pucca Baoli at Tikka Salehr at a cost of Rs. 350 by Reloo, son of Bangali, of Sandhwan, Tappa, Tahsil Hamirpur. A pucca Baoli with a platform at Tikka Sadhol at a cost of Rs. 300 by Mian Medh Singh, son of Sohan Singh, Rajput, of Balihar, tahsil Dehra. A kutehha Baoli at a cost of Rs. 250 by Mst. Janki, widow of Govind, Brahmin, Tikka Thunyal, Tappa Bhunpal, tahsil Hamirpur. A kutehha serai at a cost of Rs. 250 by Nanda, son of Natha, Sood, Dhuntar, tahsil Kulu. A pucca Baoli and a pucca platform at a cost of Rs. 180 and Rs. 150, respectively, by Khamdi, son of Jawalu, Dadh Jhikla, tahsil Palampur.

6. *Hoshiarpur*.—A well at a cost of Rs. 15,000 by Rai Shiv Chand, at Palkwah, Kungrat School. A well at a cost of Rs. 6,000 by Pandit Salig Ram, at Khad School. A new inn at a cost of Rs. 6,000 by Mokoru at Bhunjal School. A well at a cost of Rs. 3,500 by Lala Jaishi Ram, at Kamahi Devi School. Pavement of all village lanes at a cost of Rs. 2,500 by the village Panchayat, Jandoli. A well at a cost of Rs. 1,885 by Lala Man Ram, and repairs of an old one by Chaudhri Jamnat Khan at Saroa School. Two wells at cost of Rs. 1,700 by Chaudhri Khazana Ram of village Arniala at Barnoh School. A village gate used for sitting for the public at a cost of Rs. 1,500 by village Panchayat, Langeri. A new well at a cost of Rs. 1,500 by Lala Raja Ram, at Varian Kalan School. Repairs of a public well with pucca platforms all round it, construction of a new well and levelling of lanes

at a cost of Rs. 1,300 by village sub-committee, Kandhala Jattan. A new well and repairs of an old one at a cost of Rs. 1,100 by Lala Ram Chand, Shamchaurasi School. A new well and a Rahat at a cost of Rs. 1,000 by Mian Umra, son of Buta, Hariana School. A well at a cost of Rs. 1,000, by Sondhi Ram, Lambardar, Dehlan School. Pavement of village lanes at a cost of Rs. 800 by village Panchayat Ajnaha, tahsil Garhshankar. A well at a cost of Rs. 800 by Chaudhri Sundar Singh, at Sikri School. Levelling and construction of pucca drains in all the village lanes at a cost of Rs. 732 by village Panchayat, Dhagam, tahsil Garhshankar. A new well with Persian wheel and pavement of public lane at a cost of Rs. 617 by village Panchayat, Pajedeota, tahsil Hoshiarpur. A new well at a cost of Rs. 600 by Ram Sharma, Kiratpur School. Pavement of all village lanes at a cost of Rs. 530 by village Panchayat, Singhpur, tahsil Garhshankar. A well at a cost of Rs. 500 by Kortu Ram, Rajpur School. Pavement of village lanes and repair of 2 public wells at a cost of Rs. 492 and of a bath room at cost of Rs. 100 by village Panchayat, Begampur, Jandiala, tahsil Hoshiarpur. Excavation of public pond at a cost of Rs. 400 and construction of public way at a cost of Rs. 130 by village Panchayat, Seloh, tahsil Una. Pavement of public lane at a cost of Rs. 350 by village Panchayat, Ambala, tahsil Hoshiarpur. Repair of public well with the provision of persian wheel, repair of a well, repair of another well and levelling of the lanes and making of bunds at a cost of Rs. 350 by village sub-committee at village Babak. Repair of 2 public wells with pucca platforms and drains and levelling of lanes and making of bunds at a cost of Rs. 329 by village sub-committee, Kaloya. A new well at a cost of Rs. 300 by Lobbhi Ram, at Janauri School. Repair of public well and construction of bath room for women at a cost of Rs. 300 by village Panchayat, Pakhowal, tahsil Garhshankar. A new well at a cost of Rs. 250 by villagers at Khunkhun Kalan School. Boring of a well at a cost of Rs. 200 by Raj Mal, Datarpur School. Repair of the public well and construction of its parapet and levelling of the lanes and making of bunds at a cost of Rs. 175 by village sub-committee, Nangal Farid. Payment of village lanes at a cost of Rs. 150 by village Panchayat, Kitna, tahsil Garhshankar. Construction and repair of two public Sarais at a cost of Rs. 150 by village Panchayat, Dadial. Repair of a public well and repair of another well and construction of its parapet and levelling of the lanes and making of bunds at a cost of Rs. 150 by village sub-committee, Darya. Construction of a Khurli for animals at a cost of Rs. 150 by Chaudhri Rahmat Khan and Tufail Mohammad at Patti School. Pavement of public lane at a cost of Rs. 143 by village Panchayat, Bodal, tahsil Dasuya. Repair of lanes at a cost of Rs. 143 at Berchha School. Repair of public well at a cost of Rs. 100 by village Panchayat, Mawa Koholan, tahsil Una. Repairs of a well at a cost of Rs. 100 by Sardar Basant Singh at Sahri School. Construction of a well at a cost of Rs. 100 by Bhai Sundar Singh at Chotla School. Repairs of a well at a cost of Rs. 100 by Pandit Shiv Lal at Ghanari School. Pucca bunds and lanes levelled at a cost of Rs. 80 by village Panchayat, Baich, tahsil Dasuya. Repair of a public well and construction of its parapets, levelling of lanes and making of bunds at a cost of Rs. 80 by sub-committee, at village Hambar. Repair of public well and making of bunds in the lanes at a cost of Rs. 60 by sub-committee at village Lither. Repair of a public well at a cost of Rs. 60 by sub-committee, at village Chohal. Repair of a well at a cost of Rs. 50 by Lala Ganga Ram, Mukerian. Repair of a well at a cost of Rs. 50 by 2nd Master of Hajipur School. Repairs of a well at a cost of Rs. 50 by Wazira, Chak Ladian. Repair of a well at a cost of Rs. 50 by Mian Thakar Singh, Kharar Achharwal. A pump in a District Board School, at a cost of Rs. 41 by village Panchayat, Jhingar Kalan. Pavement of public lanes at a cost of Rs. 40 by village Panchayat, Rupowal. Levelling the lanes at a cost of Rs. 30 by village sub-committee, Jora. Boring of a well at a cost of Rs. 30 by villagers of Dharpur. Pavement of a public lane at a cost of Rs. 18 by village Panchayat, Johal.

7. *Jullundur*.—A well at a cost of Rs. 600 by Mangal Singh, son of Jawala Singh, Jat, Sodana.

LAHORE DIVISION.

8. *Ferozepore*.—One water pump at a cost of Rs. 30 by Messrs. Milkhi Ram Hiralal, son of Devi Ditta Mal, Nauhria of Dharam Kot near the Small Town Committee Dharamkot, Lorry Stand. One water pump at a cost of Rs. 30 by Kamal Din, son of Zaman Khan, Pathan of Fazilka, at Mehrian Bazar, Fazilka. One water pump at a cost of Rs. 30 by Bula Khan, son of Kamar Din, Pathan of Fazilka at Mehrian Bazar, Fazilka. One water pump at a cost of Rs. 30 by Suraj Mal Kheta Ram, Zargar of Fazilka at Salim Shahi Bazar, Fazilka.

9. *Amritsar*.—A well at a cost of Rs. 2,200 by Lala Durga Das, son of Lala Beli Ram Khatri, of Mahtabkot. A well at a cost of Rs. 1,500 by Lala Damodar Das, Meleod Road Chauk Clock Tower, Amritsar. A well at a cost of Rs. 1,200 by Sardar Wasan Singh, Jat, Gill, Khumaspur, tahsil Tarn Taran. A well at a cost of Rs. 1,000 by Lala Sain Das, G. T. Road, near Railway Station, Amritsar. Pavement of a lane at a cost of Rs. 650 by public fund at Lopoki. A well at a cost of Rs. 500 by public subscription at village Pul Kanjri. A well at a cost of Rs. 500 by Mian Mohammad Hussain, skin merchant, Hussainpura. Three platforms and parapet at a cost of Rs. 350 by public subscription, Brahmputra. Pavement of streets at a cost of Rs. 300 by public subscription—Sohian Khurd. Lane pavement and a pucca drain at a cost of Rs. 284 by public subscription, Khalehian. A well at a

cost of Rs. 200 by Sardar Sain Singh, Jat, son of Bava Padde. Two platforms and parapets at a cost of Rs. 200 by public subscription at Kot Mohammad Khan. Four platforms and parapets at a cost of Rs. 200 by public subscription at Dhudhrai. A well at a cost of Rs. 200 by public subscription at Saurian. A well at a cost of Rs. 150 by public subscription at Dhulka. A platform on a well at a cost of Rs. 125 by public subscription at Bal Kalan. A pucca platform on a well; and 2 pucca drains and floor providing in a bazar at a cost of Rs. 100 each by public subscription at Kot Mohammad Khan, and at village Pankanjri, tahsil Tarn Taran, respectively. A platform and parapet at a cost of Rs. 100 by Changar Ghughatiwind. Lane pavement; and 3 platforms and parapets at a cost of Rs. 80 each by public subscription at Gaggomahl, and at Lopoke, tahsil Ajnala respectively. Three platforms and parapets at a cost of Rs. 60 by public subscription at Chaha, tahsil Amritsar. A platform on a well at a cost of Rs. 50 by public subscription at Umra Nangal, tahsil Amritsar. A pump at a cost of Rs. 45 by Bhai Chanan Singh, son of Gurdit Singh, Chawk Clock Tower, Amritsar. A platform on a well at a cost of Rs. 20 by public subscription at Khuraspur, tahsil Tarn Taran. Some parapets at a cost of Rs. 8 each by public subscription in village Gaggomahl.

10. *Gurdaspur*.—A well for drinking water at a cost of Rs. 1,100 by Mussammat Parmeshri, widow of Pandit Kanshi Ram of Sujampur at Kotli Nagal, Gurdaspur. A well for drinking water at a cost of Rs. 800 by Mahant Shankar Nath of Gurdaspur on Amritsar-Pathankot Road side near Mangat, Gurdaspur. A well for drinking water at a cost of Rs. 350 by Maula Bakhsh of Sakal and Mussammat Jano Devi of Shakargarh at Sakal, tahsil Pathankot. A well for drinking water at a cost of Rs. 300 by Sajjad Hassan of Batala at Batala City. Wells at a cost of Rs. 250 by Bachittar Singh, Rajput, of Malpur, tahsil Pathankot. A well for drinking water at a cost of Rs. 150 by Sohnu, son of Urjun, Brahman, of Sheikhpura, tahsil Pathankot. A pump at a cost of Rs. 100 by Hussan Mohammad, Rajput, of Batala at Batala City. New parapets at a cost of Rs. 100 by inhabitants of the village jointly at Raniat, tahsil Pathankot. New parapet at a cost of Rs. 50 by the inhabitants of the village jointly at Shakhua Chak, tahsil Pathankot. New parapets at a cost of Rs. 45 by Ghulam Farid, Rajput, of Pakhowal, at Pakhowal, tahsil Pathankot. New parapets at a cost of Rs. 40 by Nur Mohammad, Mallang, Chiragh and Fateh Mohammad, Rajputs of Majra, at Majra, tahsil Pathankot. New parapets at a cost of Rs. 40, by Ghulam Rasul, Rajput of Pakhowal, at Pakhowal, tahsil Pathankot. New parapets at a cost of Rs. 25 by Fazal Husain, Lambardar of Begowal, at Begowal, tahsil Pathankot.

11. *Sialkot*.—Pavements of streets and drains and two hand pumps at a cost of Rs. 3,225 by the Health Committee, Fatehgarh, tahsil Sialkot. A well with platform and parapet at a cost of Rs. 1,000 by Chaudhri Fazal Ahmad of Baharang in Baharang Kucha, Idgah, tahsil Pasrur. A well with platform and parapet at a cost of Rs. 1,000 by Lala Behari Mal, Sahukar, of Chuhar Munda, in Chuhar Munda, village, tahsil Pasrur. Three new wells at a cost of Rs. 700 by public subscription at Basrai, tahsil Sialkot. A well with parapet at a cost of Rs. 600 by public subscription at Jaloke, tahsil Narowal. Pavements and drains in some streets of the village at a cost of Rs. 582 by public subscription at Goindke, tahsil Daska. Four platforms and parapet at a cost of Rs. 550 by public subscription at Hallawal, tahsil Narowal. One new well at a cost of Rs. 500 by public subscription at Bhathanwala, tahsil Daska. A new well and 3 parapets at a cost of Rs. 470 by public subscription at Khan Khasa, tahsil Narowal. A well with platform and parapet at a cost of Rs. 450 by Chaudhri Katha Singh of Bhular at Bhular, tahsil Pasrur. A well with a platform and parapet at a cost of Rs. 450 by Chaudhri Katha Singh in Dhabliwala, tahsil Narowal. A well with platform and parapet at a cost of Rs. 450 by Chaudhri Lakha Singh at Chuhar Bhatti, tahsil Narowal. A well and parapets at a cost of Rs. 400 by public subscription at Ahloolal, tahsil Narowal. A new well with a platform and parapet at a cost of Rs. 350 by Mohan Lal and public subscription at Siranwali, tahsil Daska. A hand pump, a new well and repairs and parapet of one well at a cost of Rs. 315 by public subscription at Jandu Sahai, tahsil Daska. A well with platform and parapet at a cost of Rs. 300 by Mahant Nihal Singh of Khewa at Khewa Chema, tahsil Pasrur. A well with platform and parapet at a cost of Rs. 300 by Chuhar, carpenter at Khan Khasa, tahsil Narowal. A well with a platform and parapet at a cost of Rs. 300 by Lala Dia Ram at Nonar, tahsil Narowal. A well at a cost of Rs. 300 by public subscription at Langarke, tahsil Narowal. A well with parapet at a cost of Rs. 300 by public subscription at Jaloke, tahsil Narowal. A well at a cost of Rs. 300 by public subscription at Rana, tahsil Narowal. Four hand pumps at a cost of Rs. 300 by public subscription at Bharang Uehha, tahsil Pasrur. Four hand pumps at a cost of Rs. 300 by public subscription at Chobara, tahsil Pasrur. A new well at a cost of Rs. 300 by public subscription at Pindi Kahlwan, tahsil Narowal. Four hand pumps and parapet at a cost of Rs. 285, by public subscription at Dhoda, tahsil Pasrur. Five platforms and parapet at a cost of Rs. 280 by public subscription at Gadgore, tahsil Pasrur. Three hand pumps at a cost of Rs. 270 by public subscription at Gadgore, tahsil Pasrur. Three platforms and parapets of wells at a cost of Rs. 270 by public subscription at Partanwali, tahsil Sialkot. A well with platform and parapet at a cost of Rs. 250 by Chaudhri Jalal Khan, Afghan of Derianwala, at Derianwala village, tahsil Narowal. A new well at a cost of Rs. 250 by public subscription at Mahmudwali, tahsil Pasrur. A new well at a cost of Rs. 250 by public subscription at Dadowali,

tahsil Pasrur. Pavement and drainage of streets at a cost of Rs. 244 by public subscription at Ball, tahsil Narowal. Three wells repaired at a cost of Rs. 243 by public subscription at Rupo Chak, tahsil Narowal. Construction of a well and repair of one well and parapets of 2 wells at a cost of Rs. 235 by public subscription at Saukinwind, tahsil Pasrur. A new well, repair of one well and parapets of two wells at a cost of Rs. 217 by public subscription at Badhai Chima, tahsil Narowal. A well at a cost of Rs. 200 by public subscription at Saharan, tahsil Narowal. A new well at a cost of Rs. 200 by public subscription at Auki Machhi, tahsil Pasrur. Repair of new well at a cost of Rs. 200 by public subscription at Gangwal, tahsil Sialkot. Five platforms and parapets at a cost of Rs. 200 by public subscription at Ferozeke Nagre, tahsil Pasrur. A new well at a cost of Rs. 200 by public subscription at Loriki, tahsil Pasrur. One well with platform and parapet at a cost of Rs. 175 by Lala Dewan Chand, Pleader of Narowal, at Chahur village, tahsil Narowal. Pavement and drainage of streets and a hand pump at a cost of Rs. 160 by public subscription at Sandhanwala, tahsil Daska. Two hand pumps and one parapet at a cost of Rs. 155 by public and Alam Shah at Tharpal, tahsil Narowal. A well with platform and parapet at a cost of Rs. 150 by Lala Dhani Rai of Chak Santal in Chak Santal, tahsil Sialkot. One well with platform and parapet at a cost of Rs. 150 by Sardar Sohan Singh, Zaildar, at Saukanwind (Pasrur). One parapet of school hand pump and of well and pavement of streets at a cost of Rs. 145 by public subscription at Bhadewala, tahsil Narowal. Two hand pumps at a cost of Rs. 145 by public subscription at Rupo Chak, tahsil Narowal. One hand pump and pavement of street at a cost of Rs. 145, by Chaudhri Mehr Din, at Jassar School, tahsil Narowal. Three water pumps at a cost of Rs. 140 by Lala Haveli Ram and tahsil Red Cross Centre, Narowal, at Sagarpur, tahsil Narowal. One water pump at a cost of Rs. 140 by Haji Shahab-ud-Din at Rangpura, Sialkot Municipal Committee. One platform and parapet at a cost of Rs. 140 by public subscription at Chak Bidia, tahsil Sialkot. Pavement of streets and platform and parapet of a well at a cost of Rs. 130 by public subscription at Kamalpur, tahsil Pasrur. One water pump at a cost of Rs. 130 by Mian Suraj Din at Rahimpur Kichhian, tahsil Sialkot. A parapet to a public well at a cost of Rs. 125 by Lala Bhagat Ram, at Lala Brahmanan, tahsil Narowal. One water pump at a cost of Rs. 125 by Sayad Rahmat Shah at Smail Awan, tahsil Daska. Hand pumps at a cost of Rs. 120 by public subscription and Ghulam Kadir, at Partanwali, tahsil Sialkot. Three hand pumps at a cost of Rs. 115 by Panchayat Committee at Depoke, tahsil Narowal. A water pump at a cost of Rs. 100 by Sardar Partap Singh at Bhadewala, tahsil Daska. A water pump at a cost of Rs. 100 by Sardar Gurbux Singh of Kotli Loharan at Artillery Road, tahsil Sialkot. A well with parapet by public subscription at a cost of Rs. 100 at Airian, tahsil Narowal. A hand pump by public subscription at cost of Rs. 100 at Barath, tahsil Sialkot. A platform and a parapet of a well by public subscription at a cost of Rs. 100 at Dhera-pir-Mohammad, tahsil Pasrur. A drain and pavement of a street at a cost of Rs. 100 by public subscription at Chitti Sheikhan, tahsil Sialkot. A platform and a parapet of a well at a cost of Rs. 100 by public subscription at Rashidpur, tahsil Pasrur. Three platforms and parapets of a well by public subscription at a cost of Rs. 100 at Kila Suba Singh, tahsil Pasrur. Five platforms and parapets at a cost of Rs. 100 by public subscription at Bajra Gurhi, tahsil Pasrur. One platform and parapet at a cost of Rs. 100 by public subscription at Umranwali, tahsil Pasrur. Repair of a well and one water pump at a cost of Rs. 90 by Bhag and public subscription at Aminshah, tahsil Pasrur. Two platforms, parapets and 2 hand pumps at a cost of Rs. 85 each at villages at Akbar Rayan, tahsil Daska, and Raipur, tahsil Sialkot, respectively, by public subscription. A water pump at a cost of Rs. 82 by Lala Guru Pyare at Ball, tahsil Narowal. A parapet to a public well at a cost of Rs. 80 by Chaudhri Nizam Din, Patwari, at Chahana, tahsil Pasrur. A water pump at a cost of Rs. 80 by Chaudhri Sher Muhammad, Lamabardar, at Saukinwind, tahsil Pasrur. A platform and a parapet to a well at a cost of Rs. 80 by Chaudhri Jagat Singh of Khandowali, tahsil Daska. Two hand pumps at a cost of Rs. 80 by Fazal Din, Alla Ditta and public subscription at Sakandarpur, tahsil Pasrur. Pavements of streets at a cost of Rs. 80 by Red Cross Society and public subscription at Bathanwala, tahsil Narowal. Two hand pumps at a cost of Rs. 80 by M. Jogi and public subscription at Bathanwala, tahsil Narowal. Repair and a parapet of a well at a cost of Rs. 80 by public subscription at Chak Santal, tahsil Sialkot. A parapet to a public well at a cost of Rs. 70 by Lala Duni Chand at Tharake, tahsil Daska. A parapet to a public well at a cost of Rs. 70 by Chaudhri Faqir Muhammad at Kotli Mohammad Sadiq, tahsil Narowal. One water pump at a cost of Rs. 70 by Chaudhri Mohammad Ali Khan at Pandori, tahsil Narowal. A water pump at a cost of Rs. 70 by Sardar Viryam Singh at Punjarain Bajwa, tahsil Pasrur. A water pump at a cost of Rs. 70 by Sayad Alam Shah at Darpal, tahsil Narowal. Two platforms and parapet at a cost of Rs. 65 by public subscription at Kanpur, tahsil Sialkot. A parapet to a public well at a cost of Rs. 60 by Chaudhri Karam Dad at Mathial, tahsil Narowal. A parapet to a public well at a cost of Rs. 60 by Mian Abdul Hamid at Bandbajwa, tahsil Pasrur. A water pump at a cost of Rs. 60 by Chaudhri Barkat Ali at Khan Khasa, tahsil Narowal. A water pump at a cost of Rs. 60 by S. Fateh Ali Shah at Manda Kalan, tahsil Sialkot. A platform and parapet of well at a cost of Rs. 60 by public subscription at Barath, tahsil Sialkot. A platform and parapet of a well at a cost of Rs. 60 by public subscription at Kala, tahsil Sialkot. A platform and parapet at a cost of Rs. 60 by public subscription at Ausa, tahsil Pasrur. A platform and parapet at a cost of Rs. 60 at Fattu Joshan, tahsil

Pasrur, by public subscription. A hand pump at a cost of Rs. 55 by Mistry Ilam Din, at Othian, tahsil Daska. A parapet to a public well at a cost of Rs. 50 by Chaudhri Dasondhi Khan at Virk, tahsil Pasrur. A parapet to a public well at a cost of Rs. 50 by Lala Behari Lal at Chuhar Munda, tahsil Pasrur. A water pump at a cost of Rs. 50 by Chaudhri Ilam Din at Thakampur, tahsil Pasrur. Repair of a well and parapet at a cost of Rs. 50 by public subscription at Dhelum, tahsil Daska. A platform and a parapet of a well at a cost of Rs. 50 by public subscription at Bholer, tahsil Pasrur. A hand pump at a cost of Rs. 50 by public subscription at Malihan, tahsil Sialkot. A platform and a parapet of a well at a cost of Rs. 50 by public subscription at Alipur Saydan, tahsil Narowal. Two platforms and parapet at a cost of Rs. 50 by public subscription at Fatehpur Gosain, tahsil Pasrur. A platform and a parapet at a cost of Rs. 50 by public subscription at Chahur, tahsil Narowal. A platform and a parapet at a cost of Rs. 50 by public subscription at Anula, tahsil Pasrur. A water pump at a cost of Rs. 48 by Chaudhri Sardar Khan and Manzoor Ahmad at Kotli Bhutta, tahsil Sialkot. A parapet to a public well at a cost of Rs. 45 by Lala Lachhman Dass and Lala Nihal Chand at Rupo Chak, tahsil Narowal. A parapet to a public well at a cost of Rs. 45 by Chaudhri Hira at Ralyoke, tahsil Daska. A parapet to a public well at a cost of Rs. 45 by Sardar Foja Singh at Kaurpur, tahsil Sialkot. A water pump at a cost of Rs. 45, by Mian Mohammad Din at Makhanpur, tahsil Pasrur. A water pump at a cost of Rs. 45 by Chaudhri Inayat Ali at Badoke, tahsil Daska. Repair of a platform and a parapet at a cost of Rs. 45 by Lala Lachhman Dass and Nihal Chand at Rupo Chak, tahsil Narowal. A platform and parapet at a cost of Rs. 45 by public subscription at Kotli Amir Ali, tahsil Sialkot. Three platforms and parapet at a cost of Rs. 45 by public subscription at Harpal, tahsil Sialkot. Repair of well at a cost of Rs. 45 by public subscription at Kot Punwan, tahsil Pasrur. A parapet and platform at a cost of Rs. 40 by Fazal Ahmad, Tailor Master, at Gopalpur, tahsil Sialkot. A parapet and platform at a cost of Rs. 40 by Mian Jogi and Red Cross public society at Bathawala, tahsil Narowal. A hand pump at a cost of Rs. 40 by public subscription at Tambra, tahsil Sialkot. One platform and parapet of a well by public subscription at a cost of Rs. 40 at Kapurwali, tahsil Sialkot. A parapet and platform of a well at a cost of Rs. 40 by public subscription at Panj-garain Bajwa, tahsil Pasrur. A platform and parapet at a cost of Rs. 40 by public subscription at Pejoke, tahsil Pasrur. A platform and parapet of a well at a cost of Rs. 40 by public subscription at village Fatehpur Sayadan, tahsil Narowal. Three platforms and parapet at a cost of Rs. 80 by public subscription at Narsingh, tahsil Pasrur, and Kotli Said Mir, tahsil Sialkot. A platform and parapet at a cost of Rs. 40 by public subscription at Raya Goraya, tahsil Narowal. A platform, parapet and street at a cost of Rs. 35 by public subscription at Jethike, tahsil Daska. A platform and parapet and repair by public subscription at Domala, tahsil Narowal, at a cost of Rs. 35. Repair of a well at a cost of Rs. 35 by public subscription at Chida Kilan, tahsil Narowal. Two parapets to public wells at a cost of Rs. 30 each by Chaudhri Nabi Bux and Chaudhri Jalal Din at Jasar and Mahar, tahsil Narowal. Parapets of 4 public wells at a cost of Rs. 30 by Chaudhri Akbar Ali, and Rs. 30 by Chaudhri Qurban Ali at Kotli Bhutta, tahsil Sialkot. A platform to a public well at a cost of Rs. 30 by Lala Ram Krishna at Roras, tahsil Sialkot. A parapet and a platform at a cost of Rs. 30 by Chaudhri Jalal Din at Mahar, tahsil Pasrur. A platform and a parapet to a well at a cost of Rs. 30 by Lala Nobat Rai at Satrah, tahsil Daska. A platform and parapets at a cost of Rs. 30 by public subscription at Nathewali, tahsil Narowal. A parapet at a cost of Rs. 30 by public subscription at Nangal Kamla, tahsil Pasrur. A platform and parapet of a well at a cost of Rs. 30 by public subscription at Balloke, tahsil Pasrur. A platform and a parapet at a cost of Rs. 30 by public subscription at Sheikhpur, Pasrur tahsil. One platform and a parapet at a cost of Rs. 30 by public subscription at Koruwal, tahsil Sialkot. A parapet to a public well at a cost of Rs. 25 by Mohammad Alam at Khokhar, tahsil Narowal. A platform and parapet to a public well at a cost of Rs. 25 by Haji Rahim Bux at Satrah, tahsil Daska. A platform and parapet of a well at a cost of Rs. 25 by public subscription at Manga, tahsil Pasrur. A parapet and a platform at a cost of Rs. 24 by public subscription at Wadowali, tahsil Pasrur. A platform and a parapet at a cost of Rs. 21 by public subscription at Nangli, tahsil Pasrur. A parapet and a platform at a cost of Rs. 20 by Chaudhri Ghulam Din and Ghulam Mohammad at Rasulpur, tahsil Pasrur. A parapet at a cost of Rs. 20 by public subscription at Mangola, tahsil Narowal. A parapet of a well at a cost of Rs. 20 at Kanuwali, tahsil Sialkot. A parapet at a cost of Rs. 20 by public subscription at Jassowali, tahsil Narowal. A parapet and drains at a cost of Rs. 19 by Mahna at Baharat, tahsil Sialkot. A parapet at a cost of Rs. 18 by public subscription at Mandher Khurd, tahsil Sialkot. A parapet at a cost of Rs. 15 by Kherati Hijra at Bhudha pind, tahsil Narowal. A platform and a parapet to a well at a cost of Rs. 15 by Chaudhri Abdula at Mianwali, tahsil Daska. A parapet at a cost of Rs. 12 by Ghulam Mustafa at Chain Nagar, tahsil Pasrur. Two drains at a cost of Rs. 5 by public subscription at Bhupalpur, tahsil Sialkot.

12. *Gujranwala*.—A well combined with a building constructed near the tahsil building at Hafizabad at a cost of Rs. 2,000 by Lala Gopal Das, retired Field Qanungo.

13. *Sheikhpura*.—A parapet on a well in Chak No. 15/67, tahsil Nankana Sahib, by public, cost unknown. A well with a pucca platform at a cost of Rs. 500 by public subscription at Chuharkana town. A hand pump at a cost of Rs. 62-5-6 paid half and half by municipal committee and public.

14. *Gujrat*.—A new drinking water well with parapet and platform at a cost of Rs. 650 by Bhag Mal, Subberwal of Malakwal at Gujrat near cart stand. Two water pumps at a total cost of Rs. 140 by public subscription in Gujrat. Three water pumps at a cost of Rs. 190 in Gujrat by Lala Ganpat Rai, Shiv Charan Singh and contribution from Municipal Committee and Lala Harbans Lal and Ishwar Das.

15. *Shahpur*.—A drinking well in the Thal tract of the Hadali village on the way from Hadal to Khadi, at a cost of Rs. 1,000 by Captain Malik Mumtaz Mohammad Khan, Tiwana. Three hand pumps at a total cost of Rs. 214, between Butcha and Wan, Shahpur-Sargodha Road and Mandi Phullarwan by Mian Fazal Elahi of Wan, Bhagwan Das Bajaj and Ghulam Muhammad, son of Fazal Din, of Phullarwan, respectively.

16. *Rawalpindi*.—A drinking well at a cost of Rs. 1,000 by Mussammat Parbati, widow of Dr. Prem Singh, of Saddar Bazar of Rawalpindi, at Kahuta district, Rawalpindi. A drinking well at a cost of Rs. 800 by Mussammat Lajo, widow of Bhai Arjan Singh, of Thoha Khalsa, tahsil Kahuta, in Thoha Khalsa.

17. *Mianwali*.—A well for drinking water at a cost of Rs. 2,000 by public subscription at Sultan Khel, tahsil Isa Khel.

18. *Montgomery*.—A light Iron Persian wheel has been fixed on the well in Chak No. 147-E. B. by villagers. Parapets and platforms have been provided on the well at Chak No. 143-E. B., tahsil Pakpattan, and Chak No. 115/12-L., tahsil Montgomery, by public subscription. A Persian wheel has been fixed on the well in Chak No. 56/2-L., tahsil Okara, by Sir Ganga Ram and Sons.

19. *Jhang*.—A new drinking water well at a cost of Rs. 1,150 by Lala Ganpat Rai, Vij of Dhalanwali at Bawa Kaltar Sahib in Chiniot. One drinking well at a cost of Rs. 400 by Chaudhri Tek Chand, Vij, and Lala Barkat Ram at Dhalanwali in Chiniot. A new drinking water well at a cost of Rs. 225 by Mahant Arjan Das of Chiniot at Municipal well at Badiana in Chiniot. Parapets and platforms to existing wells at a total cost of Rs. 430 by public subscription. Two hand pumps at a cost of Rs. 130 each by Lala Ram Lal, Mehra, and Pandit Krishna Narain, School Teacher of Chiniot at Lohari Gate and Chenab river, Chiniot.

20. *Multan*.—A new drinking water well at a cost of Rs. 2,200 by Mussammat Kaki Bai of Mian Channu in Mian Channu town, Khanewal tahsil. A drinking water well at a cost of Rs. 1,300 by public subscription at Khanewal Sanatan Dharam Sabha. A drinking water well at a cost of Rs. 1,200 by public subscription at Khanewal Arya Samaj. Three wells at a cost of Rs. 1,200 each by Lala Ram Lal, Bhaja Ram, Hari Chand, Kalu Ram and Ghulam Ram at Khanewal. A drinking water well at a cost of Rs. 1,000 by Mussammat Gulab Devi, widow of Atma Singh, at Khanewal. A water hand pump at a cost of Rs. 600 by public contribution at Kahrur town, tahsil Lodhran. Two wells at a cost of Rs. 500 each by Attar Chand, son of Hari Ram, of Khanewal, and Shiv Dayal, son of Nand Lal, of Kabirwala, at Khanewal road and town. A well at a cost of Rs. 200 by Dhirganga Booshara at Khanewal, tahsil Khanewal. A water hand pump at a cost of Rs. 50 by Himti Ram, Bhatia, Jamadar, Tongas, at Shujabad near Tonga stand. A pucca drain at a cost of Rs. 50 by public contribution at Mailsi town.

APPENDIX V.

Statement showing the death-rates from cholera, small-pox, fever and dysentery and diarrhoea for the five years preceding and for the period since the introduction of drainage or water supply or both in the undermentioned towns :—

Towns.	DATE OF COMPLETION OF WORKS OF		AVERAGE ANNUAL DEATH-RATE SINCE THE INTRODUCTION OF DRAINAGE OF WATER-SUPPLY OR BOTH.				AVERAGE ANNUAL DEATH-RATE FOR THE FIVE YEARS PERIOD PRECEDING THE INTRODUCTION OF DRAINAGE OR WATER-SUPPLY OR BOTH.				REMARKS.
	Drainage.	Water supply.	Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	
1	2	3	4	5	6	7	8	9	10	11	12
Rohtak	1923	..	0.20	0.18	13.21	1.09	0.5	0.3	27.7	1.2	
Rewari .. ..	..	1920	0.40	0.22	6.67	1.49	0.4	0.4	8.5	3.2	
Ambala .. ..	..	1895	0.41	0.42	12.43	2.88	0.5	0.4	19.3	6.4	
Simla	1893	1893	0.2	0.34	12.13	0.97	..	1.1	17.1	1.4	
Dharmasala .. ..	..	1908	0.50	0.07	9.55	1.92	0.3	..	6.1	1.6	
Hoshiarpur	1925	..	0.77	0.62	11.73	0.41	0.2	0.7	9.5	0.1	
Jullundur	1924	..	0.16	0.37	11.55	2.46	0.4	0.2	11.9	2.3	
Ludhiana	1895	1909	0.26	0.78	15.84	2.11	0.4	2.7	20.8	1.6	
Jagraon	1907	..	0.46	1.04	12.42	1.55	0.6	1.5	9.3	2.0	
Ferozepore	1916	..	0.47	0.55	12.08	1.35	0.2	0.7	9.8	1.1	
Zira	1913	..	0.85	1.19	17.48	0.72	0.3	4.0	16.6	0.9	
Fazilka	1913	..	0.84	1.03	21.13	1.58	2.2	2.6	21.4	1.7	
Muktesar .. ..	..	1925	0.9	2.63	11.83	0.86	0.04	0.04	11.3	1.1	
Abohar .. ..	..	1929	..	0.22	6.39	0.45	..	1.1	7.8	1.1	
Lahore	1921	1881	0.24	0.86	12.81	2.01	0.2	0.6	20.0	1.3	
Kasur	1922	..	2.24	0.32	13.85	1.27	1.6	1.0	21.8	1.0	
Amritsar	1885	1904	0.52	1.06	21.59	1.55	0.4	0.7	31.3	1.8	
Jandiala	1924	..	0.43	0.11	16.46	1.27	0.03	1.0	17.1	0.7	
Gurdaspur	1918	..	0.13	0.47	15.55	2.46	0.6	0.3	14.2	3.1	
Dalhousie .. ..	..	1894	0.03	0.05	10.96	1.57	..	..	9.6	2.4	
Pathankot	1915	..	1.22	0.47	17.75	2.85	0.8	0.7	12.4	2.8	
Sialkot .. ..	..	1915	0.54	0.36	13.60	2.12	3.0	1.2	9.6	2.3	
Gujranwala	1892	..	0.52	1.00	18.15	1.20	0.5	0.6	19.7	1.7	
Khangah Dogran	1929	..	..	0.19	1.35	..	..	0.2	4.4	0.1	
Sangla .. ..	..	1924	..	0.50	1.79	0.09	10.4	1.1	7.1	0.2	
Chuharkana Mandi	1928	..	..	0.13	4.94	0.26	0.4	1.0	4.6	0.3	
Gujrat	1906	..	0.71	0.30	18.41	1.68	0.3	0.2	16.9	1.9	
Bhera	1917	..	0.19	0.69	20.28	1.85	0.03	0.7	17.8	1.7	
Sargodha	1907	1907	0.08	0.32	7.40	0.85	Not available.				
Khushab .. ..	..	1923	0.03	1.01	15.39	1.51	0.1	0.3	14.3	1.6	
Jhelum	1908	..	0.39	0.45	12.59	1.48	1.5	0.3	14.0	2.1	
Pind Dadan Khan	1909	1909	0.43	0.98	19.77	2.44	1.1	0.7	23.1	3.6	
Rawalpindi	1907	1887	0.57	0.38	17.80	2.18	0.5	0.1	16.4	3.4	
Murree .. ..	..	1894	0.07	0.09	14.02	1.64	0.7	0.4	14.8	0.9	
Mianwali .. ..	..	1904	0.14	0.41	17.67	1.55	Not available.				
Lyallpur .. ..	..	1904	0.09	0.74	10.03	0.66	*2.8	*0.4	*16.3	*2.1	
Gojra .. ..	..	1916	0.13	0.45	6.79	0.63	†..	†..	†0.5	†..	
Tandlianwala .. ..	..	1917	0.05	0.86	2.95	0.05	0.8	0.8	4.6	..	
Toba Tek Singh .. ..	..	1920	..	0.16	1.01	0.02	(a)	(a)	(a) 4.6	(a) 0.4	
Chak Jhumra .. ..	..	1929	..	0.02	1.14	0.04	..	Not available.			
Multan .. ..	..	1907	0.001	0.01	1.38	0.29	0.01	1.0	14.7	2.0	
Shujabad .. ..	..	1922	..	0.04	0.58	20.30	1.43	0.7	31.1	2.9	
Dera Ghazi Khan .. ..	..	1913	0.03	0.29	15.17	2.23	2.0	0.6	15.9	1.6	
Kalka .. ..	..	1890	0.34	0.12	13.64	2.02	1.7	0.2	15.2	3.9	

*Figures available for four years only.

†Figures for 1914 and 1915 only.

(a) Figures available for three years only.

APPENDIX VI.

A.—TABLE SHOWING THE MEAN MONTHLY TEMPERATURE AND DEPARTURE FROM NORMAL RECORDED AT 11 METEOROLOGICAL STATIONS IN THE PLAINS OF THE PUNJAB AND ALSO AT DELHI FOR THE YEAR 1929.

STATIONS.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.	M. T.	Dep.
Delhi	51.8	-0.1	55.1	-1.1	70.4	+4.8	79.7	+1.0	88.1	+2.8	88.4	+0.7	84.8	+0.4	81.3	-1.1	81.6	+2.6	73.7	+0.7	62.4	+2.2	52.9	+1.3
Hisar	45.0	-0.7	50.3	-1.1	68.6	+4.8	80.1	+1.5	89.9	+1.3	90.4	+0.6	85.7	-2.3	84.0	-2.1	82.8	+0.3	73.2	-0.3	60.1	+1.1	48.4	-2.5
Ambala	47.2	+0.7	51.5	-0.1	66.9	+5.3	79.6	+3.9	90.3	+3.1	87.7	+0.5	83.6	+0.7	80.8	-1.3	81.0	+2.7	72.0	+0.7	56.5	+0.7	49.0	-1.4
Ludhiana	46.1	0	50.5	-0.5	66.1	+4.5	78.0	+2.0	89.1	+2.1	88.8	+0.6	84.6	-0.3	83.2	-0.3	83.8	+2.9	72.4	+0.5	57.7	+0.9	47.3	-2.7
Montgomery	46.2	-1.5	51.3	-1.9	68.3	+4.5	81.7	+2.5	90.3	+0.2	90.1	-0.5	87.2	-2.9	85.4	-2.7	83.0	-2.3	72.4	-1.7	60.8	+0.1	47.4	-2.7
Lahore	43.8	-1.1	49.2	-1.7	65.9	+4.3	79.3	+3.6	88.1	+2.3	89.4	-0.5	86.0	-1.3	84.7	-1.0	82.9	+1.3	69.9	-0.5	54.9	+0.1	46.1	-2.7
Sialkot	44.4	-1.5	48.6	-2.5	64.8	+2.1	78.5	+2.7	89.8	+1.1	89.8	-0.9	84.7	-1.2	83.0	-0.7	82.4	+2.7	70.8	-0.9	56.0	-1.5	45.6	-2.9
Khushab	43.9	-1.3	50.2	-0.2	47.4	+5.6	81.8	+4.7	91.7	+1.7	92.0	+0.9	87.0	-2.1	85.4	-2.6	85.6	+0.9	73.6	-0.8	60.3	+0.7	46.6	-2.8
Lyalpur	43.5	-1.3	47.6	-1.6	63.8	+4.1	77.8	+4.8	87.7	+2.3	89.2	-0.3	86.1	-2.5	84.9	-1.1	82.7	+1.3	71.3	-0.3	50.8	+1.7	46.4	-0.9
Rawalpindi	40.6	-1.0	45.4	-2.3	62.0	+4.5	75.1	+4.7	86.6	+3.2	90.1	+1.6	84.0	-1.3	81.6	-1.1	82.6	+2.1	67.2	-1.2	51.4	+0.8	42.3	-2.2
Multan	45.5	-1.1	51.6	-1.3	67.1	+5.5	79.6	+4.3	88.7	+2.3	91.5	+2.4	86.6	-3.3	84.5	-2.7	84.2	-0.6	75.5	+0.1	63.0	+1.3	49.4	-2.6
Khanpur	46.7	..	52.3	..	70.7	..	82.8	..	89.6	..	90.5	..	87.5	..	84.1	..	82.2	..	74.6	..	62.8	..	48.1	..

(b) = Mean of 30 days.
(c) = Mean of 29 days.
(d) = Mean of 28 days.
(e) = Mean of 27 days.
M. T. = Mean Monthly Temperature.
Dep. = Departure of monthly mean temperature from Normal.

APPENDIX VI—CONTINUED.

B.—TABLE SHOWING MEAN MONTHLY RELATIVE HUMIDITY AND DEPARTURE FROM NORMAL RECORDED AT 11 METEOROLOGICAL STATIONS IN THE PLAINS OF THE PUNJAB AND ALSO AT DELHI FOR THE YEAR 1929.

STATIONS.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		REMARKS.
	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	R. H.	Dep.	
Delhi ..	% 67 (b)	% -2	% 55 (c)	% -9 (c)	% 43 (c)	% -9	% 41	% +2	% 31	% -10	% 59	% +4	% 74	% 0	% 79	% +2	% 62	% -9	% 50	% -4	% 40	% -15	% 70	% +7	
Hissar ..	% 76 (b)	% +1	% 63 (f)	% -7	% 41	% -16	% 39	% -3	% 27	% -11	% 48	% -2	% 67	% +1	% 68	% -2	% 54	% -2	% 45	% -8	% 46	% -14	% 77	% +7	
Ambala ..	% 84 (b)	% -1	% 68	% -10	% 47	% -16	% 35	% -13	% 22	% -21	% 53	% -6	% 77	% -2	% 84	% 0	% 68	% -11	% 56	% -12	% 58	% -15	% 82	% +2	
Ludhiana ..	% 85 (b)	% +3	% 69 (f)	% -7	% 48	% -14	% 41	% -5	% 24	% -15	% 50	% -2	% 74	% +2	% 76	% -2	% 58	% -15	% 52	% -9	% 56	% -9	% 86	% +10	
Montgomery ..	% 74 (c)	% +2	% 70	% +5	% 52	% 0	% 47	% +9	% 37	% +5	% 57	% +16	% 72	% +14	% 73	% +10	% 66	% +9	% 57	% +13	% 57	% +5	% 81	% +17	
Lahore ..	% 89 (b)	% +4	% 76 (f)	% -3	% 57	% -9	% 48	% -3	% 38	% -4	% 56	% +5	% 73	% +4	% 78	% +3	% 69	% -1	% 68	% +8	% 75	% +2	% 91	% +9	
Sialkot ..	% 93 (b)	% +10	% 81 (c)	% +1	% 57	% -12	% 41	% -12	% 25	% -18	% 45	% -7	% 69	% -3	% 80 (b)	% 0	% 65	% -8	% 60	% -2	% 69	% -1	% 86	% +7	
Khushab ..	% 55 (b)	% -13	% 57 (c)	% -9	% 37	% -19	% 32 (d)	% -11	% 19	% -15	% 41	% -1	% 65	% +2	% 68	% -1	% 58	% -3	% 47	% +1	% 68 (c)	% -13	% 70	% +10	
Lyallpur ..	% 76 (b)	% -8	% 75	% -2	% 55	% -13	% 46	% -7	% 36	% -4	% 49	% -0	% 69	% +6	% 72	% +1	% 59	% -7	% 54	% -7	% 60	% -9	% 84	% +4	
Rawalpindi ..	% 86 (b)	% +4	% 82 (c)	% +4	% 50	% -19	% 41	% -15	% 26	% -15	% 38	% -7	% 67	% -1	% 78	% +1	% 56	% -13	% 55	% -4	% 59	% 0	% 85	% +8	
Multan ..	% 70 (c)	% -1	% 66	% 0	% 51	% -7	% 42	% -6	% 35	% -8	% 48	% -3	% 73	% +9	% 77	% +8	% 70	% +5	% 56	% 0	% 60	% 0	% 84	% +15	
Khanpur ..	% 72	..	% 68 (c)	..	% 49	..	% 65	..	% 63	..	% 61	..	% 75	..	% 77	..	% 69	..	% 58	..	% 57	..	% 72	..	

(b) = Mean of 30 days.

(c) = Mean of 29 days.

(d) = Mean of 27 days.

(e) = Mean of 26 days.

(f) = Mean of 25 days.

R. H. = Mean Monthly Relative Humidity.

Dep. = Departure from Normal of the month.

APPENDIX VI—CONCLUDED.

C.—TABLE SHOWING MEAN MONTHLY RAINFALL AND DEPARTURE FROM NORMAL RECORDED AT 11 METEOROLOGICAL STATIONS IN THE PLAINS OF THE PUNJAB AND ALSO AT DELHI FOR THE YEAR 1929.

STATIONS.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		REMARKS.
	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	A. R.	Dep.	
Delhi	0.18	-0.86	0	-0.76 (c)	0	-0.52	0.84	+0.45	0	-0.58	0.68	-2.31	3.75	-3.78	3.45	-3.97	0.14	-4.64	0.04	-0.28	0	-0.11	1.11	+0.71	
Hissar	0.93	+0.22	0	-0.35	0	-0.42	0.50	+0.11	0.28	-0.31	0.63	-1.01	5.35	+1.59	3.33	-0.29	0.47	-1.89	0	-0.31	0	-0.03	1.11	+0.82	
Ambala	0.99	-0.50	0	-1.65	0	-0.90	0.48	-0.10	0.05	-0.82	2.38	-1.37	7.75	+0.40	8.74	+1.04	0.17	-1.43	1.43	+0.68	0	-0.28	3.37	+2.80	
Ludhiana	0.42	-1.30	0	-1.29	0.02	-1.04	0.26	-0.59	0	-0.64	0.79	-1.74	9.75	+1.55	1.58	-5.38	0.22	-1.02	0.53	+0.05	0	-0.11	1.87	+1.22	
Montgomery	0.23	-0.38	0.21	-0.25	0.01	-0.48	0.17	-0.19	0.02	-0.33	0.69	-0.19	4.27	+2.05	2.86	-0.42	0	-1.53	0	-0.06	0	-0.07	0.56	+0.26	
Lahore	0.06	-0.99	0.16	-0.78	0.01	-0.85	0.15	-0.39	0.03	-0.07	4.89	+3.21	3.83	-1.65	13.39	+8.06	0.38	-1.98	0.05	-0.20	0	-0.07	2.27	+1.91	
Sialkot	0.61	-1.50	0.32	-1.27	0.16	-1.42	0.44	-0.50	0.11	-1.01	2.0	+0.63	3.99	-3.37	8.79	-0.12	0	-3.37	1.30	+1.00	0	-0.11	1.47	+0.81	
Khushab	0.53	-0.24	0.10	-0.79	0.12	-1.03	0.29	-0.78	0	-0.79	1.09	-0.28	4.93	+1.29	9.36	+6.14	0	-1.31	0.25	+0.08	0	-0.08	0.85	+0.40	
Faisalpur	0.32	-0.06	0.18	-0.13	0.01	-0.79	0.47	-0.41	0.32	-0.66	0.59	-0.74	3.72	+0.87	3.77	-1.01	0	-2.09	0	-0.34	0	-0.01	0.72	+0.37	
Rawalpindi	3.23	+0.74	1.06	-1.13	0.22	-2.22	0.45	-1.49	0.32	-1.02	2.75	-0.51	9.99	+2.33	18.98	+9.84	0.40	-3.06	1.07	+0.56	0	+0.26	4.28	+3.18	
Multan	0.13	-0.29	0.06	-0.30	0.00	-0.43	0	-0.27	0.14	-0.21	0	-0.62	10.40	+8.38	5.24	+3.26	0	-0.41	0.04	+0.01	0	-0.07	0.43	+0.21	
Kanpur	1.50	..	0	..	0.00	..	0.06	..	0.26	..	0	..	5.38	..	5.28	..	0	..	1	..	1	..	0.22	..	

(c)—Mean of 27 days.

A. R.—Actual Rainfall in inches.

Dep.—Departure from Normal of the month.

APPENDIX VII.

APPENDIX VII.

CHART I

THE BIRTH AND DEATH RATES IN THE PUNJAB

1867—1929

DEATHS.....

BIRTHS.....

80 PER MILLE

60

40

20

0

1867

1875

1885

1895

1905

1915

1925

1929

INFANTILE MORTALITY RATE IN THE PUNJAB

1880—1929

400 PER MILLE

300

200

100

0

1880

1890

1900

1910

1920

1929

THE BIRTH AND DEATH RATES IN THE PU

1867-1913

DEATHS
BIRTHS

60 PER MILE



INFANTILE MORTALITY RATE IN THE PU

1867-1913

400 PER MILE

300

200

CHART II

DEATH RATE FROM CHOLERA IN THE PUNJAB

1867—1929

4 PER MILLE

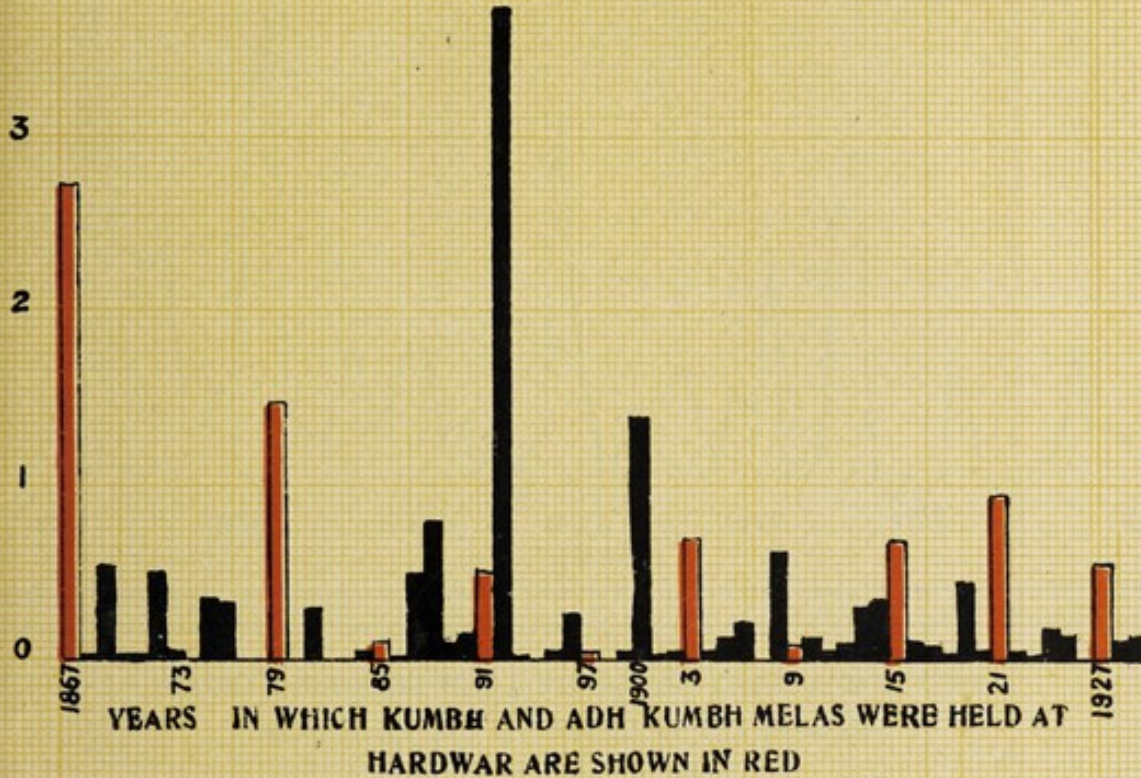


DIAGRAM SHOWING TOTAL NUMBER OF CASES AND DEATHS FROM CHOLERA BY WEEKS IN THE PUNJAB

DURING THE YEAR—1929



GRAPH RATE FROM CHOLERA IN THE PUNJAB

1887-1890

TABLE

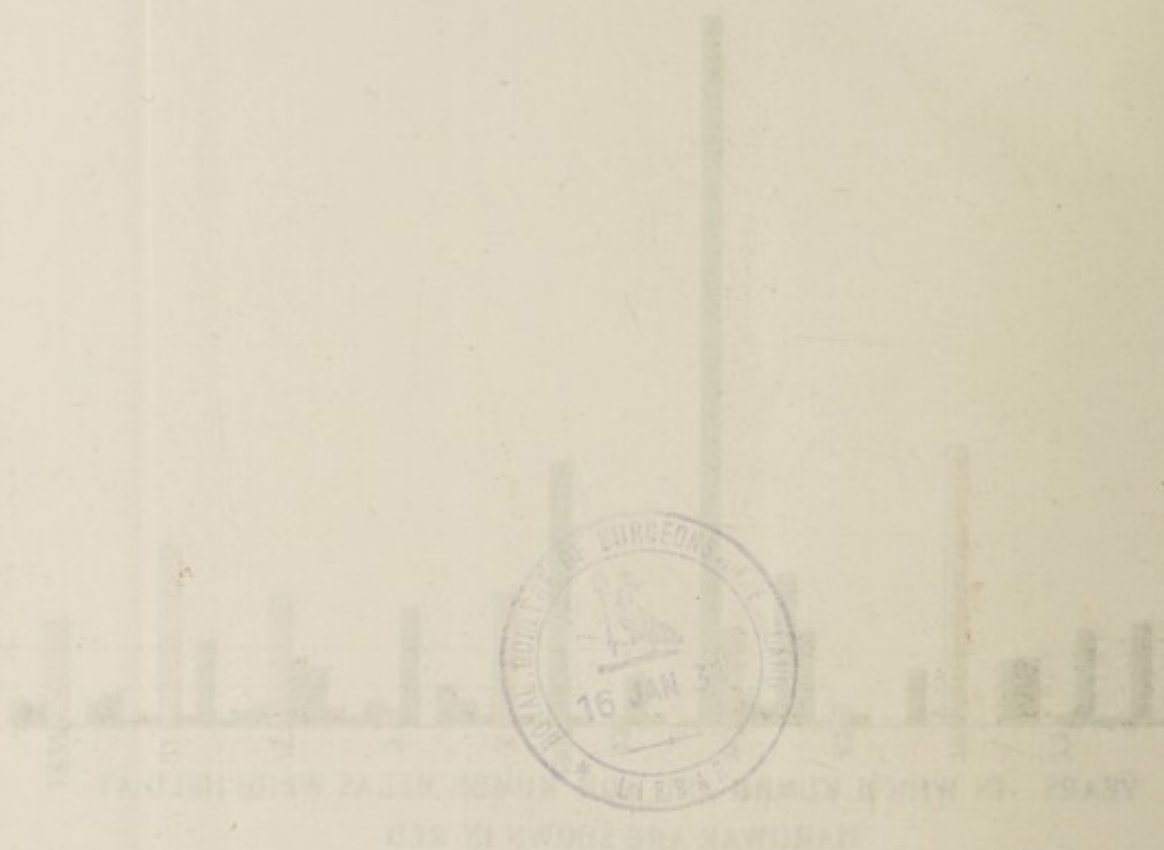


DIAGRAM SHOWING TOTAL NUMBER OF CASES AND DEATHS
FROM CHOLERA BY WATERS IN THE PUNJAB
DURING THE YEAR-1890

CASES
DEATHS



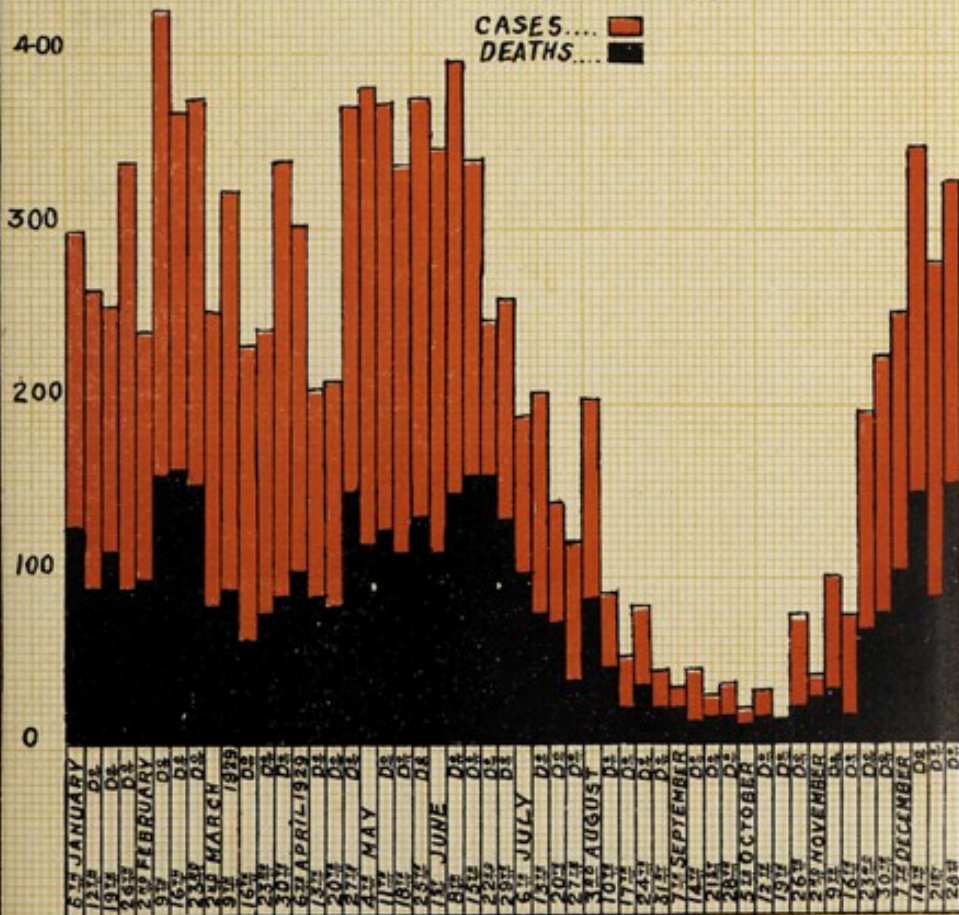
DEATH RATE FROM SMALL POX IN THE PUNJAB

4 PERMILLE

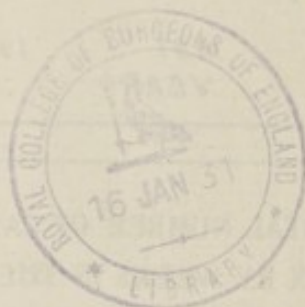
1867—1929



DIAGRAM SHOWING TOTAL NUMBER OF CASES AND DEATHS
FROM SMALL POX BY WEEKS IN THE PUNJAB
DURING THE YEAR—1929



1911-1912



CHATHAM RATE FROM SMALL BOX IN THE TUNNEL

CHATHAM RATE FROM SMALL BOX IN THE TUNNEL

CHATHAM RATE FROM SMALL BOX IN THE TUNNEL

CHATHAM RATE FROM SMALL BOX IN THE TUNNEL



CHART IV

ANNUAL PLAGUE DEATH RATE IN THE PUNJAB

1898—1929

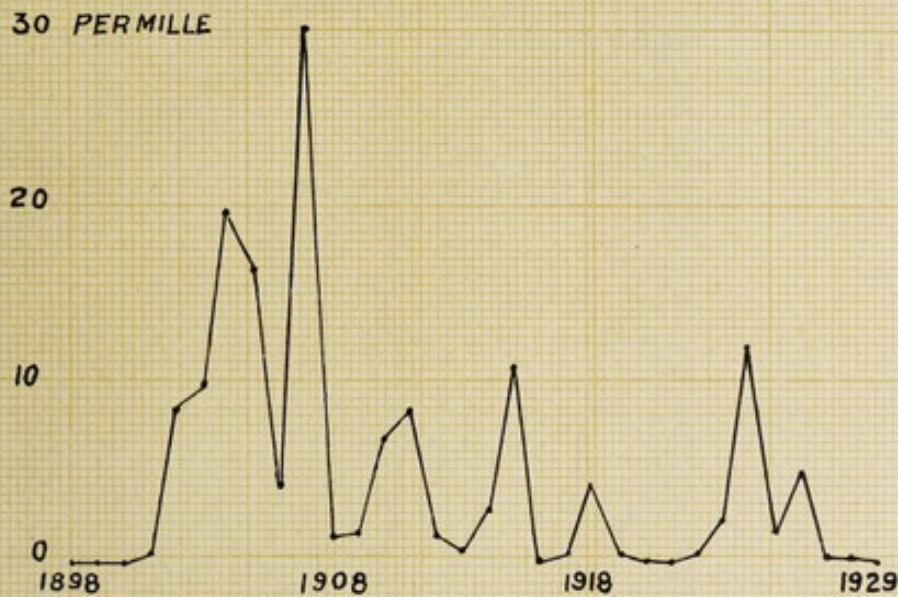
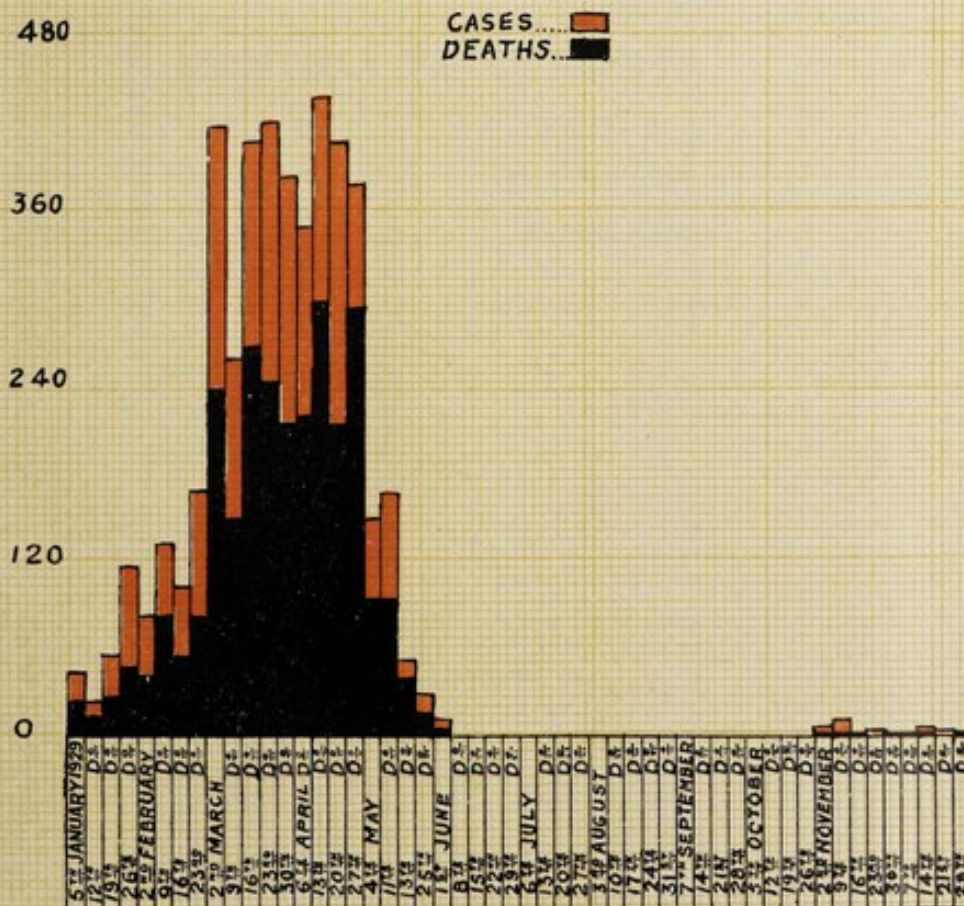


DIAGRAM SHOWING TOTAL NUMBER OF CASES AND DEATHS FROM PLAGUE BY WEEKS IN THE PUNJAB DURING THE YEAR -1929



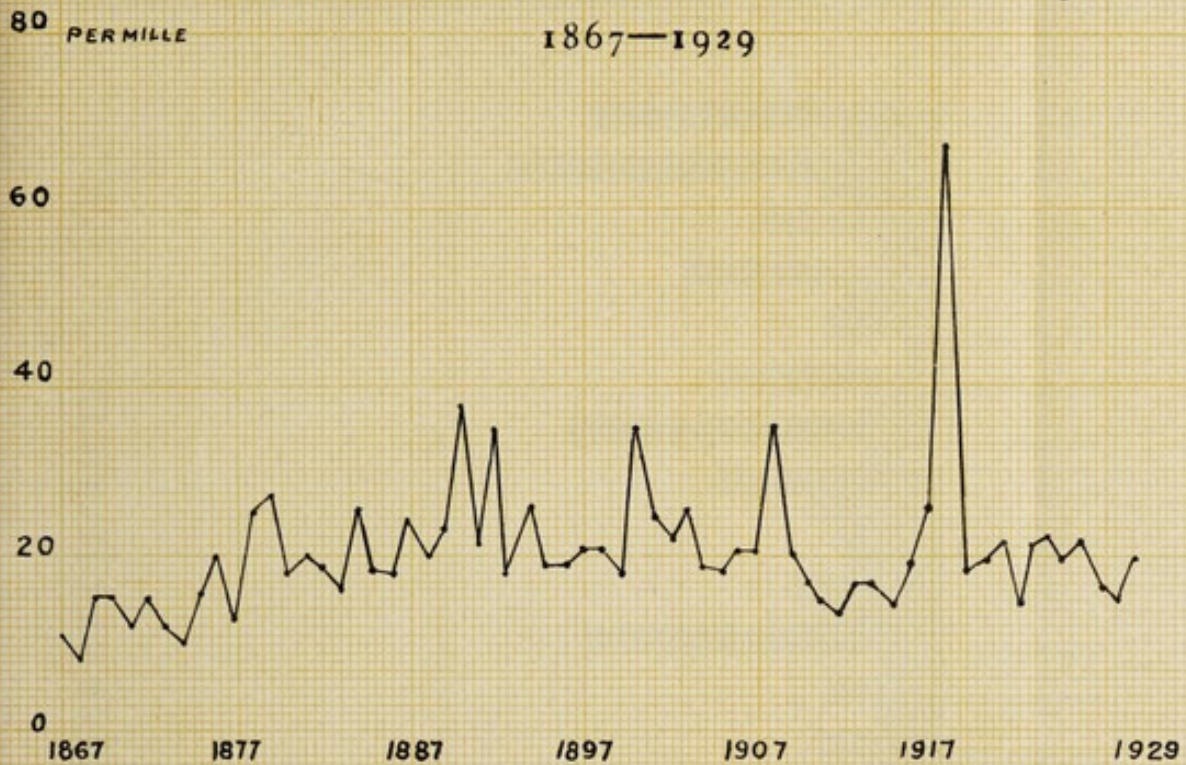
ANNUAL PLAGUE DEATH RATE IN THE PUNJAB

1898-1929



CHART V

DEATH RATE FROM "FEVERS" IN THE PUNJAB

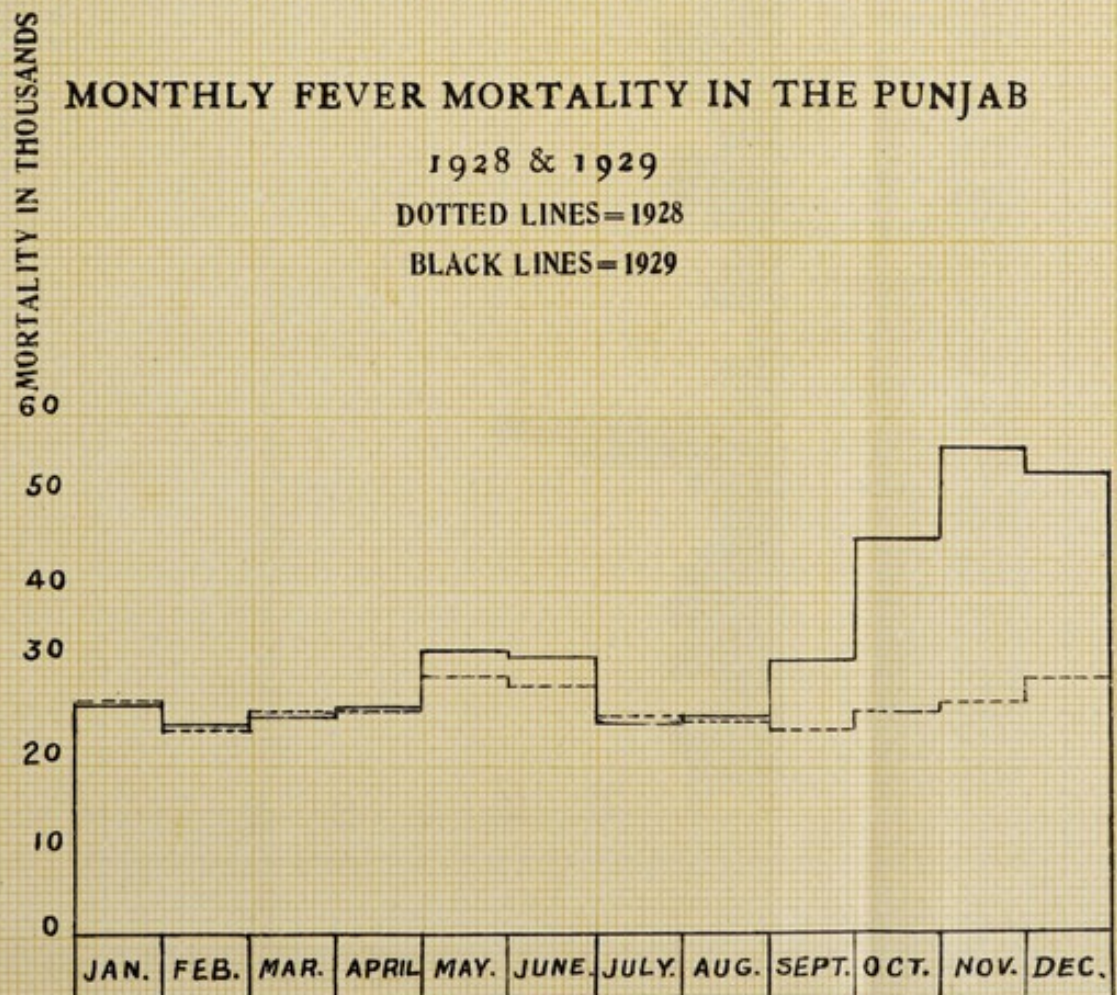


MONTHLY FEVER MORTALITY IN THE PUNJAB

1928 & 1929

DOTTED LINES = 1928

BLACK LINES = 1929



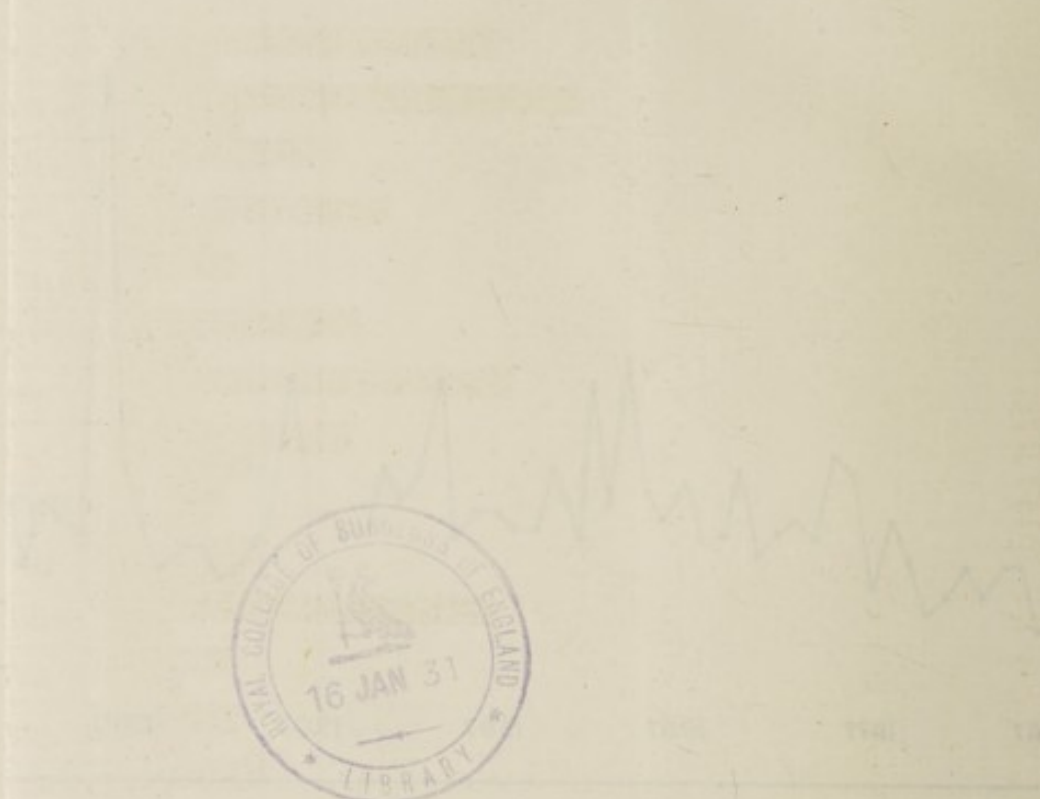
1913

CHART 7

DEATH RATE FROM "FEVERS" IN THE PT

1881-1913

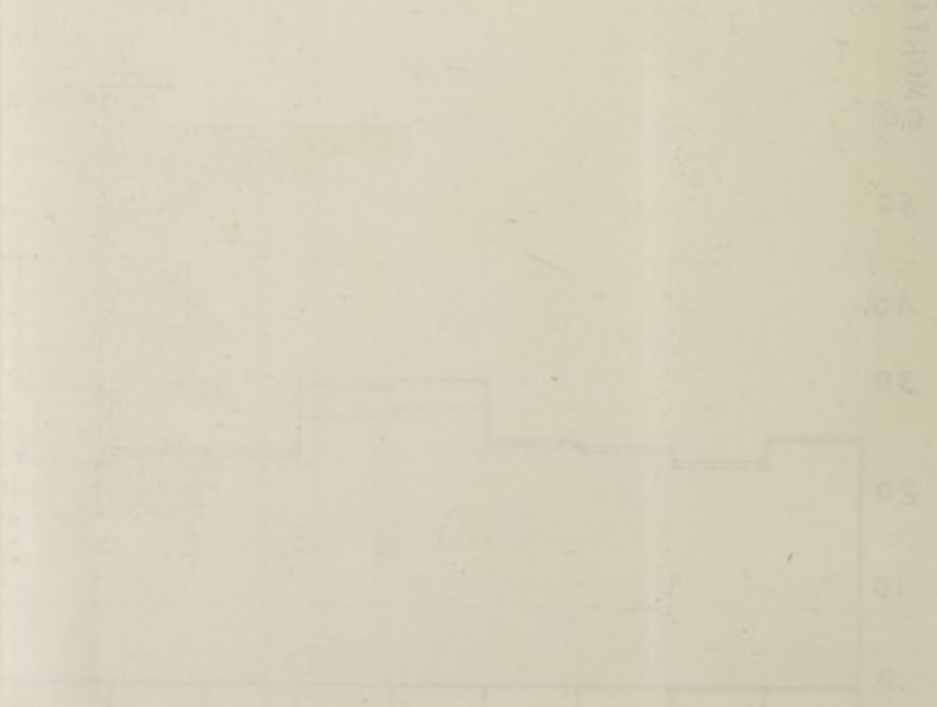
PER 1000



MONTHLY FEVER MORTALITY IN THE

1913 & 1914
DOTTED LINE-1913
BLACK LINE-1914

PER 1000



SPLEEN RATE OF THE PUNJAB BY DISTRICTS

FOR

1929

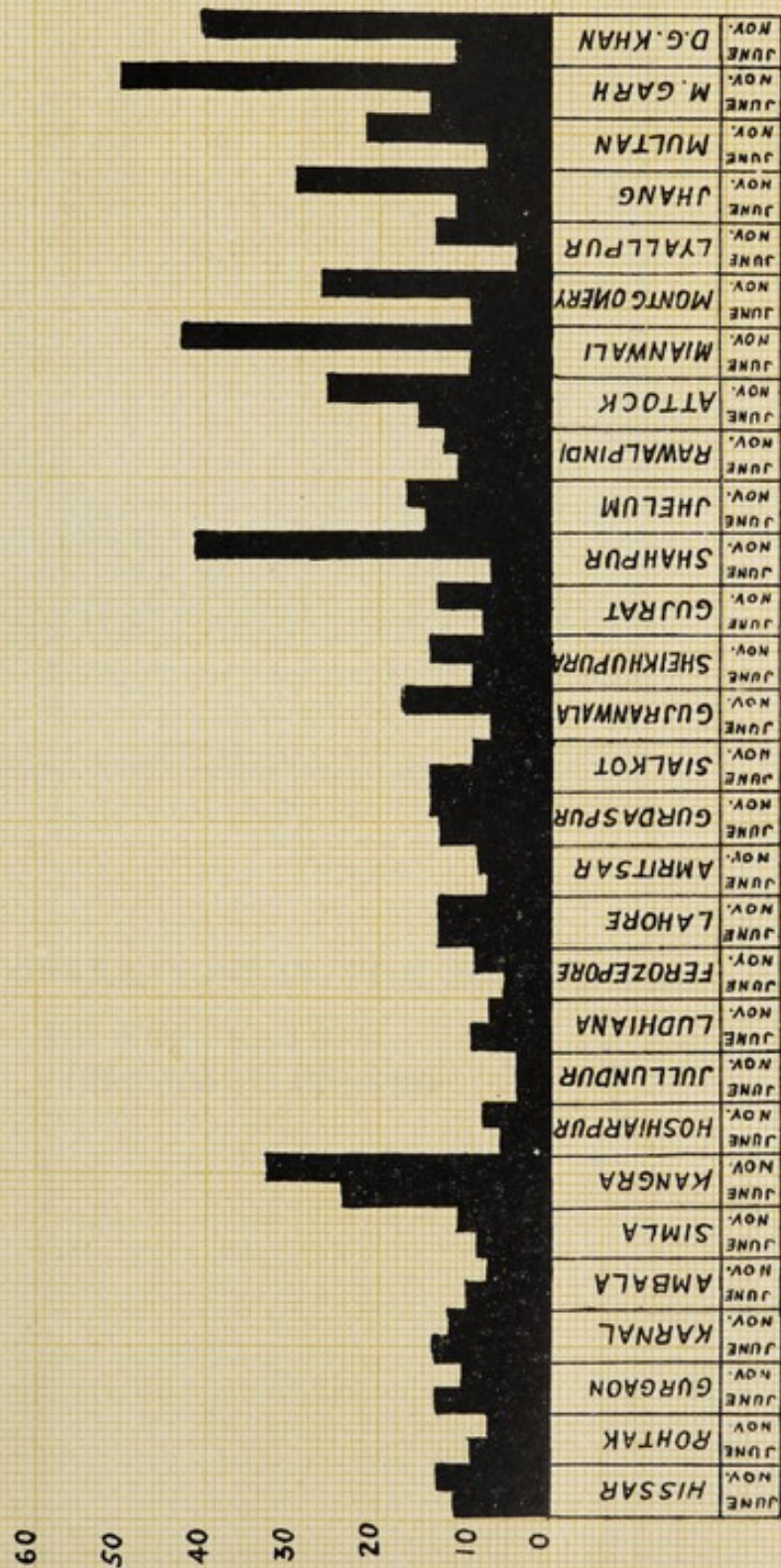
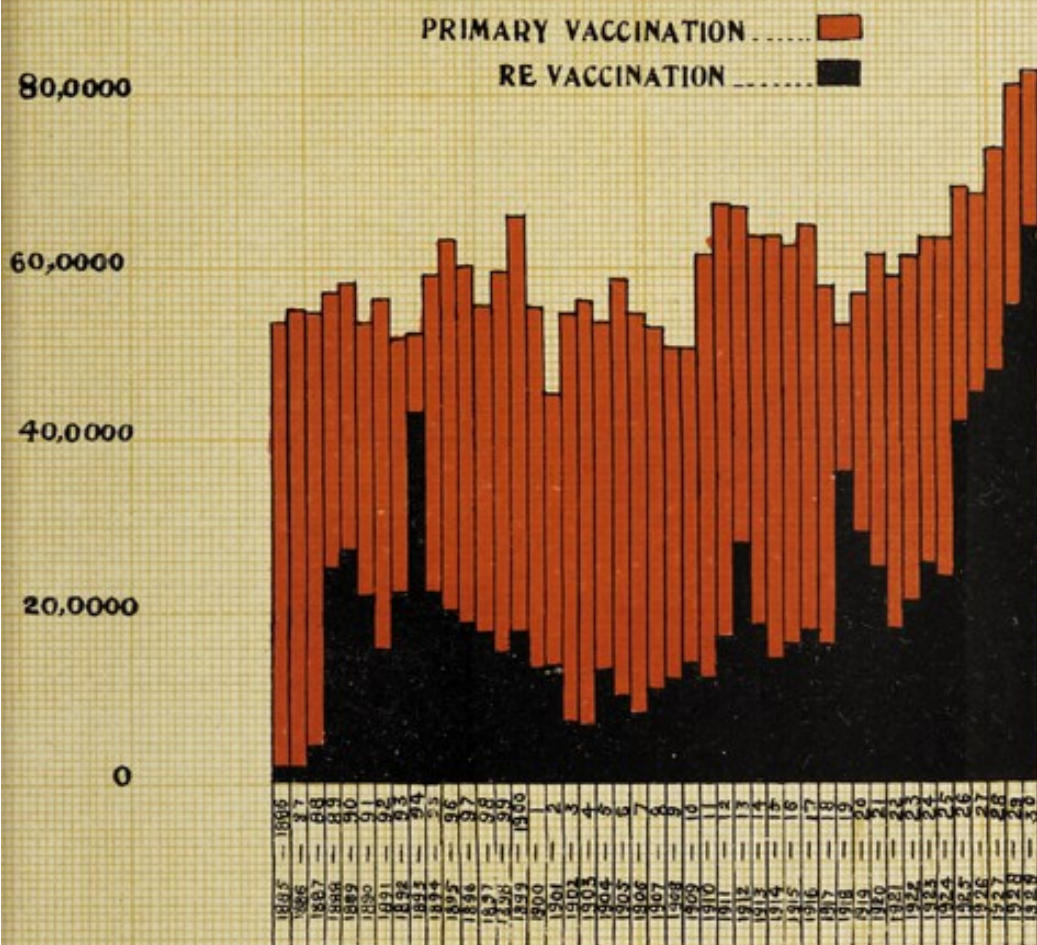
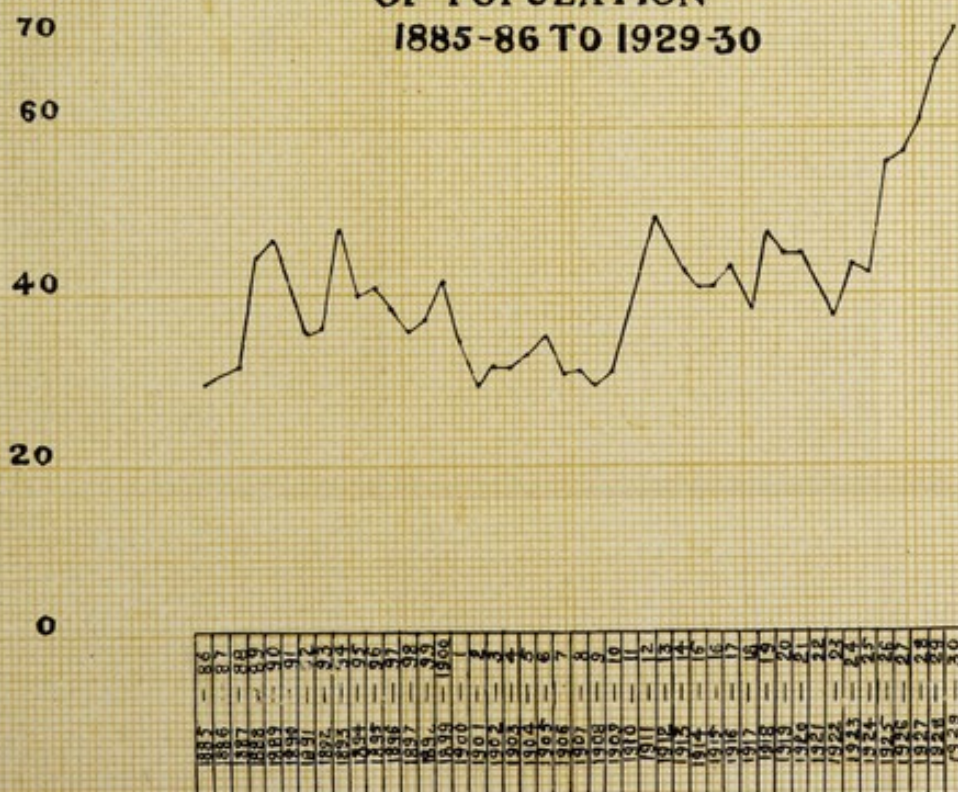


CHART VII

VACCINATION OPERATIONS IN THE PUNJAB FROM 1885-86 TO 1929-30



VACCINATION OPERATIONS IN THE PUNJAB PER 1000 OF POPULATION 1885-86 TO 1929-30



VACCINATION OPERATIONS IN THE TUNISIA
FROM 1885-86 TO 1923-24

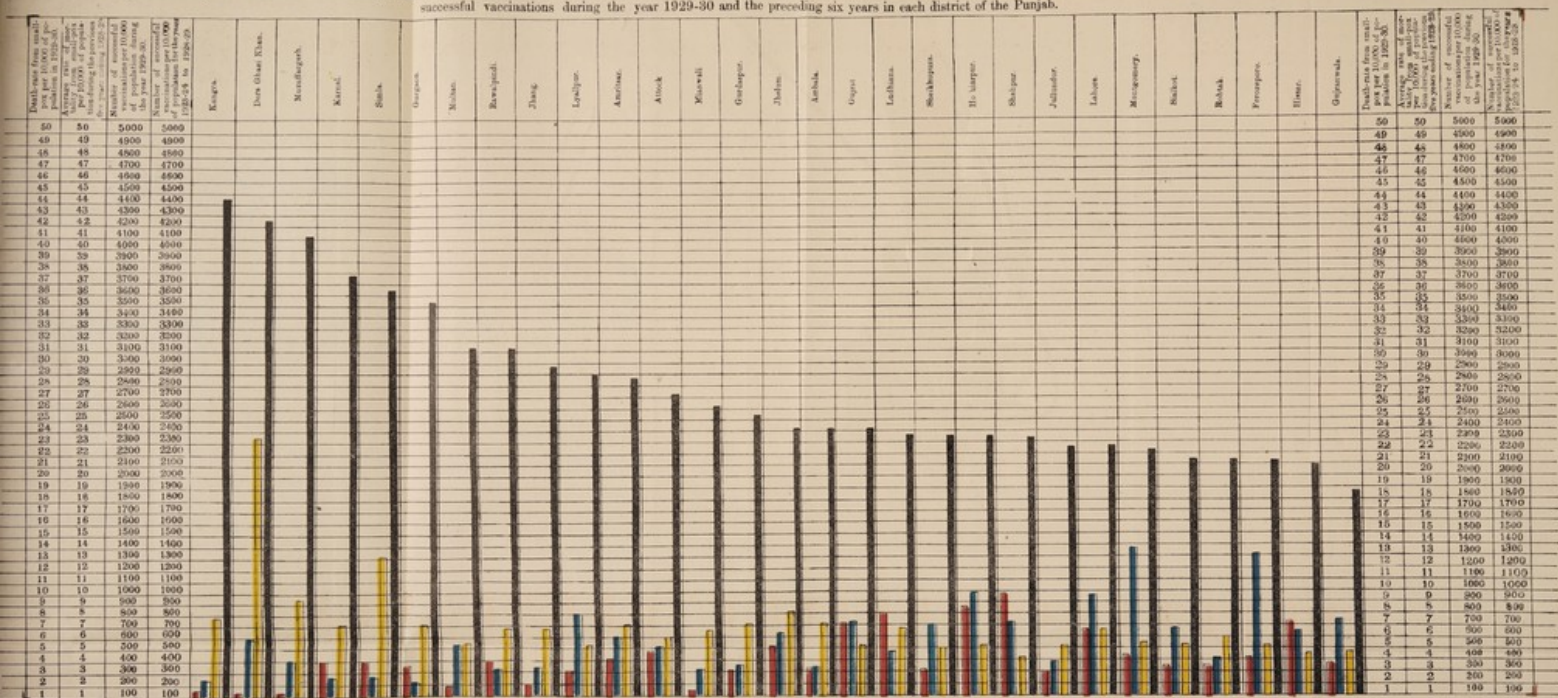
PRIMARY VACCINATION
OF VACCINATION



VACCINATION OPERATIONS IN THE TUNISIA
OF POPULATION
1885-86 TO 1923-24

Chart VIII.

Diagram showing the death-rate from small-pox per 10,000 of population during the year 1929-30, the average rate of mortality from small-pox per 10,000 of population for the five years ending 1928-29 and the proportion of successful vaccinations during the year 1929-30 and the preceding six years in each district of the Punjab.



Note.—Red lines indicate death-rates from small-pox per 10,000 of population during the year 1929-30.

Note.—Blue lines indicate the average rate of mortality from small-pox per 10,000 of population for the previous five years ending 1928-29.

Note.—Yellow lines indicate the proportion of successful vaccinations per 10,000 of population during the year 1929-30.

Note.—Black lines indicate the proportion of successful vaccinations per 10,000 of population for the six years ending 1928-29.



ANNUAL FORMS (PUBLIC HEALTH).

ANNUAL FORM No. I.

STATEMENT SHOWING THE BIRTHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1929.

2	3			4			5			6	7	8	9			1
DISTRICTS.	POPULATION ACCORDING TO CENSUS OF 1921.*			NUMBER OF BIRTHS REGISTERED.			RATIO OF BIRTHS PER 1,000 OF POPULATION.			Number of males born to every 100 females, born.	Excess of birth over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	MEAN RATIO OF BIRTHS PER 1,000 DURING PREVIOUS FIVE YEARS.			Number.
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.	
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
AMBALA DIVISION.																
Hissar ..	435,562	381,248	816,810	23,055	20,862	43,917	28.2	25.5	53.8	110.5	26.4	..	22.7	20.3	42.9	1
Rohtak ..	417,379	354,893	772,272	18,653	16,928	35,581	24.2	21.9	46.1	110.2	20.2	..	21.6	19.6	41.2	2
Gurgaon ..	367,800	314,203	682,003	17,904	16,187	34,091	26.3	23.7	50.0	110.6	19.3	..	24.4	21.9	46.3	3
Karnal ..	453,637	375,089	828,726	15,255	13,381	28,636	18.4	16.2	34.6	114.0	8.4	..	20.9	18.7	39.7	4
Ambala ..	360,967	280,942	641,909	15,253	13,875	29,128	23.8	21.6	45.4	109.9	17.8	..	21.4	19.1	40.6	5
Simla ..	27,599	13,338	40,937	528	502	1,030	12.9	12.3	25.2	105.2	4.6	..	13.1	12.1	25.2	6
JULLUNDUR DIVISION.																
Kangra ..	393,121	371,626	764,747	14,243	13,277	27,520	18.6	17.4	36.0	107.3	3.4	..	18.9	17.7	36.5	7
Hoshiarpur	498,662	428,757	927,419	21,059	19,585	40,644	22.7	21.1	43.8	107.5	15.2	..	23.2	20.4	43.6	8
Jullundur	450,045	363,489	813,525	19,358	18,044	37,402	23.8	22.2	46.0	107.3	20.2	..	24.0	22.3	46.3	9
Ludhiana..	318,845	248,777	567,622	13,826	12,702	26,528	24.4	22.4	46.7	108.8	18.5	..	23.5	21.9	45.3	10
Ferozepore	598,760	480,547	1,079,307	23,558	20,422	43,980	21.8	18.9	40.7	115.4	16.1	..	20.9	18.0	39.0	11
LAHORE DIVISION.																
Lahore ..	636,596	480,134	1,116,730	26,700	23,058	49,758	23.9	20.6	44.6	115.8	16.3	..	20.7	18.5	39.2	12
Amritsar..	518,500	400,898	928,398	24,666	21,872	46,538	26.6	23.6	50.1	112.8	18.0	..	24.3	22.3	46.6	13
Gurdaspur	467,576	380,238	847,814	22,556	21,138	43,694	26.6	24.9	51.5	106.7	21.9	..	23.9	22.1	46.0	14
Sialkot ..	472,231	396,703	868,934	21,536	20,430	41,966	24.8	23.5	48.3	105.4	23.6	..	22.8	20.8	43.6	15
Gujranwala	348,695	274,886	623,581	16,125	14,049	30,174	25.9	22.5	48.4	114.8	17.4	..	23.2	20.9	44.1	16
Sheikhupura	351,259	277,163	628,422	15,360	13,247	28,607	24.4	21.1	45.5	116.0	22.2	..	21.0	18.3	39.3	17
RAWAL-PINDI DIVISION.																
Gujrat ..	438,550	385,496	824,046	17,735	15,637	33,372	21.5	19.0	40.5	113.4	16.1	..	20.6	18.4	39.0	18
Shahpur ..	392,086	327,832	719,918	15,518	13,715	29,233	21.6	19.1	40.6	113.1	1.5	..	21.3	18.8	40.1	19
Jhelum ..	240,464	235,104	475,568	9,829	8,496	18,325	20.7	17.9	38.5	115.7	8.1	..	20.5	18.1	38.5	20
Rawalpindi	292,317	248,376	540,693	11,757	10,283	22,040	21.7	19.0	40.8	114.3	12.4	..	20.6	18.6	39.2	21
Attock ..	262,028	246,001	508,029	10,343	8,785	19,128	20.2	17.5	37.7	117.7	9.1	..	20.4	17.6	38.0	22
Mianwali..	190,021	168,184	358,205	8,853	7,945	16,798	24.7	22.2	46.9	111.4	5.1	..	24.0	21.4	45.4	23
MULTAN DIVISION.																
Montgomery	393,372	320,414	713,786	17,978	14,970	32,948	25.2	21.0	46.2	120.1	18.1	..	24.5	21.1	45.6	24
Lyallpur ..	522,707	413,235	935,942	24,890	22,668	47,558	26.6	24.2	50.8	109.8	25.6	..	26.0	23.7	49.7	25
Jhang ..	305,483	265,076	570,559	13,183	11,906	25,089	23.1	20.9	44.0	110.7	14.1	..	23.4	20.8	44.2	26
Multan ..	484,581	399,593	884,174	21,816	19,032	40,848	24.7	21.5	46.2	114.6	16.2	..	23.5	20.2	43.7	27
Muzaffargarh	308,605	259,873	568,478	11,143	9,273	20,416	19.6	16.3	35.9	120.2	2.1	..	19.0	16.0	34.9	28
D. G. Khan	257,386	211,666	469,052	9,205	7,764	16,969	19.6	16.6	36.2	118.6	2.6	..	18.5	15.5	34.0	29
Total ..	11,204,834	9,312,772	20,517,606	481,885	430,033	911,918	23.5	21.0	44.5	112.1	15.7	..	22.2	19.8	42.1	

*Excluding population of military cantonments.

STATEMENT OF BIRTHS AND DEATHS REGISTERED IN

1	2	3	4	5			6		7		
Number.	DISTRICTS.	Area in square miles.	Average population per square mile.	POPULATION (CENSUS 1921).			BIRTHS.		NUMBER OF DEATHS REGISTERED.		
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	5,213	157	435,562	381,248	816,810	43,917	53.8	11,998	10,347	22,345
2	Rohtak	2,919	265	417,379	354,893	772,272	35,581	46.1	10,923	9,091	20,014
3	Gurgaon	2,263	301	367,800	314,203	682,003	34,091	50.0	11,230	9,675	20,905
4	Karnal	3,125	265	453,637	375,089	828,726	28,636	34.6	11,388	10,293	21,681
5	Ambala	1,882	341	360,967	280,942	641,909	29,128	45.4	9,436	8,289	17,725
6	Simla	101	405	27,599	13,338	40,937	1,030	25.2	464	378	842
JULLUNDUR DIVISION.											
7	Kangra	9,978	77	393,121	371,626	764,747	27,520	36.0	12,841	12,053	24,894
8	Hoshiarpur ..	2,247	413	498,662	428,757	927,419	40,644	43.8	14,003	12,488	26,491
9	Jullundur	1,431	568	450,045	363,480	813,525	37,402	46.0	10,930	10,063	20,993
10	Ludhiana	1,452	391	318,845	248,777	567,622	26,528	46.7	8,359	7,646	16,005
11	Ferozepore ..	4,286	252	598,760	480,547	1,079,307	43,980	40.7	14,389	12,121	26,510
LAHORE DIVISION.											
12	Lahore	2,691	415	636,596	480,134	1,116,730	49,758	44.6	16,783	14,787	31,570
13	Amritsar	1,593	583	518,500	409,898	928,398	46,538	50.1	15,700	14,051	29,751
14	Gurdaspur	1,889	449	467,576	330,238	817,814	43,694	51.5	13,392	11,707	25,099
15	Sialkot	1,306	721	472,231	396,703	868,934	41,966	48.3	11,308	10,109	21,417
16	Gujranwala ..	2,309	270	348,695	274,886	623,581	30,174	48.4	10,452	8,904	19,356
17	Sheikhupura ..	3,198	197	351,259	277,163	628,422	28,607	45.5	7,908	6,735	14,643
RAWALPINDI DIVISION.											
18	Gujrat	2,563	322	438,550	385,496	824,046	33,372	40.5	10,676	9,402	20,078
19	Shahpur	4,476	161	392,086	327,832	719,918	29,233	40.6	14,221	13,890	28,111
20	Jhelum	2,773	172	240,464	235,101	475,565	18,325	38.5	7,416	7,051	14,467
21	Rawalpindi ..	2,023	267	292,317	248,376	540,693	22,040	40.8	7,849	7,505	15,354
22	Attock	4,117	123	262,028	246,001	508,029	19,128	37.7	7,517	7,014	14,531
23	Mianwali	5,395	66	190,021	168,184	358,205	16,798	46.9	7,754	7,228	14,982
MULTAN DIVISION.											
24	Montgomery ..	4,623	154	393,372	320,414	713,786	32,948	46.2	10,601	9,465	20,066
25	Lyallpur	2,759	339	522,707	413,235	935,942	47,558	50.8	12,285	11,329	23,614
26	Jhang	3,452	168	305,483	265,076	570,559	25,089	44.0	8,715	8,351	17,066
27	Multan	5,939	149	484,581	399,593	884,174	40,848	46.2	13,831	12,650	26,481
28	Muzaffargarh ..	6,052	94	308,605	259,873	568,478	20,416	35.9	9,836	9,358	19,194
29	Dera Ghazi Khan ..	5,325	88	257,386	211,666	469,052	16,969	36.2	8,378	7,400	15,778
Total		97,280	211	11,204,834	9,312,772	20,517,606	911,918	44.5	310,583	279,380	589,963

NOTE.—Those born dead are not included.

ACT OF THE PUNJAB DURING THE YEAR 1929.

9											10			11
DEATHS PER 1,000 OF POPULATION FROM											MEAN RATIO OF DEATH PER 1,000 DURING PREVIOUS FIVE YEARS.			Number.
Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	All causes.			Males.	Females.	Total.	
14	15	16	17	18	19	20	21	Males.	Females.	Total.	22	23	24	25
0.01	0.9	0.01	16.6	0.4	1.7	0.1	7.7	27.6	27.1	27.4	32.3	35.1	33.6	1
0.1	0.3	0.1	17.4	0.4	2.3	0.2	5.1	26.2	25.6	25.9	45.1	48.1	46.5	2
0.4	0.1	0.04	17.7	0.5	2.4	0.5	9.1	30.5	30.8	30.7	37.4	40.5	38.9	3
0.1	0.3	0.5	14.7	1.0	1.7	0.03	7.8	25.1	27.4	26.2	41.8	46.0	43.7	4
0.1	0.2	1.3	10.5	0.3	9.5	..	5.8	26.1	29.5	27.6	33.3	37.5	35.1	5
..	0.3	..	3.2	0.5	1.6	0.02	14.9	16.8	28.3	20.6	17.3	27.2	20.5	6
0.004	0.1	0.01	14.9	4.0	6.7	0.9	6.0	32.7	32.4	32.6	31.5	30.8	31.2	7
0.1	0.7	0.1	21.0	0.3	2.5	0.2	3.8	28.1	29.1	28.6	30.9	32.4	31.6	8
0.1	0.2	..	17.6	0.4	2.5	0.4	4.6	24.3	27.7	25.8	26.7	30.7	28.5	9
0.1	0.6	0.1	15.7	0.3	2.5	0.04	8.9	26.2	30.7	28.2	28.5	33.7	30.8	10
0.1	0.3	0.001	15.7	0.4	2.2	0.3	5.7	24.0	25.2	24.6	27.1	28.5	27.7	11
0.4	0.8	..	16.0	0.9	3.4	0.4	6.5	26.4	30.8	28.3	30.6	36.1	33.0	12
0.3	0.4	..	20.5	0.5	4.1	0.3	6.0	30.3	34.3	32.1	35.4	40.9	37.8	13
0.1	0.2	0.6	16.9	1.2	3.4	0.3	6.8	28.6	30.8	29.6	34.1	38.0	35.9	14
0.2	0.3	0.1	16.3	0.4	3.3	0.2	3.9	24.0	25.5	24.7	35.9	40.8	38.2	15
0.1	0.3	..	25.0	0.2	1.2	0.3	3.9	30.0	32.4	31.0	35.6	40.6	37.8	16
0.1	0.3	..	18.0	0.1	0.6	0.3	3.9	22.5	24.3	23.3	28.2	31.9	30.1	17
0.1	0.8	0.01	17.5	0.2	2.5	0.3	3.0	24.3	24.4	24.4	37.6	41.1	39.2	18
0.002	1.2	..	30.5	0.6	2.6	0.4	3.8	36.3	42.4	39.1	25.7	27.1	26.4	19
0.04	0.3	..	23.0	0.3	1.9	0.5	4.4	30.8	30.9	30.4	30.1	28.7	29.4	20
0.1	0.4	..	19.1	3.4	2.8	0.5	2.3	26.9	30.2	28.4	25.9	28.2	27.0	21
0.02	0.4	..	23.7	0.1	1.4	0.4	2.5	28.7	28.5	28.6	27.5	26.0	26.8	22
0.3	0.1	..	34.7	0.3	1.7	0.4	4.4	40.8	43.0	41.8	28.5	28.7	28.6	23
0.04	0.4	..	22.8	0.1	0.6	0.4	3.7	27.0	29.5	28.1	26.3	27.7	26.9	24
0.3	0.3	0.001	18.5	0.2	0.8	0.4	4.8	23.5	27.4	25.2	25.4	29.4	27.1	25
0.003	0.1	..	22.1	0.3	1.6	0.4	5.3	28.5	31.5	29.9	27.2	27.4	27.3	26
0.01	0.1	..	23.5	0.5	1.6	0.5	3.8	28.5	31.7	30.0	26.3	27.9	27.0	27
0.01	0.03	..	30.7	0.3	0.7	0.2	1.7	31.9	36.0	33.8	25.7	25.6	25.6	28
..	0.1	..	30.7	0.5	0.6	0.4	1.4	32.6	35.0	33.6	25.1	24.2	24.8	29
0.1	0.4	0.1	19.6	0.6	2.5	0.3	5.1	27.7	30.0	28.8	31.2	33.9	32.4	

is or any other statement.

ANNUAL FORM No. III.

DEATHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.

1	2	3												4
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	AMBALA DIVISION.													
1	Hissar ..	1,648	1,602	1,933	2,312	1,685	2,380	1,655	1,537	2,073	1,848	1,750	1,922	22,34
2	Rohtak ..	1,393	1,216	1,446	1,922	2,136	2,110	1,257	1,292	1,634	1,721	1,730	2,157	20,01
3	Gurgaon ..	1,317	1,215	1,454	1,782	2,037	2,213	1,468	1,573	1,911	1,931	1,772	2,232	20,96
4	Karnal ..	1,352	1,222	1,549	1,680	2,490	2,505	1,486	1,590	1,979	1,559	2,073	2,196	21,66
5	Ambala ..	1,315	1,160	1,606	1,977	1,907	1,570	1,181	1,258	1,417	1,429	1,344	1,561	17,72
6	Simla ..	60	78	39	47	75	91	99	88	88	67	56	54	84
	JULLUNDUR DIVISION.													
7	Kangra ..	1,944	1,718	2,082	2,354	2,635	2,207	1,609	1,782	2,356	2,230	1,961	2,016	24,86
8	Hoshiarpur ..	2,096	1,919	1,949	2,316	2,544	1,943	1,748	1,953	2,772	2,638	2,340	2,273	26,46
9	Jullundur ..	1,600	1,539	1,520	1,763	1,750	1,641	1,579	1,799	2,090	1,954	1,839	1,919	20,96
10	Ludhiana ..	1,189	1,046	1,209	1,354	1,471	1,422	1,167	1,239	1,427	1,422	1,523	1,536	16,00
11	Ferozepore ..	2,077	1,968	2,372	2,131	2,058	2,041	1,795	1,934	2,207	2,497	2,718	2,712	26,51
	LAHORE DIVISION.													
12	Lahore ..	2,022	1,858	2,012	2,315	2,935	3,176	2,481	2,531	2,771	3,084	3,130	3,255	31,57
13	Amritsar ..	1,874	1,807	1,971	2,143	2,978	2,744	2,295	2,704	2,832	2,973	2,678	2,752	29,76
14	Gurdaspur ..	1,807	1,735	1,799	1,887	2,174	1,901	1,823	1,994	2,539	2,663	2,372	2,405	25,06
15	Sialkot ..	1,552	1,580	1,520	1,374	1,976	1,733	1,451	1,719	2,230	2,126	2,040	2,116	21,41
16	Gujranwala ..	1,283	1,137	1,123	943	1,349	1,477	1,150	1,252	1,459	2,344	2,913	2,927	19,32
17	Sheikhupura ..	1,007	969	953	874	1,331	1,363	1,027	1,033	1,133	1,461	1,716	1,776	14,64
	RAWALPINDI DIVISION.													
18	Gujrat ..	1,778	1,619	1,376	1,106	1,503	1,541	1,209	1,310	1,544	2,037	2,341	2,714	20,07
19	Shahpur ..	1,978	1,747	1,503	1,594	1,948	1,952	1,331	1,239	1,637	3,559	5,078	4,545	28,11
20	Jhelum ..	1,108	1,136	859	761	886	953	793	758	1,144	1,859	2,292	1,918	14,46
21	Rawalpindi ..	1,184	1,159	1,009	963	1,131	1,031	987	1,019	1,297	1,669	1,996	1,909	15,32
22	Attock ..	1,126	1,048	926	829	959	893	777	808	942	1,693	2,340	2,190	14,53
23	Mianwali ..	1,023	922	964	786	939	960	743	671	1,015	2,291	2,778	1,890	14,96
	MULTAN DIVISION.													
24	Montgomery ..	1,947	1,404	1,406	1,227	1,226	1,459	1,021	1,111	1,450	2,244	2,812	2,759	20,06
25	Lyallpur ..	1,733	1,596	1,587	1,586	2,121	2,097	1,662	1,811	2,143	2,260	2,486	2,532	23,61
26	Jhang ..	1,100	1,036	944	841	1,083	985	821	867	955	1,934	3,256	3,244	17,06
27	Multan ..	1,882	1,523	1,492	1,452	1,740	1,506	1,453	1,467	1,816	3,066	4,532	4,552	26,46
28	Muzaffargarh ..	1,200	1,108	825	912	1,036	834	783	780	990	2,816	4,464	3,446	19,16
29	Dera Ghazi Khan	831	734	606	568	681	675	597	558	974	2,801	3,787	2,966	15,77
	Total for the Province.	42,426	38,801	40,034	41,799	48,783	47,403	37,448	39,677	48,825	62,176	72,117	70,474	589,96
	Ratio of deaths per 1,000 in each month.	2.07	1.89	1.95	2.04	2.38	2.31	1.83	1.93	2.38	3.03	3.51	3.43	28.7

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED AGE PERIOD

1	2	3									
Number.	Districts.	POPULATION ACCORDING TO THE CENSUS OF 1921.									
		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Total.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12
1	Hissar	112,889	103,054	322,126	277,714	486	431	61	49	435,562	381,244
2	Rohtak	65,488	59,547	346,666	290,538	5,188	4,798	37	10	417,379	354,890
3	Gurgaon	115,933	100,927	251,172	212,648	609	564	86	64	367,800	314,200
4	Karnal	126,916	108,702	324,923	264,803	1,784	1,568	14	16	453,637	375,085
5	Ambala	106,123	86,972	252,231	192,265	1,637	1,425	976	280	360,967	280,941
6	Simla	4,611	1,244	21,433	10,205	487	329	1,068	1,560	27,599	13,338
7	Kangra	21,025	17,210	370,380	352,749	142	142	1,574	1,525	393,121	371,629
8	Hoshiarpur ..	155,165	134,133	341,419	292,957	1,982	1,657	96	10	498,662	428,757
9	Jullundur ..	197,011	165,932	250,831	196,055	1,850	1,455	353	38	450,045	363,486
10	Ludhiana ..	106,764	86,197	211,208	161,821	853	729	20	30	318,845	248,777
11	Ferozepore ..	259,451	216,039	336,222	262,804	2,034	1,526	1,053	178	598,760	480,547
12	Lahore	357,101	285,083	253,608	174,908	22,458	18,939	3,429	1,204	636,596	480,134
13	Amritsar ..	232,747	190,653	278,793	213,423	6,590	5,636	370	186	518,500	409,898
14	Gurdaspur ..	231,410	190,761	218,188	174,712	17,908	14,635	70	130	467,576	380,238
15	Sialkot	288,815	246,325	153,436	125,740	28,670	24,491	1,310	147	472,231	396,700
16	Gujranwala ..	246,243	196,904	87,253	65,869	15,141	12,050	58	63	348,695	271,886
17	Sheikhupura ..	224,231	181,095	110,110	82,532	16,660	13,358	258	178	351,259	277,163
18	Gujrat	377,925	331,759	59,348	52,641	1,242	1,046	35	50	438,550	385,496
19	Shahpur	323,746	272,354	62,081	50,465	6,209	4,977	50	36	392,086	327,832
20	Jhelum	212,844	209,447	27,415	25,528	199	125	6	4	240,464	235,104
21	Rawalpindi ..	241,100	215,743	45,536	31,035	1,661	928	4,020	670	292,317	248,376
22	Attock	238,983	224,507	22,741	21,411	115	56	189	27	262,028	246,001
23	Mianwali	162,581	146,295	27,153	21,807	123	28	164	54	190,021	168,184
24	Montgomery ..	281,044	232,011	106,548	83,775	5,737	4,600	43	28	393,372	320,414
25	Lyalpur	308,897	254,089	190,929	140,499	22,830	18,600	51	47	522,707	413,235
26	Jhang	256,594	218,794	48,634	46,088	249	189	6	5	305,483	265,076
27	Multan	396,651	332,194	84,408	65,264	2,341	1,999	1,181	136	484,581	399,593
28	Muzaffargarh ..	268,374	224,995	39,951	34,802	72	68	208	8	308,605	259,873
29	Dera Ghazi Khan ..	226,773	184,658	30,585	26,989	19	15	9	4	257,386	211,666
	Total	6,147,435	5,217,624	4,875,328	3,952,047	165,276	136,364	16,795	6,737	11,204,834	9

IV.

THE DISTRICTS OF THE PUNJAB, DURING THE YEAR 1929.

4

UNDER ONE YEAR.

NOT EXCEEDING ONE MONTH.

OVER ONE MONTH AND NOT EXCEEDING SIX MONTHS.

Muhammadans.	Hindus.	Indian Christians.	Other Classes.	Muhammadans.	Hindus.	Indian Christians.	Other Classes.
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
13.	14.	15.	16.	17.	18.	19.	20.
521	411	579	568	..	..	..	..
141	129	1,175	865	1	..	..	..
511	468	696	573	..	..	..	..
432	425	632	426	..	..	..	..
317	283	911	754	..	..	..	..
15	7	53	38	1	1	1	..
90	93	1,347	1,296	..	..	..	..
629	615	1,187	992	5	3	..	..
702	790	1,228	1,112	..	..	..	..
497	101	553	800	2	2	5	3
941	821	833	625	3	1	14	8
1,387	1,011	734	657	18	14	..	..
1,098	843	1,151	883	15	18	39	36
915	728	856	703	56	47	6	3
765	698	435	359	60	48	..	..
821	619	202	175	69	34	2	1
769	533	255	201	62	47	7	6
1,016	850	198	103	2	8	1	1
1,287	1,056	178	120	31	19	17	14
786	645	73	34	1	..	..	..
577	487	97	101	2	1	..	..
874	683	40	27	..	..	..	..
638	496	17	18	..	..	..	..
1,224	1,024	410	269	31	20	22	18
1,380	1,248	660	536	56	51	..	..
1,434	1,177	125	142	..	..	2	..
1,565	1,255	519	496	21	18	25	17
1,230	856	164	131	..	..	1	1
660	495	181	157	..	..	5	3
15,498	12,903	10,406	9,512	323	268	115	82
Not available.							

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED AREAS

Number.	DISTRICTS.	UNDER ONE YEAR—CONCLUDED.													
		OVER SIX MONTHS AND UNDER TWELVE MONTHS.								TOTAL UNDER ONE YEAR.					
		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Muhammadans.		Hindus.		Indian Christians.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
		29	30	31	32	33	34	35	36	37	38	39	40	41	42
1	Hissar ..	207	215	577	548	..	..	..	..	1,029	886	1,732	1,660	..	..
2	Rohtak ..	115	107	885	696	..	..	..	..	366	335	2,840	2,213	1	..
3	Gurgaon ..	190	127	639	484	..	..	..	..	962	808	1,987	1,666	..	..
4	Karnal ..	664	481	563	501	..	..	..	..	1,643	1,330	1,642	1,351	..	..
5	Ambala ..	200	129	754	675	..	1	..	..	723	591	2,339	1,960	..	..
6	Simla ..	6	6	31	10	1	1	..	1	26	22	115	81	2	..
7	Kangra ..	89	84	628	702	..	1	..	..	250	242	2,766	2,848	1	..
8	Hoshiarpur ..	348	299	806	771	1	3	..	..	1,294	1,160	2,872	2,485	9	..
9	Jullundur ..	385	352	501	417	..	..	..	..	1,448	1,464	2,201	1,914	..	..
10	Ludhiana ..	165	253	699	523	1	2	4	4	1,091	566	1,548	1,839	3	..
11	Ferozepore ..	599	505	832	711	3	3	5	3	2,062	1,821	2,375	1,950	8	..
12	Lahore ..	828	630	487	440	26	18	..	..	3,094	2,327	1,766	1,550	61	..
13	Amritsar ..	615	533	623	560	18	8	46	35	2,318	1,884	2,411	1,978	49	..
14	Gurdaspur ..	610	497	433	447	29	20	2	1	2,159	1,751	1,787	1,595	113	..
15	Sialkot ..	661	506	313	308	30	27	..	..	2,121	1,749	1,109	1,003	143	..
16	Gujranwala ..	727	594	105	94	34	26	1	..	2,296	1,771	401	409	143	..
17	Sheikhupura ..	479	379	225	174	58	46	6	4	1,617	1,248	717	528	185	..
18	Gujrat ..	751	619	102	82	4	4	..	1	2,538	2,082	402	250	9	..
19	Shahpur ..	1,037	998	191	212	15	13	8	5	3,437	3,039	506	471	57	..
20	Jhelum ..	355	345	41	29	..	..	..	..	1,649	1,405	145	86	1	..
21	Rawalpindi ..	849	692	79	74	1	1	..	..	1,903	1,555	247	250	4	..
22	Attock ..	288	288	36	26	..	..	..	..	1,601	1,362	110	78	..	..
23	Mianwali ..	254	352	20	18	..	..	..	..	1,317	1,158	53	46	..	..
24	Montgomery ..	476	499	142	166	33	33	18	6	2,307	2,020	672	538	86	..
25	Lyallpur ..	1,129	935	601	585	30	48	..	..	3,099	2,707	1,683	1,467	121	..
26	Jhang ..	484	488	137	151	1	..	..	..	2,596	2,220	405	452	1	..
27	Multan ..	731	674	316	290	25	18	16	12	3,276	2,786	1,200	1,123	72	..
28	Muzaffargarh ..	695	663	63	106	2	..	..	1	2,963	2,629	368	399	2	..
29	Dera Ghazi Khan ..	558	555	77	86	..	..	1	..	2,030	1,727	402	364	..	..
	Total ..	14,495	12,805	10,906	9,886	312	273	107	73	53,215	44,645	36,801	32,559	1,071	..
	Population according to Census of 1921.									240,139	232,641	176,259	168,581	7,514	..
	Ratio per 1,000 living for the Province.									221.60	2 91.91	208.79	193.14	142.53	11

IV--CONTINUED.

JOBS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1929.

		5								6				1
		ONE YEAR AND UNDER FIVE YEARS.								FIVE YEARS AND UNDER TEN YEARS.				
Other classes.		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Muhammadans.		Hindus.		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Number.
43	44	45	46	47	48	49	50	51	52	53	54	55	56	1
..	..	411	391	764	659	..	..	..	..	218	198	386	244	1
..	..	225	178	1,132	956	..	..	..	..	162	131	602	477	2
..	..	398	423	1,320	1,131	..	..	..	..	150	127	270	213	3
..	..	200	152	993	974	..	..	..	..	277	148	845	833	4
..	..	367	329	1,051	979	..	..	..	..	137	111	193	168	5
1	1	13	12	26	20	..	..	1	..	1	3	8	8	6
..	..	100	53	687	700	..	..	..	..	50	42	689	728	7
..	..	637	548	1,819	1,835	5	..	..	..	198	139	406	387	8
..	..	667	710	1,080	1,050	..	..	..	..	191	159	185	165	9
13	13	513	300	887	996	1	..	8	5	188	125	200	271	10
26	13	301	336	491	372	..	..	5	4	257	219	378	331	11
..	..	2,903	2,637	1,167	1,071	61	49	..	..	708	670	155	175	12
132	109	986	837	1,087	956	30	26	92	74	322	320	401	399	13
12	5	732	689	609	557	99	82	8	7	397	388	386	337	14
..	..	1,070	989	469	461	59	49	..	..	190	209	129	128	15
3	2	1,685	1,482	301	309	125	60	1	..	479	386	85	80	16
18	16	1,552	1,509	317	287	66	49	16	10	244	247	151	131	17
2	5	2,101	2,049	257	202	3	7	..	..	561	517	67	59	18
36	25	3,327	3,614	367	319	29	24	11	9	867	998	109	88	19
..	..	1,136	1,274	105	78	..	4	..	..	459	450	31	41	20
..	..	1,046	955	166	162	2	2	..	..	324	287	84	100	21
..	..	1,455	1,561	54	49	1	..	1	..	497	533	28	25	22
..	..	730	525	36	57	..	..	..	..	779	597	49	54	23
59	30	1,563	1,539	790	691	33	7	6	19	513	586	261	146	24
..	..	1,446	1,442	812	704	91	87	..	..	459	429	218	246	25
2	..	1,733	1,639	83	69	..	..	..	..	413	397	63	77	26
55	39	1,548	1,379	326	303	21	15	34	19	665	574	172	178	27
1	2	2,011	1,935	145	193	..	..	..	..	525	643	86	120	28
9	6	1,901	1,907	239	267	..	..	11	2	541	428	80	59	29
309	266	32,757	31,554	17,580	16,412	626	461	194	149	10,772	10,061	6,717	6,263	
52	20	587,475	590,315	430,242	408,415	18,176	17,236	167	98	950,073	831,383	683,426	592,470	
?	?	55.76	55.72	40.86	40.18	34.44	26.75	?	?	11.34	12.10	9.83	10.58	

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIC

1	2	6				7						
Number.	DISTRICTS.	FIVE YEARS AND UNNER TEN YEARS—CONCLD.				TEN YEARS AND UNDER FIFTEEN YEARS.						
		Indian Christians.		Other Classes.		Muhammadans.		Hindus.		Indian Christians.		Other C
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.
1	2	57	58	59	60	61	62	63	64	65	66	67
1	Hissar ..	..	..	..	..	181	132	206	173	..	..	..
2	Rohtak ..	..	..	..	..	169	129	464	448	..	..	..
3	Gurgaon ..	..	..	..	..	143	132	427	298	..	..	..
4	Karnal ..	..	..	..	..	225	192	790	802	1	..	..
5	Ambala ..	..	..	..	..	87	94	181	176	..	..	..
6	Simla ..	1	2	..	..	2	5	3	8	..	..	..
7	Kangra ..	1	..	..	..	49	46	750	748	1	..	..
8	Hoshiarpur ..	..	1	..	..	126	119	248	281	4	1	..
9	Jullundur ..	..	..	..	..	93	104	171	194	..	..	..
10	Ludhiana ..	2	..	..	4	111	142	218	203	..	1	3
11	Ferozepore ..	2	..	4	3	245	216	281	242	..	..	6
12	Lahore ..	46	33	..	..	307	406	153	155	46	33	..
13	Amritsar ..	11	13	8	9	287	289	357	359	..	..	2
14	Gurdaspur ..	26	20	4	2	405	318	391	395	19	16	4
15	Sialkot ..	15	19	..	..	199	180	140	130	15	14	..
16	Gujranwala ..	31	22	2	1	402	426	140	83	56	29	..
17	Sheikhupura ..	30	31	4	3	174	146	67	61	25	27	3
18	Gujrat ..	..	2	3	..	288	332	39	57	3	1	..
19	Shahpur ..	6	7	3	4	316	374	97	81	9	5	4
20	Jhelum ..	..	1	..	..	280	279	17	19	..	..	..
21	Rawalpindi ..	1	1	..	..	299	302	50	49	..	..	..
22	Attock ..	..	..	1	1	246	226	30	26	..	..	..
23	Mianwali ..	..	..	..	..	696	601	50	62	..	..	..
24	Montgomery ..	11	7	4	10	236	209	102	141	8	5	2
25	Lyallpur ..	56	68	..	..	335	325	178	177	39	32	..
26	Jhang ..	1	..	..	..	226	226	58	82	..	..	..
27	Multan ..	17	10	16	10	387	405	161	172	15	12	11
28	Muzaffargarh ..	..	..	..	..	489	394	79	62	1	..	1
29	Dera Ghazi Khan ..	..	..	3	2	210	136	27	26	..	..	..
	Total ..	257	237	52	49	7,213	6,885	5,875	5,710	242	176	36
	Population according to Census of 1921.	28,011	24,222	158	128	770,738	584,428	591,587	438,614	22,692	16,848	177
	Ratio per 1,000 living for the Province.	9.17	9.78	329.11	382.81	9.36	11.78	9.93	13.02	10.66	10.45	203.39

V—CONTINUED.

DS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1929.

8								9									Number.
FIFTEEN YEARS AND UNDER TWENTY YEARS.								TWENTY YEARS AND UNDER THIRTY YEARS.									
Muhammadans.	Hindus.		Indian Christians.		Other Classes.			Muhammadans.	Hindus.		Indian Christians.		Other Classes.				
	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	1	
9	100	145	155	..	..	..	..	131	142	223	225	..	..	..	..	1
9	117	483	479	1	..	..	..	119	124	600	594	..	..	..	..	2
7	162	366	334	..	..	..	..	422	489	920	706	..	..	..	..	3
8	108	756	844	..	..	..	..	107	470	874	423	..	..	..	..	4
4	137	161	200	..	..	..	..	163	258	322	397	..	1	..	..	5
7	19	13	9	1	..	..	1	7	16	30	40	1	2	..	..	6
7	34	872	934	..	..	..	..	60	29	1,025	1,024	1	..	..	..	7
8	99	209	303	1	..	..	..	287	315	347	463	2	1	..	..	8
10	89	142	207	..	..	..	..	312	218	200	357	..	..	..	..	9
31	285	171	116	1	3	4	4	315	106	137	389	1	4	6	7	10	
33	213	281	251	1	2	7	2	244	242	376	316	..	..	5	4	11
75	433	157	166	51	37	..	..	556	709	394	352	41	34	..	..	12
59	272	361	404	1	..	5	11	348	359	452	488	3	5	8	14	13	
38	411	365	366	24	22	1	4	455	452	384	350	30	22	3	2	14	
29	176	154	143	17	13	..	..	1,000	982	409	401	190	177	..	..	15
21	486	150	95	59	36	1	1	489	508	157	107	62	40	1	..	16	
04	73	55	41	26	25	1	1	167	275	155	119	39	35	4	..	17	
33	216	34	41	..	3	..	..	433	495	53	81	2	3	2	1	18
26	239	69	73	2	3	1	1	462	657	133	78	13	11	7	5	19	
35	237	22	26	..	..	..	..	393	473	40	59	2	1	..	..	20
23	326	33	41	1	3	..	..	389	372	29	37	1	..	..	..	21
94	203	15	18	..	..	..	..	403	519	34	24	..	..	..	..	22
734	679	59	46	..	..	..	..	624	606	65	61	..	..	..	..	23
156	199	53	6	17	5	1	6	274	208	102	236	10	9	2	6	24	
232	242	125	122	43	69	..	..	410	433	225	226	30	49	..	..	25
139	188	47	63	..	..	..	..	248	357	63	69	..	..	..	..	26
358	382	163	177	6	12	16	7	470	442	185	176	8	10	4	6	27	
345	414	66	73	..	..	..	..	508	536	87	94	..	..	1	..	28
114	99	20	40	..	..	..	..	323	372	54	94	..	..	1	2	29
568	6,638	5,547	5,773	252	233	37	38	10,119	11,164	8,075	7,986	436	404	44	47		
702	405,557	436,767	317,417	16,312	11,736	182	133	943,910	833,320	812,778	645,951	33,066	23,019	374	357		
2'96	16'37	12'70	18'19	15'45	19'85	203'30	285'71	10'72	13'40	9'94	12'36	13'19	17'55	117'65	131'65		

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED A

1	2	10								1			
Number.	DISTRICTS.	THIRTY YEARS AND UNDER FORTY YEARS.								FORTY YEARS AND UNDER			
		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Muhammadans.		Hindus.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	85	86	87	88	89	90	91	92	93	94	95	96
1	Hissar ..	200	211	269	289	..	..	..	..	498	371	580	6
2	Rohtak ..	118	95	574	507	1	..	..	..	92	70	656	5
3	Gurgaon ..	155	198	583	538	..	..	..	..	288	137	525	5
4	Karnal ..	248	440	608	355	..	..	..	2	200	300	528	3
5	Ambala ..	173	193	359	369	1	..	..	..	219	166	383	2
6	Simla ..	20	13	26	26	1	..	..	..	2	5	40	..
7	Kangra ..	65	39	1,196	1,044	..	..	..	..	90	69	1,194	1,0
8	Hoshiarpur ..	205	188	406	486	..	1	..	..	255	219	476	3
9	Jullundur ..	220	214	226	201	..	1	..	..	239	176	293	2
10	Ludhiana ..	104	147	316	285	..	1	5	3	140	189	301	1
11	Ferozepore ..	414	351	532	513	..	1	4	3	961	755	991	8
12	Lahore ..	530	494	269	241	48	32	..	..	549	326	238	2
13	Amritsar ..	435	451	492	531	6	7	8	10	576	517	559	4
14	Gurdaspur ..	443	345	386	438	32	20	3	3	423	371	440	3
15	Sialkot ..	790	784	332	323	171	116	..	..	651	555	322	2
16	Gujranwala ..	541	483	162	137	68	42	1	1	562	490	165	1
17	Sheikhupura ..	214	231	67	89	30	30	3	2	206	143	106	..
18	Gujrat ..	465	468	52	64	4	1	..	1	484	407	48	..
19	Shahpur ..	443	635	119	65	11	9	5	4	491	471	97	1
20	Jhelum ..	451	474	21	33	1	1	..	..	422	393	33	..
21	Rawalpindi ..	429	392	39	47	1	..	..	..	464	505	74	..
22	Attock ..	498	490	20	26	..	..	..	..	417	357	34	..
23	Mianwali ..	566	615	68	55	..	..	..	..	536	524	63	..
24	Montgomery ..	309	316	119	87	4	5	1	5	350	346	148	..
25	Lyalpur ..	281	300	125	185	24	28	..	..	301	253	109	..
26	Jhang ..	243	360	74	57	..	1	..	..	202	189	156	..
27	Multan ..	574	639	163	179	5	3	13	15	712	744	248	..
28	Muzaffargarh ..	422	414	61	108	1	..	..	1	451	345	75	..
29	Dera Ghazi Khan ..	385	388	55	66	..	..	..	1	416	301	71	..
	Total ..	9,941	10,368	7,719	7,344	409	299	43	51	11,197	9,694	8,933	7,
	Population according to Census of 1921.	794,114	666,352	643,616	511,228	22,481	17,177	361	265	568,025	486,332	474,779	386,
	Ratio per 1,000 living for the Province.	12.52	15.56	11.99	14.37	18.19	17.41	119.11	192.45	19.71	19.93	18.82	20

IV—CONTINUED.

DEATHS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1929.

				12								13							
AGE YEARS.				FIFTY YEARS AND UNDER SIXTY YEARS.								SIXTY YEARS AND UPWARDS.							
Indian Christians.		Other Classes.		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Muhammadans.		Hindus.					
	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.				
	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112				Number.
	..	..	..	687	509	1,091	993	..	..	..	..	751	581	2,397	1,821	1			1
	1	..	..	87	85	668	568	..	1	..	..	160	135	1,264	917	2			2
	..	..	..	251	210	297	270	..	..	..	..	571	395	978	894	3			3
	..	1	..	180	242	437	338	..	..	..	..	102	178	513	418	4			4
1	..	..	..	221	158	381	271	..	..	..	..	451	383	1,449	1,059	5			5
	..	..	..	6	1	27	10	1	1	..	..	4	5	79	44	6			6
1	..	..	..	115	78	1,274	1,047	..	..	..	..	134	90	1,413	1,181	7			7
	..	..	..	257	225	603	407	..	..	..	..	615	497	2,589	2,002	8			8
	..	..	..	223	190	476	318	..	..	..	..	1,114	978	1,339	1,079	9			9
	1	3	4	228	122	324	327	..	..	4	6	539	249	832	743	10			10
	..	2	1	1,013	876	1,308	998	2	..	4	5	687	471	846	708	11			11
52	49	..	..	554	281	216	243	42	31	..	..	1,652	1,248	652	642	12			12
9	10	34	33	745	638	668	618	12	9	33	29	963	793	1,170	882	13			13
29	26	4	2	508	416	368	353	35	14	2	1	875	707	814	608	14			14
83	47	..	..	400	361	308	228	36	28	..	..	300	278	203	132	15			15
60	37	..	1	533	486	175	117	69	39	1	..	367	356	135	121	16			16
29	34	2	..	180	102	107	87	31	41	4	..	763	657	371	203	17			17
2	..	..	..	513	410	76	36	..	1	1	..	1,755	1,345	241	203	18			18
6	3	2	1	625	512	88	71	11	6	2	3	1,891	1,584	296	212	19			19
1	1	..	..	436	405	58	38	..	1	..	..	1,352	1,104	126	140	20			20
2	..	..	..	615	657	85	100	1	1	..	..	1,120	1,164	108	116	21			21
	..	..	..	517	380	30	24	..	..	..	..	1,305	1,056	26	30	22			22
	..	..	..	463	590	50	44	..	..	..	..	756	816	60	38	23			23
2	2	1	3	356	310	224	107	4	1	2	1	1,248	1,117	535	374	24			24
38	20	..	..	251	231	124	99	24	22	..	..	1,019	618	352	458	25			25
2	1	..	..	283	226	107	183	..	..	..	..	1,324	1,091	186	185	26			26
8	6	16	9	836	751	461	429	5	3	10	8	1,142	822	417	428	27			27
	..	..	1	367	235	130	97	..	1	..	..	537	446	114	122	28			28
	..	1	..	396	280	63	57	..	..	2	2	852	573	169	151	29			29
125	238	66	55	11,846	9,967	10,284	8,478	263	200	65	55	24,349	19,737	19,674	15,911				
69	12,104	264	261	397,365	320,366	339,811	261,590	9,704	7,704	160	156	437,197	321,889	334,927	253,383				
57	19·63	250·00	210·73	29·81	31·11	30·26	32·41	27·10	25·96	406·25	352·56	55·69	61·32	58·74	62·79				

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED A

1	2	13				14					
Number.	DISTRICTS.	SIXTY YEARS AND UPWARDS— CONCLUDED.				TOTAL.					
		Indian Christians.		Other Classes.		Muhammadans.		Hindus.		Indian Christians.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	113	114	115	116	117	118	119	120	121	122
1	Hissar ..	..	..	..	..	4,225	3,521	7,773	6,826	..	..
2	Rohtak ..	..	..	..	..	1,637	1,399	9,283	7,690	3	..
3	Gurgaon ..	..	..	..	..	3,557	3,081	7,673	6,594	..	..
4	Karnal ..	..	..	..	..	3,400	3,560	7,986	6,731	1	..
5	Ambala ..	..	..	..	..	2,615	2,420	6,819	5,866	2	..
6	Simla ..	..	1	..	..	88	101	367	266	7	..
7	Kangra ..	..	1	..	..	970	722	11,866	11,328	5	..
8	Hoshiarpur ..	5	1	..	..	4,002	3,509	9,075	8,967	26	..
9	Jullundur ..	..	..	..	..	4,617	4,302	6,313	5,760	..	..
10	Ludhiana ..	1	1	10	9	3,360	2,231	4,934	5,344	9	..
11	Ferozepore ..	..	1	17	14	6,437	5,500	7,859	6,552	13	..
12	Lahore ..	40	41	..	..	11,128	9,561	5,167	4,836	488	..
13	Amritsar ..	13	11	47	39	7,239	6,410	7,958	7,191	134	..
14	Gurdaspur ..	157	138	22	13	6,835	5,848	5,930	5,377	564	..
15	Sialkot ..	54	31	..	..	6,950	6,283	3,575	3,231	783	..
16	Gujranwala ..	33	25	..	..	7,875	6,874	1,871	1,605	696	..
17	Sheikhupura ..	50	37	8	5	5,221	4,631	2,113	1,623	511	..
18	Gujrat ..	3	2	2	1	9,371	8,321	1,269	1,040	26	..
19	Shahpur ..	32	39	8	7	12,085	12,123	1,881	1,559	176	..
20	Jhelum ..	..	1	..	..	6,813	6,494	598	545	5	..
21	Rawalpindi ..	9	7	..	..	6,912	6,515	915	973	22	..
22	Attock ..	..	..	..	..	7,133	6,687	381	326	1	..
23	Mianwali ..	..	..	..	..	7,201	6,711	553	517	..	..
24	Montgomery ..	18	4	12	9	7,312	6,850	3,006	2,393	193	..
25	Lyallpur ..	35	25	..	..	7,833	6,980	3,951	3,800	501	..
26	Jhang ..	..	..	..	..	7,407	6,943	1,302	1,406	4	..
27	Multan ..	17	16	18	12	9,968	8,924	3,496	3,455	174	..
28	Muzaffargarh ..	..	..	..	..	8,618	8,021	1,211	1,331	4	..
29	Dera Ghazi Khan ..	..	..	3	1	7,168	6,211	1,180	1,173	..	..
	Total ..	467	382	147	110	177,977	160,713	127,205	114,305	4,348	3,
	Population according to Census of 1921.	11,268	7,482	147	146	..	..	..	..	..	..
	Ratio per 1,000 living for the Province.	41.44	51.05	1,000.00	753.42	..	..	..	..	..	..

o. IV—CONCLUDED.

PERIODS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1929.

15												
RATIO OF DEATHS PER 1,000 OF POPULATION.												
Other Classes.		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Total.		Number.
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
123	124	125	126	127	128	129	130	131	132	133	134	1
..	..	37.43	34.17	24.13	24.58	..	..	..	..	27.55	27.14	1
..	..	25.00	23.49	26.78	26.47	0.58	0.42	..	..	26.17	25.62	2
..	..	30.68	30.53	30.55	31.01	..	..	..	..	30.53	30.79	3
1	2	26.79	32.75	24.58	25.42	0.56	..	71.43	125.00	25.10	27.44	4
..	..	24.64	27.83	27.03	30.51	1.22	2.11	..	..	26.14	29.50	5
2	2	19.08	81.19	17.12	26.07	14.37	27.36	1.87	1.28	16.81	28.34	6
..	..	46.14	41.95	32.04	32.11	35.21	21.13	..	..	32.66	32.43	7
..	..	25.79	26.16	29.22	30.61	13.12	7.24	..	..	28.08	29.13	8
..	..	23.44	25.93	25.17	29.38	..	0.69	..	..	24.29	27.69	9
56	55	31.47	25.88	23.36	33.02	10.55	21.95	?	?	26.22	30.73	10
80	58	24.81	25.46	33.37	24.93	6.39	7.21	75.97	325.84	24.03	25.22	11
..	..	31.16	33.54	20.37	27.65	21.73	20.59	..	..	26.36	30.80	12
369	329	31.10	33.62	28.54	33.69	20.33	21.47	997.30	?	30.28	34.28	13
63	42	29.54	30.66	27.18	30.78	31.49	30.06	900.00	323.08	28.64	30.79	14
..	..	24.06	25.43	23.30	25.70	27.31	25.11	..	..	23.95	25.48	15
10	7	31.98	34.91	21.44	24.37	45.97	34.69	172.41	111.11	29.97	32.39	16
63	39	23.28	25.57	19.19	19.67	30.67	33.09	244.19	219.10	22.51	24.30	17
10	9	24.80	25.08	21.38	19.76	20.93	30.59	285.71	180.00	24.34	24.39	18
79	61	37.33	44.51	30.30	30.89	28.85	29.54	?	?	36.27	42.37	19
..	..	32.01	31.01	21.81	21.35	25.13	96.00	..	..	30.84	29.99	20
..	..	28.67	30.20	20.09	31.35	13.25	18.32	..	..	26.85	30.22	21
2	1	29.81	29.83	17.19	14.76	8.70	..	10.58	37.04	28.69	28.51	22
..	..	44.27	45.89	20.37	23.71	..	..	..	..	40.81	42.98	23
90	101	26.02	29.52	28.21	28.56	33.64	26.30	?	?	26.95	29.54	24
..	..	25.36	27.47	20.69	27.05	21.94	29.52	..	..	23.50	27.42	25
2	..	28.87	31.73	26.77	30.51	16.06	10.58	333.33	..	28.63	31.50	26
193	133	25.13	26.86	41.42	52.94	74.33	69.03	163.42	977.94	28.54	31.66	27
3	4	32.11	35.65	30.31	38.24	55.56	29.41	14.42	500.00	31.87	36.01	28
30	16	31.61	33.64	38.58	43.46	..	..	?	?	32.55	34.96	29
1,053	859	28.95	30.80	26.09	28.92	26.31	25.69	62.70	12.75	27.72	30.00	
..	
..	

? Figures incorrect due to misclassification.

NOTE.—The population of Military Cantonments by different ages cannot be excluded as it is not shown separately in the census returns.

ANNUAL FORM No. V.

CANCELLED AND INCORPORATED IN ANNUAL FORM No. IV.

ANNUAL FORM No. VI.

DEATHS REGISTERED FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE DISTRICTS
(RURAL CIRCLES) OF THE PUNJAB DURING THE YEAR 1929.

DEATHS REGISTERED FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE DISTRICT

1	2	3	4				5	6	7	8	9	10	11	
Number.	RURAL CIRCLES.	Population according to Census of 1921.	BIRTHS.				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Suicide	
			Male.	Female.	Total.	Birth rate per 1,000 of population.							Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AMBALA DIVISION.														
1	Hissar ..	728,146	21,214	19,150	40,364	55.43	2	518	5	12,503	242	1,116	..	..
2	Rohtak ..	696,915	16,724	15,234	31,958	45.86	10	230	98	12,358	156	1,375	5	..
3	Gurgaon ..	625,926	16,421	14,809	31,320	50.04	217	55	26	11,338	194	1,376	17	..
4	Karnal ..	747,506	13,297	11,594	24,891	33.30	..	189	373	10,992	626	1,135	1	..
5	Ambala ..	578,883	13,823	12,625	26,448	45.69	59	84	778	6,055	89	5,693	..	..
6	Simla ..	14,788	195	214	409	27.66	..	1	..	103	11	16	..	..
JULLUNDUR DIVISION.														
7	Kangra ..	754,151	14,078	13,153	27,231	36.11	2	53	4	11,243	3,062	5,037	5	..
8	Hoshiarpur ..	860,180	19,686	18,312	37,998	44.17	72	517	51	18,613	194	1,993	8	..
9	Jullundur ..	708,601	16,736	15,583	32,319	45.61	64	82	..	13,009	136	1,310	8	..
10	Ludhiana ..	484,267	11,794	10,925	22,719	46.91	37	127	60	7,976	53	864	1	..
11	Ferozepore ..	982,160	21,457	18,562	40,019	40.75	45	275	..	15,910	276	1,829	6	..
LAHORE DIVISION.														
12	Lahore ..	766,738	18,823	15,894	34,717	45.28	317	626	..	13,321	153	1,065	5	..
13	Amritsar ..	743,126	19,589	17,231	36,820	49.55	111	204	..	15,584	255	1,684	12	..
14	Gurdaspur ..	773,416	20,609	19,316	39,925	51.62	27	158	465	13,122	902	2,658	1	..
15	Sialkot ..	755,553	18,594	17,676	36,270	48.00	22	213	79	12,685	197	2,075	3	..
16	Gujranwala ..	531,961	13,920	12,263	26,183	49.22	40	155	..	14,132	52	415	1	..
17	Sheikhupura ..	587,523	14,760	12,735	27,495	46.80	44	142	..	11,074	55	322	3	..
RAWALPINDI DIVISION.														
18	Gujrat ..	775,077	16,524	14,557	31,081	40.10	12	635	8	13,640	135	1,766	2	..
19	Shahpur ..	644,132	13,913	12,321	26,234	40.73	1	718	..	20,119	265	1,383	2	..
20	Jhelum ..	443,802	9,198	7,933	17,131	38.60	3	149	..	10,525	89	764	2	..
21	Rawalpindi ..	483,045	10,401	9,146	19,547	40.47	33	153	..	9,492	1,725	1,119	2	..
22	Attock ..	486,533	9,885	8,368	18,253	37.52	9	178	..	11,761	37	579	2	..
23	Mianwali ..	328,270	8,127	7,266	15,393	46.89	88	17	..	11,863	64	515	3	..
MULTAN DIVISION.														
24	Montgomery ..	674,976	17,228	14,377	31,605	46.82	29	261	..	15,720	54	364	3	..
25	Lyallpur ..	882,310	23,800	21,776	45,576	51.66	277	226	..	16,678	158	579	6	..
26	Jhang ..	513,545	11,580	10,497	22,077	42.99	1	59	..	11,694	92	692	3	..
27	Multan ..	771,004	19,341	16,735	36,076	46.79	7	96	..	18,713	35	461	..	..
28	Muzaffargarh ..	536,715	10,558	8,742	19,300	35.96	..	15	..	16,614	130	310	..	..
29	Dera Ghazi Khan ..	417,609	8,082	6,675	14,757	35.34	..	21	..	12,729	104	129	5	..
Total ..														
		18,296,858	430,357	383,759	814,116	44.49	1,529	6,157	1,947	369,566	9,541	38,624	106	..

No. VI-A (RURAL CIRCLES).

RURAL CIRCLES) OF THE PUNJAB DURING THE YEAR 1929.

				12	13	14										15
IES.				All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.			Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		
														For the year.	Mean of previous five years.	
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
47	1	1	56	4,647	19,089	0.002	0.71	0.01	17.17	0.33	1.53	0.08	6.38	26.22	32.45	1
139	13	7	168	3,324	17,719	0.01	0.33	0.14	17.73	0.22	1.97	0.24	4.77	25.42	46.71	2
262	18	1	337	5,583	19,126	0.35	0.09	0.04	18.11	0.31	2.20	0.54	8.92	30.56	39.11	3
16	9	..	28	5,532	18,875	..	0.25	0.50	14.70	0.84	1.52	0.04	7.40	25.25	43.59	4
..	..	..	..	3,072	15,830	0.10	0.15	1.34	10.46	0.15	9.83	..	5.31	27.35	35.27	5
..	..	..	..	233	364	..	0.07	..	6.97	0.75	1.08	..	15.76	24.61	22.10	6
657	17	11	696	4,580	24,677	0.002	0.07	0.01	14.91	4.06	6.68	0.92	6.07	32.72	31.35	7
108	14	4	141	3,274	24,855	0.08	0.60	0.06	21.64	0.23	2.32	0.16	3.81	28.90	31.91	8
213	4	..	230	3,125	17,956	0.09	0.12	..	18.36	0.19	1.85	0.32	4.41	25.34	28.32	9
15	3	1	20	4,347	13,484	0.08	0.26	0.12	16.47	0.11	1.78	0.04	8.98	27.84	30.90	10
211	27	6	250	5,610	24,195	0.05	0.28	..	16.20	0.28	1.86	0.25	5.71	24.63	28.05	11
185	24	5	225	4,111	19,818	0.41	0.82	..	17.37	0.20	1.39	0.29	5.36	25.85	32.67	12
174	9	10	208	4,151	22,197	0.15	0.27	..	20.97	0.34	2.27	0.28	5.59	29.87	37.30	13
172	7	9	189	5,095	22,616	0.03	0.20	0.60	16.97	1.17	3.44	0.24	6.59	29.24	36.64	14
142	14	3	164	2,809	18,244	0.03	0.28	0.10	16.79	0.26	2.75	0.22	3.72	24.15	38.89	15
118	50	5	175	1,935	16,904	0.08	0.29	..	26.57	0.10	0.78	0.33	3.64	31.78	38.42	16
115	82	4	206	2,324	14,167	0.07	0.24	..	18.85	0.09	0.55	0.35	3.96	24.11	31.35	17
202	10	5	221	2,218	18,635	0.02	0.82	0.01	17.60	0.17	2.28	0.29	2.86	24.04	39.39	18
245	23	..	270	2,355	25,111	0.001	1.11	..	31.23	0.41	2.15	0.42	3.66	38.98	26.92	19
210	29	..	242	1,926	13,098	0.01	0.34	..	23.72	0.20	1.72	0.55	4.34	30.87	29.26	20
172	34	..	209	848	13,579	0.07	0.32	..	19.65	3.57	2.32	0.43	1.76	28.11	26.58	21
189	11	1	205	1,219	13,988	0.02	0.37	..	24.17	0.08	1.19	0.42	2.51	28.75	26.94	22
115	10	4	134	1,435	14,116	0.27	0.05	..	36.14	0.19	1.57	0.41	4.37	43.00	28.97	23
232	46	4	288	2,412	19,128	0.04	0.39	..	23.29	0.08	0.54	0.43	3.57	28.34	27.13	24
288	13	7	318	4,326	22,562	0.31	0.26	..	18.90	0.18	0.66	0.36	4.90	25.57	28.12	25
167	28	6	225	2,633	15,396	0.001	0.11	..	22.77	0.18	1.35	0.44	5.13	29.98	27.17	26
290	29	2	322	2,585	22,219	0.01	0.12	..	24.27	0.05	0.60	0.42	3.35	28.82	26.63	27
80	27	1	108	832	18,009	..	0.03	..	30.95	0.24	0.58	0.20	1.55	33.55	25.61	28
133	39	..	179	381	13,543	..	0.05	..	30.48	0.25	0.31	0.43	0.91	32.43	24.86	29
4,917	591	97	5,814	86,922	520,100	0.08	0.34	0.11	20.20	0.52	2.11	0.32	4.75	28.43	32.52	

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN T

1	2	3	4				5	6	7	8	9	10	
Number.	Towns.	Population, according to Census of 1921.	BIRTHS.				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Suicide.
			Males.	Females.	Total.	Birth rate per 1,000 of population.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	HISSAR DISTRICT.												
1	Hissar	21,415	451	423	874	40.81	1	73	..	234	6	96	..
2	Hansi	15,425	384	364	748	48.49	..	36	..	272	25	87	..
3	Bhiwani	33,270	738	707	1,445	43.43	1	64	1	346	71	67	..
4	Sirsa	16,241	235	195	430	26.48	2	25	..	148	14	50	..
5	Fatehabad	2,313	33	23	56	24.21	..	..	..	18	2	6	..
	ROHTAK DISTRICT.												
6	Rohtak	25,240	589	515	1,104	43.74	10	2	..	314	34	115	..
7	Jhajjar	10,800	292	244	536	49.63	..	2	..	105	25	76	..
8	Beri	7,454	196	181	377	50.58	..	2	..	161	26	25	..
9	Gohana	5,107	126	106	232	45.43	1	4	2	69	5	18	..
10	Rahadurgarh	5,955	164	161	325	54.58	..	..	..	105	9	30	..
11	Sonepat	12,981	341	301	642	49.46	15	..	..	234	19	57	..
12	Mehm	7,820	221	186	407	52.05	..	..	..	96	7	70	1
	GURGAON DISTRICT.												
13	Rewari	23,129	630	549	1,179	50.97	..	1	..	287	56	145	..
14	Palwal	9,352	264	260	524	56.03	6	..	..	136	22	30	..
15	Ferozepore	4,542	124	123	247	54.38	24	..	..	99	25	24	..
16	Hodal	5,854	173	141	314	53.64	..	..	..	59	3	26	..
17	Ballabgarh	3,721	122	70	192	51.60	..	..	..	56	6	16	..
18	Faridabad	4,337	102	94	196	45.19	..	..	..	70	7	4	..
19	Hidayat Pur Chhaoni	5,142	68	51	119	23.14	..	..	..	30	11	30	..
	KARNAL DISTRICT.												
20	Karnal	22,845	526	485	1,011	44.25	40	4	..	432	63	65	..
21	Kaithal	15,477	372	358	730	47.17	2	34	..	212	35	46	..
22	Panipat	27,343	725	650	1,375	50.29	44	16	..	370	114	152	..
23	Shahabad	11,329	260	231	491	43.34	..	..	..	127	16	35	..
24	Thanesar	4,226	75	63	138	32.65	..	1	..	65	..	2	..
	AMBALA DISTRICT.												
25	Ambala	28,581	589	516	1,105	38.66	10	1	..	226	33	130	..
26	Jagadhri	11,544	293	263	556	48.16	4	1	..	283	32	89	..
27	Burya	3,574	98	77	175	48.96	..	..	..	26	1	30	..
28	Sadhaura	7,630	191	178	369	48.36	..	..	..	49	10	89	..
29	Rupar	7,606	171	136	307	40.36	..	10	1	70	10	50	..
30	Kharar	4,091	88	80	168	41.07	..	..	36	35	2	37	..
	SIMLA DISTRICT.												
31	Simla	26,149	333	288	621	23.75	..	13	..	26	11	50	..

VI-B (TOWNS).

TOWNS OF THE PUNJAB DURING THE YEAR 1929.

11			12	13	14											15		
					RATIO OF DEATHS PER 1,000 OF POPULATION.													
Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.												From all causes.		Number.
					Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean ratio of previous five years.				
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32			
..	373	783	0.05	3.41	..	10.93	0.28	4.48	..	17.42	36.56	41.48	1			
..	211	631	..	2.33	..	17.63	1.62	5.64	..	13.68	40.91	49.72	2			
..	885	1,435	0.03	1.92	0.03	10.40	2.13	2.01	..	26.60	43.13	45.43	3			
..	132	371	0.12	1.54	..	9.11	0.86	3.08	..	8.13	22.84	35.10	4			
..	10	36	..	..	..	7.78	0.86	2.59	..	4.32	15.56	38.56	5		
2	..	2	198	675	0.40	0.08	..	12.44	1.35	4.56	0.08	7.84	26.74	36.38	6			
2	..	1	3	160	371	..	0.19	..	9.72	2.31	7.04	0.28	14.81	34.35	47.63	7		
3	..	1	4	90	308	..	0.27	..	21.60	3.49	3.35	0.54	12.07	41.32	42.88	8		
..	32	131	0.20	0.78	0.39	13.51	0.98	3.52	..	6.27	25.65	59.37	9			
1	..	1	63	208	..	..	..	17.63	1.51	5.04	0.17	10.58	34.93	50.61	10
2	..	2	75	402	1.16	..	..	18.03	1.46	4.39	0.15	5.78	30.97	53.23	11	
..	..	1	26	200	..	..	..	12.28	0.90	8.95	0.13	3.32	25.58	37.72	12
..	275	764	..	0.04	..	12.41	2.42	6.27	..	11.89	33.03	34.86	13			
1	..	1	105	300	0.64	..	..	14.54	2.35	3.21	0.11	11.23	32.08	46.90	14	
2	..	2	48	222	5.28	..	..	21.80	5.50	5.28	0.44	10.57	48.88	45.44	15	
..	83	171	..	..	..	10.08	0.51	4.44	..	14.18	29.21	46.05	16		
3	..	3	55	136	..	..	..	15.05	1.61	4.30	0.81	14.78	36.55	44.18	17
..	1	1	7	89	..	..	..	16.14	1.61	0.92	0.23	1.61	20.52	27.48	18
2	..	2	24	97	..	..	..	5.83	2.14	5.83	0.39	4.67	18.86	Not available.	19
..	243	847	1.75	0.18	..	18.91	2.76	2.85	..	10.64	37.08	42.80	20			
..	170	499	0.13	2.20	..	13.70	2.26	2.97	..	10.98	32.24	48.74	21			
..	383	1,079	1.61	0.59	..	13.53	4.17	5.56	..	14.01	39.46	51.47	22			
..	106	284	..	..	..	11.21	1.41	3.09	..	9.36	25.07	32.91	23		
..	29	97	..	0.24	..	15.38	..	0.47	..	6.86	22.95	28.58	24			
..	253	653	0.35	0.03	..	7.91	1.15	4.55	..	8.85	22.85	28.17	25			
..	126	535	0.35	0.09	..	24.52	2.77	7.71	..	10.91	46.34	48.54	26			
..	56	113	..	..	..	7.27	0.28	8.40	..	15.67	31.62	34.19	27		
..	82	230	..	..	..	6.42	1.31	11.66	..	10.75	30.14	36.30	28		
..	75	216	..	1.31	0.13	9.20	1.31	6.57	..	9.86	28.40	35.10	29			
..	38	148	..	..	8.80	8.56	0.49	9.04	..	9.29	36.18	Not available.	30		
1	..	1	377	478	..	0.50	..	0.99	0.42	1.91	0.04	14.42	18.28	19.67	31			

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN 1921

1	2	3	4				5	6	7	8	9	10	
Number.	Towns.	Population according to Census of 1921.	BIRTHS.				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Males.
			Males.	Females.	Total.	Birth rate per 1,000 of population.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
32	KANGRA DISTRICT.												
	Kangra	3,581	49	31	80	22.34	..	..	..	41	10	20	..
33	Dharamsala	3,005	38	35	73	23.82	..	..	..	42	2	28	..
34	Palampur	529	6	5	11	20.79	..	..	..	5	5	7	..
35	Nurpur	3,421	72	53	125	36.54	1	..	..	36	5	13	..
36	HOSHIAHPUR DISTRICT.												
	Hoshiarpur	21,285	433	407	840	39.46	7	14	..	235	31	122	..
37	Khanpur	2,701	48	47	95	35.17	1	2	..	43	..	5	..
38	Hariana	5,205	109	87	196	37.66	..	1	..	85	2	10	..
39	Gardhiwala	5,196	57	54	111	21.36	..	6	..	28	3	20	..
40	Dasuyah	3,889	148	144	292	75.08	1	5	..	41	5	22	..
41	Tanda Urmur	8,362	198	178	376	44.97	..	82	..	157	6	35	..
42	Miani	4,934	126	119	245	49.66	..	24	..	104	5	16	..
43	Mukerian	2,346	74	80	154	65.64	..	..	2	30	3	19	..
44	Una	4,603	65	53	118	25.64	..	..	..	55	1	8	..
45	Anandpur	3,522	48	55	103	29.24	..	18	..	38	3	9	..
46	Garhshankar	5,196	67	49	116	22.32	..	..	..	55	..	10	..
47	JULLUNDUR DISTRICT.												
	Jullundur	59,085	1,503	1,422	2,925	49.50	6	14	..	692	110	472	..
48	Kartarpur	8,512	248	204	452	53.10	..	1	..	155	12	57	..
49	Bungah	5,089	95	121	216	42.44	..	..	..	69	7	10	..
50	Rahon	5,947	140	147	287	48.26	..	1	..	96	2	18	..
51	Phillour	4,696	123	109	232	49.40	..	16	..	59	10	33	..
52	Nurmahal	6,845	182	154	336	49.09	..	..	..	80	11	75	..
53	Nakodar	9,434	207	193	400	42.40	..	24	..	120	12	50	..
54	Nawanshahr	5,316	124	111	235	44.21	..	20	..	73	9	21	..
55	LUDHIANA DISTRICT.												
	Ludhiana	51,886	1,245	1,095	2,340	45.10	2	157	..	629	54	449	..
56	Jagraon	17,731	479	429	908	51.21	17	65	..	174	23	52	..
57	Rackot	8,379	222	158	380	45.35	..	4	..	91	17	27	..
58	Khanna	5,365	86	95	181	33.74	..	..	..	48	8	21	..
59	FEROZEPUR DISTRICT.												
	Ferozepore	29,695	634	595	1,229	41.39	4	7	..	221	75	232	..
60	Zira	4,622	115	90	205	44.35	..	..	..	60	2	14	..
61	Dharmkot	5,960	144	123	267	44.80	..	16	..	88	5	39	..
62	Muktsar	10,539	277	227	504	47.82	..	2	1	118	9	62	..
63	Fazilka	13,829	297	279	576	41.65	..	9	..	236	12	69	..
64	Moga	14,145	308	254	562	39.73	2	3	..	125	3	45	..
65	Abohar	8,916	134	109	243	27.25	..	2	..	57	4	14	..
66	Gidarbaha	5,178	63	68	131	25.30	..	..	..	34	5	14	..
67	Gurubarsahai	430	17	13	30	69.77	..	..	..	19	..	4	..
68	Jalalabad	3,833	112	102	214	55.83	1	..	..	67	3	21	..

VL-B (TOWNS)—CONTINUED.

S OF THE PUNJAB DURING THE YEAR 1919—CONTINUED.

11	12			13	14											15	
					RATIO OF DEATHS PER 1,000 OF POPULATION.												
Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		Number.		
													For the year.	Mean ratio of previous five years.			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
..	71	..	..	..	11.45	2.79	5.59	..	..	19.83	24.63	32		
..	1	73	..	..	..	13.70	0.65	9.14	..	0.33	23.82	21.08	33		
..	17	..	..	..	9.45	9.45	13.23	..	..	32.14	38.19	34		
..	1	56	0.29	..	..	10.52	1.46	3.80	..	0.29	16.37	Not available	35		
2	..	3	98	510	0.33	0.66	..	11.04	1.46	5.73	0.14	4.60	23.96	27.12	36		
..	12	63	0.37	0.74	..	15.92	..	1.85	..	4.44	23.32	34.58	37		
..	14	112	..	0.19	..	16.33	0.38	1.62	..	2.69	21.52	25.05	38		
..	19	76	..	1.15	..	5.39	0.58	3.85	..	3.66	14.63	16.71	39		
4	..	4	25	103	0.26	1.29	..	10.54	1.29	5.66	1.03	6.43	26.48	48.55	40		
..	24	304	..	9.81	..	18.78	0.72	4.19	..	2.87	36.35	31.93	41		
..	12	161	..	4.86	..	21.08	1.01	3.24	..	2.43	32.63	31.33	42		
2	..	2	29	85	..	..	0.85	12.79	1.28	8.10	0.85	12.36	36.23	55.92	43
2	..	2	9	75	..	..	..	11.95	0.22	1.74	0.43	1.96	16.29	26.85	44
..	10	78	..	5.11	..	10.79	0.85	2.56	..	2.84	22.15	28.79	45		
..	4	69	..	..	..	10.59	..	1.92	..	0.77	13.28	Not available	46		
7	..	2	39	407	1,740	0.10	0.24	11.71	1.86	7.99	0.66	6.89	29.45	30.34	47		
4	..	4	45	274	..	0.12	..	18.21	1.41	6.70	0.47	5.29	32.19	37.88	48		
1	..	1	21	108	..	..	..	13.56	1.38	1.97	0.20	4.13	21.22	21.89	49
2	..	2	5	13	135	..	0.17	16.14	0.34	3.03	0.84	2.19	22.70	28.72	50		
2	..	2	37	157	..	3.41	..	12.56	2.13	7.03	0.43	7.88	33.43	34.97	51		
..	36	202	..	..	..	11.69	1.61	10.96	..	5.26	29.51	28.49	52		
1	..	1	75	282	..	2.54	..	12.72	1.27	5.39	0.11	7.95	29.89	27.96	53		
..	16	139	..	3.76	..	13.73	1.69	3.95	..	3.01	26.15	Not available	54		
..	..	1	276	1,568	0.04	3.03	..	12.12	1.04	8.65	0.02	5.32	30.22	30.00	55		
..	291	622	0.96	3.67	..	9.81	1.30	2.93	..	16.41	35.08	32.45	56		
..	94	233	..	0.48	..	10.86	2.03	3.22	..	11.22	27.81	29.05	57		
..	21	98	..	..	..	8.95	1.49	3.91	..	3.91	18.27	22.52	58		
9	..	10	168	717	0.13	0.24	..	7.44	2.53	7.81	0.34	5.66	24.15	23.79	59		
..	41	117	..	..	..	1.298	0.43	3.03	..	8.87	25.31	32.67	60		
1	..	1	3	49	200	..	2.68	14.77	0.84	6.54	0.50	8.22	33.56	32.38	61		
4	..	1	5	105	302	..	0.19	0.09	11.20	0.85	5.88	0.47	9.96	28.66	30.25	62	
..	1	1	98	425	..	0.65	..	17.07	0.87	4.99	0.07	7.09	30.73	33.73	63		
2	..	2	56	236	0.14	0.21	..	8.84	0.21	3.18	0.14	3.96	16.68	19.20	64		
..	21	98	..	0.22	..	6.39	0.45	1.57	..	2.36	10.99	17.29	65		
2	..	2	24	79	..	..	..	6.57	0.97	2.70	0.39	4.63	15.26	6.95	66
..	4	27	..	..	..	44.19	..	9.30	..	9.30	62.79	Not avail- able.	67		
..	1	1	21	114	0.26	..	..	17.48	0.78	5.48	0.26	5.48	29.74	68	68

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN T

1	2	3	4				5	6	7	8	9	10	
Number.	TOWNS.	Population according to Census of 1921.	BIRTHS.				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	I
			Males.	Females.	Total.	Birth rate per 1,000 of population.							Suicide
1	2	3	4	5	6	7	8	9	10	11	12	13	14
LAHORE DISTRICT.													
69	Lahore	257,295	5,502	5,062	10,564	41.06	64	179	..	3,093	703	2,364	2
70	Chunian	7,642	173	178	351	45.93	1	2	..	179	10	19	1
71	Khudian	3,344	104	96	200	59.81	3	1	..	54	8	18	..
72	Kasur	31,018	800	728	1,528	49.26	46	5	..	440	51	127	..
73	Khem Karan ..	6,152	178	191	369	59.98	4	9	..	115	3	26	..
74	Patti	10,439	290	242	532	50.96	2	..	..	147	23	45	..
75	Baghbanpura-Bhogiwal ..	10,251	324	259	583	56.87	..	16	..	271	5	38	..
76	Ichhra	3,584	85	69	154	42.97	3	2	..	54	..	19	..
77	Pattoki Mandi ..	3,836	104	64	168	43.80	16	3	..	54	1	11	..
78	Kot Rai Boota Mal and Azamabad.	3,191	27	35	62	19.43	..	3	..	4	..	2	..
79	Niaz Beg	2,960	25	31	56	18.92	..	3	..	9	3	3	..
80	Padhana	4,606	121	82	203	44.07	..	4	..	66	1	13	..
81	Sur Singh	5,674	144	127	271	47.76	..	..	..	35	5	26	..
AMRITSAR DISTRICT.													
82	Amritsar	157,031	4,351	3,921	8,272	52.68	108	139	..	2,988	174	2,009	8
83	Majithia	5,664	116	124	240	42.37	10	..	..	71	20	20	1
84	Jandiala	7,464	214	217	431	57.74	2	..	..	130	11	24	..
85	Tarn Taran	5,988	174	143	317	52.94	..	4	..	53	12	25	..
86	Ram Dass	3,553	96	111	207	58.26	..	..	..	128	3	3	..
87	Sultan Wind	5,572	126	125	251	45.05	3	..	..	101	6	22	..
GURDASPUR DISTRICT.													
88	Gurdaspur	8,906	206	187	393	44.13	..	..	..	87	11	19	..
89	Dina Nanagar ..	4,047	126	101	227	56.09	2	..	4	67	4	11	..
90	Pathankot	7,353	209	231	440	59.84	1	4	..	115	5	31	..
91	Dalhousie	1,457	19	11	30	20.59	..	..	..	15	..	7	..
92	Batala	26,122	782	695	1,477	56.54	71	16	..	537	51	113	1
93	Dera Nanak	4,333	105	94	199	45.93	..	..	..	81	5	6	1
94	Dhariwal	3,351	88	76	164	48.94	..	1	..	69	5	22	..
95	Sujanpur	4,756	107	122	229	48.15	..	2	..	54	7	14	..
96	Narot	2,095	31	59	90	42.96	..	..	58	36	2	4	..
97	Fat hgarh	4,559	91	83	174	38.17	..	..	..	46	2	10	..
98	Qadian	4,448	101	97	198	44.51	2	..	..	62	2	10	..
99	Sri Gobindpur ..	2,971	82	66	148	49.81	..	..	..	59	..	3	..

VI-B (TOWNS)—CONTINUED.

TOWNS OF THE PUNJAB DURING THE YEAR 1929—CONTINUED.

11			12	13	14										15
					RATIO OF DEATHS PER 1,000 OF POPULATION.										
Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	F r e q u e n c y		Number.
													For the year.	Mean ratio of previous five years.	
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
3	3	142	2,366	8,911	0.25	0.70	..	12.02	2.73	9.19	0.55	9.20	34.63	33.95	69
..	..	2	77	290	0.13	0.26	..	23.42	1.31	2.49	0.26	10.08	37.95	43.78	70
..	..	1	32	117	0.90	0.30	..	16.15	2.39	5.38	0.30	9.57	34.99	50.78	71
..	..	12	338	1,019	1.48	0.16	..	14.19	1.64	4.09	0.39	10.90	32.85	38.00	72
..	..	2	75	234	0.65	1.46	..	18.69	0.49	4.23	0.33	12.19	38.04	35.70	73
..	109	326	0.19	..	..	14.08	2.20	4.31	..	10.44	31.23	38.09	74
..	..	2	86	418	..	1.56	..	25.44	0.49	3.71	0.20	8.39	40.78	38.05	75
..	15	93	0.84	0.56	..	15.07	..	5.30	..	4.19	25.95	13.45	76
..	15	100	4.17	0.78	..	14.08	0.26	2.87	..	3.91	26.07	46.14	77
..	1	10	..	0.94	..	1.25	..	0.63	..	0.31	3.13	} Not available.	78
..	1	19	..	1.01	..	3.04	1.01	1.01	..	0.34	6.42		79
..	..	1	25	110	..	0.87	..	14.33	0.22	2.82	0.22	5.43	23.88		80
..	..	3	36	105	..	..	..	6.17	0.88	4.58	0.53	6.34	18.51		81
1	1	93	1,239	6,750	0.69	0.89	..	19.03	1.11	12.79	0.59	7.89	42.99	42.72	82
..	..	2	25	148	1.77	..	..	12.54	3.53	3.53	0.35	4.41	26.13	39.05	83
..	..	2	45	214	0.27	..	..	17.42	1.47	3.22	0.27	6.03	28.67	32.40	84
..	..	1	29	124	..	0.67	..	8.85	2.00	4.18	0.17	4.84	20.71	20.94	85
..	..	1	10	145	..	..	..	36.03	0.84	0.84	0.28	2.81	40.81	} Not available.	86
..	41	173	0.54	..	..	18.13	1.08	3.95	..	7.36	31.05		87
..	..	2	57	176	..	..	..	9.77	1.24	2.13	0.22	6.40	19.76	32.14	88
..	..	5	48	141	0.49	..	0.99	16.56	0.99	2.72	1.24	11.86	34.84	52.84	89
..	..	2	88	246	0.14	0.54	..	15.64	0.68	4.22	0.27	11.97	33.46	46.51	90
..	..	1	5	28	..	..	..	10.30	..	4.80	0.69	3.43	19.22	16.88	91
..	..	14	279	1,081	2.72	0.61	..	20.56	1.95	4.33	0.54	10.68	41.38	37.16	92
..	..	3	21	116	..	..	..	18.69	1.15	1.38	0.69	4.85	26.77	29.36	93
..	..	8	56	161	..	0.30	..	20.59	1.49	6.57	2.39	16.71	48.05	} Not available.	94
..	..	1	52	130	..	0.42	..	11.35	1.47	2.94	0.21	10.93	27.33		95
..	..	1	33	134	..	..	27.70	17.18	0.95	1.91	0.48	15.75	63.96		96
..	..	2	24	84	..	..	..	10.09	0.44	2.19	0.44	5.26	18.43		97
..	..	3	24	103	0.45	..	..	13.94	0.45	2.25	0.67	5.40	23.16	} Not available.	98
1	1	2	19	83	..	..	..	19.86	..	1.01	0.67	6.40	27.94		99

ANNUAL FOR

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE

1	2	3	4				5	6	7	8	9	10	11	
Number.	Towns.	Population according to Census of 1921.	BIRTHS.				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injury	
			Males.	Females.	Total.	Birth rate per 1,000 of population.							Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SIALKOT DISTRICT.														
100	Sialkot	56,018	1,636	1,630	3,266	58.30	123	11	..	822	127	531	..	..
101	Daska	6,283	87	61	148	23.56	..	8	..	36	3	6	..	..
102	Jamke	3,621	83	55	138	38.11	..	..	..	50	9	13	..	..
103	Pasrur	6,909	173	171	344	49.79	..	3	..	81	6	59	..	..
104	Zaffarwal	3,873	70	65	135	34.86	..	2	..	28	2	24	..	..
105	Narowal	5,343	167	140	307	57.46	..	2	..	84	6	55	..	..
106	Sambrial	3,324	51	56	107	32.19	1	..	..	30	2	4	..	..
107	Sahowala	3,410	86	66	152	44.57	2	..	..	37	1	9	..	..
108	Begowala	3,697	89	68	157	42.47	8	..	..	18	5	6	..	..
109	Bhopalwala	3,767	64	65	129	34.24	1	1	..	44	..	8	..	..
110	Mitranwali	3,177	90	79	169	53.19	..	4	..	65	1	7	..	..
111	Badomali	2,849	69	47	116	40.72	..	..	..	33	1	4	..	..
112	Kalaswala	2,846	78	65	143	50.25	1	3	..	40	2	11	..	..
113	Daud	3,285	69	60	129	39.27	..	..	..	43	..	3	..	..
114	Chawinda	4,979	130	126	256	51.42	4	1	..	40	3	39	..	..
GUJRANWALA DISTRICT.														
115	Gujranwala	37,887	1,097	825	1,922	50.73	1	9	..	761	41	163	1	..
116	Wazirabad	18,645	377	346	723	38.78	4	12	..	201	8	63	..	..
117	Eminabad	5,816	133	103	236	40.58	2	1	..	105	2	7	..	..
118	Kila Didar Singh	2,544	66	55	121	47.56	..	..	..	30	1	15	..	..
119	Akalgah	5,147	126	101	227	44.10	1	2	..	84	3	12	..	..
120	Ramnagar	4,632	59	45	104	22.45	..	4	..	70	1	6	..	..
121	Sohdra	4,250	99	80	179	42.12	3	..	..	55	..	20	..	..
122	Hafizabad	8,854	169	146	315	35.58	..	12	..	101	1	7	..	..
123	Pindi Bhattian	3,845	79	85	164	42.65	..	..	..	66	2	17	..	..
SHEIKHUPURA DISTRICT.														
124	Khangah Degran	5,201	17	14	31	5.96	..	1	..	7	..	..	..	..
125	Sangla	5,961	57	45	102	17.11	..	..	..	5	..	4	..	..
126	Sharakpur	4,127	102	97	199	48.22	..	5	..	60	5	12	..	..
127	Shahkot	1,545	23	28	51	33.01	..	..	..	20	..	9	..	..
128	Chuharkana Mandi	3,847	49	32	81	21.06	..	..	..	19	2	5	..	..
129	Nankana Sahib	11,733	137	138	275	23.44	28	..	..	56	2	7	..	..
130	Shahdara	4,998	86	58	144	28.81	..	13	..	37	1	9	..	..
131	Sheikhupura	3,487	129	100	229	65.67	..	..	..	46	5	2	..	..

o. IV-B (TOWNS) —CONTINUED.

TOWNS OF THE PUNJAB DURING THE YEAR 1929.

11					12	13	14											15	
ES.					RATIO OF DEATHS PER 1,000 OF POPULATION.														
Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.					
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32			
18	1	2	21	320	1,955	2.20	0.20	..	14.67	2.27	9.48	0.37	5.71	34.90	36.71	100			
1	1	17	71	..	1.27	..	5.73	0.48	0.95	0.16	2.71	11.30	25.78	101			
..	1	19	92	..	..	..	13.81	2.49	3.59	0.28	5.25	25.41	31.37	102		
4	4	44	197	..	0.43	..	11.72	0.87	8.54	0.58	6.37	28.51	32.65	103			
2	2	13	71	..	0.52	..	7.23	0.52	6.20	0.52	3.36	18.33	32.17	104			
..	21	168	..	0.37	..	15.72	1.12	10.29	..	3.93	31.44	34.14	105			
..	6	43	0.30	..	..	9.03	0.60	1.20	..	1.80	12.94	26.17	106			
..	1	..	1	10	60	0.59	..	..	10.85	0.29	2.64	0.29	2.93	17.60	18.83	107	
..	6	43	2.16	..	..	4.87	1.35	1.62	..	1.62	11.63	26.51	108			
..	6	60	0.27	0.27	..	11.68	..	2.12	..	1.59	15.93	24.42	109			
3	3	18	98	..	1.26	..	20.46	0.31	2.20	0.94	5.67	30.85	46.58	110			
1	1	7	46	..	..	..	11.58	0.35	1.40	0.35	2.46	16.15	34.89	111		
..	27	84	0.35	1.05	..	14.05	0.70	3.87	..	9.49	29.52	30.29	112			
1	1	..	2	12	60	..	..	..	13.09	..	0.91	0.61	3.65	18.26	32.21	113
..	38	125	0.80	0.20	..	8.03	0.60	7.83	..	7.63	25.11	32.54	114			
19	1	..	21	341	1,337	0.03	0.24	..	20.09	1.08	4.30	0.55	9.00	35.29	39.98	115			
4	4	71	363	0.21	0.64	..	10.78	0.43	3.38	0.21	3.81	19.47	27.03	116			
1	1	10	128	0.34	0.17	..	18.05	0.34	1.20	0.17	1.72	22.01	30.95	117			
1	1	9	56	..	..	..	11.79	0.39	5.90	0.39	3.54	22.01	35.93	118		
2	2	16	120	0.19	0.39	..	16.32	0.58	2.33	0.39	3.11	23.31	27.78	119			
3	2	..	5	16	102	..	0.86	..	15.11	0.22	1.30	1.08	3.45	22.02	47.93	120			
..	6	84	0.71	..	..	12.94	..	4.71	..	1.41	19.76	39.15	121			
4	4	28	153	..	1.36	..	11.41	0.11	0.79	0.45	3.16	17.28	24.31	122			
1	1	..	2	22	109	..	..	..	17.17	0.52	4.42	0.52	5.72	28.35	22.21	123
1	1	4	13	..	0.19	..	1.35	..	..	0.19	0.77	2.50	7.46	124		
..	1	10	..	..	..	0.84	..	0.67	..	0.17	1.68	9.43	125			
..	..	1	1	36	119	..	1.21	..	14.54	1.21	2.91	0.24	8.72	28.83	39.93	126			
..	4	33	..	..	..	12.94	..	5.83	..	2.59	21.36	26.80	127			
2	2	12	40	..	..	..	4.94	0.52	1.30	0.52	3.12	10.40	14.35	128		
2	2	21	116	2.39	..	..	4.77	0.17	0.60	0.17	1.79	9.89	10.42	129		
1	1	8	69	..	2.60	..	7.40	0.20	1.80	0.20	1.60	13.81	Not available.	130			
2	2	21	76	..	..	..	13.19	1.43	0.57	0.57	6.02	21.80		131		

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN T

1	2	3	4				5	6	7	8	9	10	
Number.	Towns.	Population according to Census of 1921.	Births.				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Males.
			Males.	Females.	Total.	Birth rate per 1,000 of population.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
GUJRAT DISTRICT.													
132	Gujrat	21,974	603	536	1,139	51.83	6	8	..	350	37	144	..
133	Jalalpur	10,792	236	228	464	42.99	27	9	..	183	17	109	..
134	Kunjah	7,240	175	160	335	46.27	..	9	..	115	3	29	..
135	Dinga	6,014	120	111	231	38.41	..	..	..	88	1	10	..
136	Kharian	2,949	77	45	122	41.37	..	..	..	23	..	5	..
SHAHPUR DISTRICT.													
137	Shahpur	4,590	75	80	155	33.77	..	1	..	129	4	34	..
138	Sahiwal	6,582	180	122	302	45.88	..	17	..	295	9	33	..
139	Bhera	17,027	361	369	730	42.87	..	19	..	616	51	116	..
140	Miani	5,965	128	136	264	44.26	..	43	..	235	3	19	..
141	Khushab	10,009	253	244	497	49.66	..	31	..	196	41	87	..
142	Sargodha	17,728	368	265	633	35.70	1	8	..	129	21	77	..
143	Shahpur Civil Station ..	2,481	33	36	69	27.81	..	..	..	32	8	75	..
144	Bhalwal	4,082	78	58	136	33.32	..	4	..	64	9	21	..
145	Nurpur	5,117	89	46	135	26.38	..	..	..	129	14	15	..
146	Sillanwali	2,205	40	38	78	35.37	..	..	..	10	..	7	..
JHELM DISTRICT.													
147	Jhelum	14,422	295	262	557	38.62	10	4	..	122	12	75	..
148	Pind Dadan Khan ..	9,919	200	176	376	37.90	1	..	..	239	12	12	..
149	Chakwal	7,425	136	125	261	35.15	3	1	..	73	10	36	..
RAWALPINDI DISTRICT.													
150	Rawalpindi	55,251	1,320	1,110	2,430	43.98	..	50	..	792	88	363	..
151	Murree	2,397	36	27	63	26.28	..	..	..	20	1	8	..
ATTOCK DISTRICT.													
152	Pindigheb	9,419	190	156	346	36.73	..	..	..	158	15	64	..
153	Hazro	8,408	183	175	358	42.58	..	13	..	91	6	79	..
154	Campbellpur	3,669	85	86	171	46.61	..	3	..	26	3	11	1
MIANWALI DISTRICT.													
155	Mianwali	9,115	227	219	446	48.93	..	..	..	99	6	17	..
156	Bhakkar	6,193	164	150	314	50.70	1	1	..	187	28	45	..
157	Isa Khel	6,172	159	146	305	49.42	3	..	..	84	2	20	..
158	Kalabagh	8,455	176	164	340	40.21	..	6	..	199	11	16	..
MONTGOMERY DISTRICT.													
159	Montgomery	14,601	216	143	359	24.59	..	8	..	92	8	27	..
160	Kamalia	8,916	241	212	453	50.81	..	4	..	154	16	12	..
161	Pakpattan	7,218	183	143	326	45.16	..	1	..	278	6	27	..
162	Okara	4,975	56	46	102	20.50	..	..	..	27	1	14	1
163	Chichawatni	2,100	37	32	69	32.86	..	6	..	20	1	4	..
164	Arafwala	1,000	17	17	34	34.00	..	1	..	7	..	2	..

VI-B (Towns)—CONTINUED.

TOWNS OF THE PUNJAB DURING THE YEAR 1929—continued.

11				12	13	14										15	
a.				All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.										From all causes.	
b.	Snake-bite and killed by wild beasts.	Rabies.	Total.			Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean ratio of previous five years.		Numbers.
6	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
14	1	..	15	128	688	0.27	0.36	..	15.93	1.68	6.55	0.68	5.83	31.31	37.14	132	
7	7	44	396	2.50	0.83	..	16.96	1.58	10.10	0.65	4.08	36.69	40.90	133	
..	48	204	..	1.24	..	15.88	0.41	4.01	..	6.63	28.18	54.42	134	
1	1	7	107	..	..	..	14.63	0.17	1.66	0.17	1.16	17.79	21.95	135	
..	1	19	48	..	..	..	7.80	..	1.70	0.34	6.44	16.28	Not avail-able.	136	
4	..	1	5	19	192	..	0.22	..	28.10	0.87	7.41	1.09	4.14	41.83	23.88	137	
3	1	..	4	29	387	..	2.58	..	44.82	1.37	5.01	0.61	4.41	58.80	33.00	138	
9	..	1	10	138	950	..	1.12	..	36.18	3.00	6.81	0.59	8.10	55.79	33.88	139	
2	..	1	3	44	347	..	7.21	..	39.40	0.50	3.19	0.50	7.38	58.17	34.40	140	
2	2	52	409	..	3.10	..	19.58	4.10	8.69	0.20	5.20	40.86	25.42	141	
9	9	44	289	0.06	0.45	..	7.28	1.18	4.34	0.51	2.48	16.30	14.26	142	
..	9	124	..	..	..	12.90	3.22	30.23	..	3.63	49.98	Not avail-able.	143	
4	4	9	111	..	0.98	..	15.68	2.20	5.14	0.98	2.20	27.19		144	
..	13	171	..	..	..	25.21	2.74	2.93	..	2.54	33.42		145	
..	3	20	..	..	..	4.54	..	3.17	..	1.36	9.07		146	
..	76	299	0.69	0.28	..	8.46	0.83	5.20	..	5.27	20.73	30.86	147	
4	4	43	311	0.10	..	..	24.10	1.21	1.21	0.40	4.34	31.35	33.29	148	
4	4	32	159	0.40	0.13	..	9.83	1.35	4.85	0.54	4.31	21.41	31.11	149	
42	44	401	1,738	..	0.90	..	14.33	1.59	6.57	0.80	7.26	31.46	31.09	150	
1	1	7	37	..	..	..	8.34	0.42	3.34	0.42	2.92	15.44	13.18	151	
3	3	9	249	..	..	..	16.77	1.59	6.79	0.32	0.96	26.44	23.74	152	
1	1	20	210	..	1.55	..	10.82	0.71	9.40	0.12	2.38	24.98	23.74	153	
1	2	29	84	..	0.82	..	9.81	0.82	3.00	0.55	7.90	22.89	12.48	154	
..	13	135	..	..	..	10.86	0.66	1.87	..	1.43	14.81	16.80	155	
3	3	56	321	0.16	0.16	..	30.20	4.52	7.27	0.48	9.04	51.83	34.75	156	
1	1	45	155	0.49	..	..	13.61	0.32	3.24	0.16	7.29	25.11	24.40	157	
3	3	20	255	..	0.71	..	23.54	1.30	1.89	0.35	2.37	30.16	25.55	158	
2	2	57	194	..	0.55	..	6.30	0.55	1.85	0.14	3.90	13.29	13.38	159	
4	1	..	5	89	280	..	0.45	..	17.27	1.79	1.35	0.56	9.98	31.40	31.47	160	
3	1	..	4	51	367	..	0.14	..	38.51	0.83	3.74	0.55	7.07	50.85	40.70	161	
..	1	6	49	..	..	..	5.43	0.20	2.81	0.20	1.21	9.85	277.0	162	
..	4	35	..	2.86	..	9.52	0.48	1.90	..	1.90	16.67	Not avail-able.	163	
..	3	13	..	1.00	..	7.00	..	2.00	..	3.00	13.00		164	

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN

1 Number.	2 Towns.	3 Population according to Census of 1921.	4 BIRTHS.				5 Cholera.	6 Small-pox.	7 Plague.	8 Fevers.	9 Dysentery and Diarrhoea.	10 Respiratory diseases.	11 Males.
			Males.	Females.	Total.	Birth rate per 1,000 of population.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	LYALLPUR DISTRICT.												
165	Lyalpur	28,136	596	500	1,096	38.95	2	21	1	381	20	80	..
166	Gojra	7,622	152	110	262	34.37	..	3	..	60	1	16	..
167	Samundri	1,575	49	17	66	41.90	..	..	..	41	3	10	..
168	Tandlianwala	3,674	86	73	159	43.28	..	16	..	38	..	5	..
169	Chak Jhumra	3,340	47	51	98	29.34	..	..	..	35	..	3	..
170	Toba Tek Singh	5,041	78	60	138	27.38	..	5	..	35	..	6	..
171	Jaranwala	4,244	82	81	163	38.41	1	1	..	38	1	1	..
172	JHANG DISTRICT. Jhang-Maghisana	30,139	867	687	1,554	51.56	1	19	..	421	54	125	..
173	Chiniot	17,513	500	499	999	57.02	..	2	..	288	13	70	..
174	Ahmadpur	4,045	85	86	171	42.27	..	..	..	46	11	11	..
175	Sherkot	5,317	151	137	288	54.17	..	2	..	157	3	17	..
176	MULTAN DISTRICT. Multan	89,162	2,119	1,978	4,097	45.95	1	15	..	1,728	356	897	..
177	Shujabad	6,730	154	139	293	43.54	1	..	..	175	16	42	..
178	Jahanian	822	4	6	10	12.17	..	..	..	..	..	..	..
179	Mian Channu	2,294	39	40	79	34.44	..	..	..	38	1	6	..
180	Khanewal	5,647	86	66	152	26.92	..	..	..	45	5	11	..
181	Kahror	6,039	54	49	103	17.06	..	..	..	67	3	13	..
182	Kabirwala	1,245	12	5	17	13.65	..	..	..	6	..	..	..
183	Burewala	1,231	7	14	21	17.06	..	..	..	6	..	1	..
184	MUZAFFARGARH DISTRICT. Muzaffargarh	5,386	85	96	181	33.61	..	2	..	120	22	25	..
185	Khangarh	3,184	69	65	134	42.69	..	..	..	122	7	7	..
186	Ahpar	3,434	72	59	131	38.15	..	..	..	65	8	23	..
187	Lewala	8,476	163	152	315	37.16	..	..	..	277	15	20	..
188	Karor	3,539	87	61	148	41.82	3	..	..	162	4	7	..
189	Kot Adu	5,267	67	73	140	26.58	..	..	..	98	3	12	..
190	Khairpur Saadat DERA GHAZI KHAN DISTRICT. Dera Khan Ghazi	2,477	42	25	67	27.05	..	..	..	19	..	8	..
191	20,731	389	346	735	35.45	..	..	..	..	432	59	33	..
192	Jampur	7,317	193	224	417	56.99	..	..	..	255	36	26	..
193	Dajal	5,775	162	151	313	54.20	..	..	..	295	8	25	..
194	Rajanpur	3,964	113	117	230	58.02	..	2	..	199	5	18	..
195	Kot Mithan	3,204	75	85	160	49.94	..	1	..	170	3	7	..
196	Kot Chhutta	2,431	70	60	130	53.48	..	..	..	72	14	19	..
197	Vahoa	2,488	42	57	99	39.79	..	..	..	139	3	3	..
198	Taunsa	5,533	79	49	128	23.13	..	1	..	101	..	2	..
Total		2,220,748	51,528	46,274	97,802	44.04	780	1,606	106	32,863	3,667	13,253	22
Total of the Province		20,517,606	481,885	430,033	911,918	44.45	2,309	7,763	2,053	402,429	13,208	51,877	128

I-B. (TOWNS)—CONCLUDED.

OF THE PUNJAB DURING THE YEAR 1929—CONCLUDED.

11			12	13	14										15
			All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
Snake-bite and killed by wild beasts.	Rabies.	Total.			Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		
													For the year.	Mean ratio of previous five years.	
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
..	..	31	139	675	0.07	0.75	0.04	13.54	0.71	2.84	1.10	4.94	23.99	13.33	165
..	..	3	24	107	..	0.39	..	7.87	0.13	2.10	0.39	3.15	14.04	17.24	166
..	5	59	..	..	..	26.03	1.90	6.35	..	3.17	37.46	31.87	167
..	..	1	4	64	..	4.35	..	10.34	..	1.36	0.27	1.09	17.42	Not avail- able.	168
..	..	3	7	48	..	..	..	10.48	..	0.90	0.90	2.10	14.37		169
..	6	52	..	0.99	..	6.94	..	1.19	..	1.19	10.32		170
..	..	2	3	47	0.24	0.24	..	8.95	0.24	0.24	0.47	0.71	11.07		171
..	..	7	217	844	0.03	0.63	..	13.97	1.79	4.15	0.23	7.20	28.00	29.79	172
..	..	13	136	522	..	0.11	..	16.44	0.74	4.00	0.74	7.77	29.81	34.07	173
..	..	2	22	92	..	..	..	11.37	2.72	2.72	0.49	5.44	22.74	28.28	174
..	..	1	32	212	..	0.38	..	29.53	0.56	3.20	0.19	6.02	39.87	Not available.	175
..	..	90	645	3,732	0.01	0.17	..	19.38	3.99	10.06	1.01	7.23	41.86	33.77	176
..	..	1	55	290	0.15	..	..	26.00	2.38	6.24	0.15	8.17	43.09	34.32	177
..	..	4	..	4	..	..	..	..	..	..	4.87	..	4.87	12.65	178
..	8	53	..	..	..	16.56	0.44	2.62	..	3.49	23.10	9.24	179
..	9	70	..	..	..	7.97	0.89	1.95	..	1.59	12.40	11.09	180
..	15	98	..	..	..	11.09	0.50	2.15	..	2.48	16.23	Not avail- able.	181
..	2	8	..	..	..	4.82	..	..	..	1.61	6.43		182
..	7	..	..	..	4.87	..	0.81	..	..	5.69		183
..	34	203	..	0.37	..	22.28	4.08	4.64	..	6.31	37.69	22.47	184
1	..	1	25	162	..	..	..	38.32	2.20	2.20	0.31	7.85	50.88	40.45	185
..	9	105	..	..	..	18.93	2.33	6.70	..	2.62	30.58	35.64	186
..	..	3	34	349	..	..	..	32.68	1.77	2.36	0.35	4.01	41.18	27.58	187
..	..	1	33	210	0.85	..	..	45.78	1.13	1.98	0.28	9.32	59.34	37.30	188
..	7	120	..	..	..	18.61	0.57	2.28	..	1.33	22.78	14.92	189
..	9	36	..	..	..	7.67	..	3.23	..	3.63	14.53	Not avail- able.	190
..	..	7	95	626	..	..	..	20.84	2.85	1.59	0.34	4.58	30.20	24.88	191
..	84	401	..	..	..	34.85	4.92	3.55	..	11.48	54.80	31.73	192
..	..	1	34	363	..	..	..	51.08	1.39	4.33	0.17	5.89	62.86	48.83	193
..	..	3	20	247	..	0.50	..	50.20	1.26	4.54	0.76	5.05	62.31	29.36	194
..	..	1	20	202	..	0.31	..	53.06	0.94	2.18	0.31	6.24	63.05	26.59	195
..	..	1	35	141	..	..	..	29.62	5.76	7.82	0.41	14.40	58.00	Not avail- able.	196
..	..	1	1	147	..	..	..	55.87	1.21	1.21	0.40	0.40	59.08		197
..	..	2	2	108	..	0.18	..	18.25	..	0.36	0.36	0.36	19.52		198
21	20	822	16,766	69,863	0.35	0.72	0.05	14.80	1.65	5.97	0.37	7.55	31.46	31.58	
612	117	6,636	103,688	589,963	0.11	0.38	0.10	19.61	0.64	2.53	0.32	5.05	28.75	32.42	

ANNUAL FORM NO. VI-C.

BIRTHS AND DEATHS REGISTERED IN THE CANTONMENTS OF THE PUNJAB DURING THE YEAR 1920.

Number.	CANTONMENTS.	Population according to Census of 1921.										Cholera.	Small-pox.	Plague.	Typhoid.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.					Total.	All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.	Total births registered during the year.	Ratio of births per 1,000 of population.	Number.
		Suicide.		Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.																						
		Males.	Females.																										
								10	11	12	13							14	15	16	17	18							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
1	Ambala	36,356	1	11	..	353	12	368	..	1	1	..	2	233	980	27	1,556	43	1										
2	Kasauli	3,212	..	2	..	14	9	..	..	..	1	14	15	53	93	29	94	29	2							
3	Dagshai	1,745	..	2	..	9	7	7	..	..	..	..	..	15	40	23	47	27	3					
4	Subathu	1,581	..	..	..	31	2	5	..	..	3	..	3	6	47	30	37	23	4					
5	Jutogh	1,064	..	..	..	4	1	..	..	..	..	..	..	8	13	12	9	8	5	
6	Dharmasala	1,318	..	..	..	24	1	..	..	..	..	..	..	10	35	27	121	92	6	
7	Jullundur	9,019	..	..	..	97	7	7	..	..	2	..	2	50	163	18	193	21	7					
8	Ferozepore	18,941	..	3	..	410	24	11	3	1	5	..	9	101	558	29	779	41	8										
9	Lahore	14,606	5	2	..	224	2	..	..	..	..	..	..	37	270	18	387	26	9				
10	Amritsar	976	..	..	..	3	..	7	..	..	1	..	1	6	17	17	25	26	10					
11	Dalhousie	948	..	1	..	8	2	..	..	..	..	..	..	19	30	32	43	45	11				
12	Bakloh	3,430	..	..	..	9	2	..	..	..	..	..	..	2	13	4	43	13	12	
13	Sialkot	7,123	..	1	..	35	5	..	..	..	..	..	..	88	129	18	240	34	13				
14	Jhelum	1,500	..	..	..	5	..	..	..	..	..	..	..	3	8	5	18	12	14
15	Rawalpindi	27,657	..	2	..	122	13	88	..	..	3	..	3	65	293	11	645	23	15								
16	Campbellpur	4,190	..	..	..	14	..	3	..	..	..	..	..	3	20	5	35	8	16		
17	Murree	874	..	..	..	4	..	..	..	..	..	..	..	3	7	8	8	9	17
18	Multan	6,090	..	..	..	36	..	2	..	..	..	..	..	18	56	9	83	14	18		
	Total	140,630	1	24	..	1,402	87	498	3	2	16	14	35	720	2,772	20	4,363	31											

ANNUAL FORM No. VII.									
DEATHS REGISTERED FROM CHOLERA IN THE DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.									
Year	Month	Province	District	Sub-district	Number of Deaths	Number of Cases	Number of Recoveries	Number of Deaths from Cholera	Total
1929	Jan.	Punjab	Amritsar	Amritsar	10	15	5	10	10
1929	Feb.	Punjab	Amritsar	Amritsar	12	18	6	12	12
1929	Mar.	Punjab	Amritsar	Amritsar	15	25	10	15	15
1929	Apr.	Punjab	Amritsar	Amritsar	18	30	12	18	18
1929	May	Punjab	Amritsar	Amritsar	20	35	15	20	20
1929	Jun.	Punjab	Amritsar	Amritsar	22	40	18	22	22
1929	Jul.	Punjab	Amritsar	Amritsar	25	45	20	25	25
1929	Aug.	Punjab	Amritsar	Amritsar	28	50	22	28	28
1929	Sep.	Punjab	Amritsar	Amritsar	30	55	25	30	30
1929	Oct.	Punjab	Amritsar	Amritsar	32	60	28	32	32
1929	Nov.	Punjab	Amritsar	Amritsar	35	65	30	35	35
1929	Dec.	Punjab	Amritsar	Amritsar	38	70	32	38	38
1929	Total	Punjab	Amritsar	Amritsar	250	400	150	250	250

ANNUAL FOR

DEATHS REGISTERED FROM CHOLERA IN THE DISTRICTS

1	2	3		4		5					
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from Cholera were reported.	Number in each district.	Number from which deaths from Cholera were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar ..	27	5	960	2	..	..	..	..	1	..
2	Rohtak ..	20	6	722	3	..	..	..	..	..	..
3	Gurgaon ..	23	12	1,350	44	..	..	..	..	8	..
4	Karnal ..	24	3	1,390	..	..	..	..	..	..	..
5	Ambala ..	20	12	1,714	24	..	..	..	2	9	..
6	Simla ..	3	..	208	..	..	..	..	..	..	..
JULLUNDUR DIVISION.											
7	Kangra ..	19	2	709	2	..	..	..	..	2	..
8	Hoshiarpur ..	24	13	2,111	32	..	..	..	..	2	..
9	Jullundur ..	17	7	1,221	23	..	..	..	4	1	..
10	Ludhiana ..	15	8	840	17	..	..	..	2	1	..
11	Ferozepore ..	31	14	1,498	6	..	..	..	..	..	..
LAHORE DIVISION.											
12	Lahore ..	36	21	1,117	51	..	..	..	1	54	1
13	Amritsar ..	19	15	1,035	58	..	..	1	..	13	..
14	Gurdaspur ..	29	11	2,246	9	..	..	..	..	4	..
15	Sialkot ..	28	11	2,053	22	..	..	..	..	..	..
16	Gujranwala ..	22	12	1,212	9	..	..	..	1	1	..
17	Sheikhupura ..	22	10	1,212	20	..	..	..	1	23	..
RAWALPINDI DIVISION.											
18	Gujrat ..	19	6	1,436	7	..	..	1	6	..	..
19	Shahpur ..	27	2	985	1	..	..	..	1	..	..
20	Jhelum ..	15	4	888	1	1	..	..	2	3	..
21	Rawalpindi ..	14	2	1,170	4	..	..	..	..	..	..
22	Attock ..	14	4	618	6	..	..	..	..	3	..
23	Mianwali ..	16	5	375	13	..	..	..	..	2	..
MULTAN DIVISION.											
24	Montgomery ..	30	10	1,833	16	..	..	..	..	..	..
25	Lyallpur ..	24	10	969	30	..	..	..	..	1	..
26	Jhang ..	15	2	981	2	..	..	..	..	1	..
27	Multan ..	27	6	1,645	5	..	..	..	1	3	..
28	Muzaffargarh ..	25	1	848	..	..	..	..	..	..	..
29	Dera Ghazi Khan ..	25	..	713	..	..	..	..	..	..	..
Total ..		630	214	34,059	407	1	..	2	21	132	4

o. VII.

THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.

						6			7			8	9
July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	Number.
						Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	1	..	..	..	..	6	..	6	0.01	..	0.01	0.12	1
..	13	2	10	..	1	25	11	36	0.06	0.03	0.05	0.07	2
68	71	21	9	..	..	129	118	247	0.35	0.38	0.36	0.16	3
..	64	22	..	..	..	46	40	86	0.10	0.11	0.10	0.05	4
10	14	6	1	..	4	58	15	73	0.16	0.05	0.11	0.12	5
..	..	..	..	..	..	..	..	..	..	..	..	0.004	6
..	..	..	..	..	..	3	..	3	0.01	..	0.004	0.39	7
36	9	6	7	1	2	55	26	81	0.11	0.06	0.09	0.07	8
12	4	8	1	..	..	39	31	70	0.09	0.09	0.09	0.08	9
24	17	8	..	..	..	31	25	56	0.10	0.10	0.10	0.19	10
15	16	17	2	1	1	34	18	52	0.06	0.04	0.05	0.67	11
33	95	91	18	..	..	264	192	456	0.41	0.40	0.41	1.00	12
12	67	121	9	..	..	132	102	234	0.25	0.25	0.25	0.21	13
12	61	23	1	..	..	49	54	103	0.10	0.14	0.12	0.09	14
..	10	92	60	..	..	87	75	162	0.18	0.19	0.19	0.11	15
13	9	8	15	4	..	20	31	51	0.06	0.11	0.08	0.05	16
4	9	10	..	..	..	41	31	72	0.12	0.11	0.11	0.07	17
..	6	22	7	1	..	27	18	45	0.06	0.05	0.05	0.09	18
..	..	1	..	..	..	1	1	2	0.002	0.003	0.002	0.26	19
..	2	6	3	..	..	12	5	17	0.05	0.02	0.04	0.18	20
..	10	23	..	..	..	19	14	33	0.06	0.06	0.06	0.06	21
..	..	5	..	..	..	6	3	9	0.02	0.01	0.02	0.004	22
12	..	3	..	..	..	51	41	92	0.27	0.24	0.26	0.01	23
6	8	4	3	..	1	18	11	29	0.05	0.03	0.04	0.23	24
..	8	205	26	15	..	144	136	280	0.28	0.33	0.30	0.16	25
..	..	1	..	..	..	1	1	2	0.003	0.003	0.003	0.07	26
..	..	..	..	..	..	6	3	9	0.01	0.01	0.01	0.01	27
..	..	3	..	..	..	..	3	3	..	0.01	0.01	0.02	28
..	..	..	..	..	..	..	..	..	..	..	..	0.002	29
258	494	708	172	22	9	1,304	1,005	2,309	0.12	0.11	0.11	0.19	

ANNUAL FOR

DEATHS REGISTERED FROM SMALL-POX IN THE DISTRICTS

1	2	3	4	5								
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.						
		Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.	January.	February.	March.	April.	May.	June.	July.
1	2	3	4	5	6	7	8	9	10	11	12	13
	AMBALA DIVISION.											
1	Hissar	27	26	960	98	75	147	130	136	49	87	37
2	Rohtak	20	16	722	41	27	54	22	36	33	32	14
3	Gurgaon	23	8	1,350	22	..	..	1	10	5	4	1
4	Karnal	24	16	1,390	18	1	..	9	2	48	46	2
5	Ambala	20	15	1,714	50	10	7	5	13	3	14	5
6	Simla	3	2	208	1	..	1	1	4	2	4	1
	JULLUNDUR DIVISION.											
7	Kangra	19	10	709	39	4	5	10	7	4	11	9
8	Hoshiarpur	24	22	2,111	245	71	48	40	62	86	79	64
9	Jullundur	17	14	1,221	42	10	15	9	16	22	13	7
10	Ludhiana	15	14	840	83	17	15	11	35	61	72	53
11	Ferozepore	31	26	1,498	82	38	26	27	35	25	44	32
	LAHORE DIVISION.											
12	Lahore	36	33	1,117	277	101	96	102	94	126	123	55
13	Amritsar	19	15	1,035	119	37	46	26	23	57	46	19
14	Gurdaspur	29	20	2,246	79	16	25	23	20	36	14	18
15	Sialkot	28	22	2,053	61	33	34	21	20	43	42	28
16	Gujranwala	22	18	1,212	60	29	14	29	21	18	28	8
17	Sheikhupura	22	17	1,212	61	11	5	13	14	15	33	23
	RAWALPINDI DIVISION.											
18	Gujrat	19	17	1,436	206	85	75	85	60	90	86	59
19	Shahpur	27	24	985	97	85	86	73	116	160	109	63
20	Jhelum	15	12	888	41	5	9	6	9	17	16	21
21	Rawalpindi	14	13	1,170	87	16	8	25	27	48	38	24
22	Attock	14	12	618	100	7	12	9	24	32	30	20
23	Mianwali	16	7	375	6	2	..	3	10	2	3	1
	MULTAN DIVISION.											
24	Montgomery	30	27	1,833	181	28	28	42	24	32	35	21
25	Lyallpur	24	22	969	245	20	34	30	22	24	37	22
26	Jhang	15	13	981	40	7	9	10	12	19	10	6
27	Multan	27	16	1,645	35	4	23	14	15	14	7	5
28	Muzaffargarh	25	8	848	10	..	..	..	..	2	1	2
29	Dera Ghazi Khan	25	6	713	9	1	1	2	2	6	8	5
	Total	630	471	34,059	2,435	740	823	778	869	1,080	1,072	625

VIII.

THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.

					6			7		8			9	10
					TOTAL.			NUMBER OF DEATHS AMONG CHILDREN.		RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	Number.
August.	September.	October.	November.	December.	Males.	Females.	Total.	Under one year.	Over one year and under ten years.	Males.	Females.	Total.		
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
9	24	3	6	13	403	313	716	344	236	0·93	0·82	0·88	0·52	1
5	2	..	1	14	126	114	240	74	135	0·30	0·32	0·31	0·14	2
1	..	..	6	28	33	23	56	23	31	0·09	0·07	0·08	0·11	3
..	..	..	31	105	124	120	244	75	117	0·27	0·32	0·29	0·16	4
15	2	1	1	20	50	46	96	22	26	0·14	0·16	0·15	0·21	5
..	..	..	..	..	11	3	14	..	2	0·40	0·22	0·34	0·17	6
..	..	3	..	..	37	16	53	2	9	0·09	0·04	0·07	0·14	7
43	18	34	39	85	359	310	669	152	303	0·72	0·72	0·72	0·88	8
5	1	3	15	42	78	80	158	35	83	0·17	0·22	0·19	0·29	9
12	5	6	17	49	172	181	353	89	166	0·54	0·73	0·62	0·38	10
9	8	9	10	51	159	155	314	106	132	0·27	0·32	0·29	0·32	11
38	36	29	11	42	453	400	853	209	527	0·71	0·83	0·76	0·83	12
20	19	16	8	30	177	170	347	88	184	0·34	0·41	0·37	0·50	13
8	3	..	5	13	94	87	181	54	65	0·20	0·23	0·21	0·26	14
13	4	1	..	9	123	125	248	56	116	0·26	0·32	0·29	0·53	15
15	5	3	4	21	98	97	195	47	103	0·28	0·35	0·31	0·64	16
29	12	3	3	..	76	85	161	44	86	0·22	0·31	0·26	0·61	17
37	14	2	19	49	339	322	661	207	371	0·77	0·84	0·80	0·58	18
40	24	15	22	48	424	417	841	185	489	1·08	1·27	1·17	0·57	19
7	5	14	6	39	78	76	154	34	111	0·32	0·32	0·32	0·56	20
8	..	2	1	6	106	97	203	72	61	0·36	0·39	0·38	0·22	21
14	8	1	13	24	106	88	194	47	118	0·40	0·36	0·38	0·43	22
3	..	..	..	..	13	11	24	9	11	0·07	0·07	0·07	0·21	23
21	17	7	6	20	137	144	281	60	166	0·35	0·45	0·39	1·27	24
19	40	9	7	8	146	126	272	101	112	0·28	0·39	0·29	0·69	25
6	1	1	1	..	42	40	82	30	24	0·14	0·15	0·14	0·24	26
4	9	1	10	5	61	50	111	41	47	0·13	0·13	0·13	0·41	27
2	6	2	2	..	10	7	17	6	5	0·03	0·03	0·03	0·31	28
..	..	..	..	..	14	11	25	5	16	0·05	0·05	0·05	0·49	29
383	263	165	244	721	4,049	3,714	7,763	2,217	3,852	0·36	0·40	0·38	0·46	

ANNUAL FOR
DEATHS REGISTERED FROM PLAGUE IN THE DISTRICT

1	2	3		4		5					
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from Plague were reported.	Number in each district.	Number from which deaths from Plague were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	27	1	960	..	..	..	..	6	..	..
2	Rohtak	20	3	722	7	1	14	50	30	5	..
3	Gurgaon	23	3	1,350	4	..	7	17	2	..	..
4	Karnal	24	10	1,390	21	..	37	186	108	42	..
5	Ambala	20	10	1,714	126	24	64	287	338	99	..
6	Simla	3	..	208	..	..	..	..	..	..	..
JULLUNDUR DIVISION.											
7	Kangra	19	1	709	1	2	2	..	..	..	..
8	Hoshiarpur	24	3	2,111	10	3	2	25	16	6	..
9	Jullundur	17	..	1,221	..	..	..	..	..	..	..
10	Ludhiana	15	4	840	12	4	9	27	12	8	..
11	Ferozepore	31	1	1,498	..	..	..	..	1	..	..
LAHORE DIVISION.											
12	Lahore	36	..	1,117	..	..	..	..	..	..	..
13	Amritsar	19	..	1,035	..	..	..	..	..	..	..
14	Gurdaspur	29	10	2,246	64	47	88	188	132	46	..
15	Sialkot	28	2	2,053	12	..	..	37	39	3	..
16	Gujranwala	22	..	1,212	..	..	..	..	..	..	..
17	Sheikhupura	22	..	1,212	..	..	..	..	..	..	..
RAWALPINDI DIVISION.											
18	Gujrat	19	1	1,436	2	..	..	..	3	3	..
19	Shahpur	27	..	985	..	..	..	..	..	..	..
20	Jhelum	15	..	888	..	..	..	..	..	..	..
21	Rawalpindi	14	..	1,170	..	..	..	..	..	..	..
22	Attock	14	..	618	..	..	..	..	..	..	..
23	Mianwali	16	..	375	..	..	..	..	..	..	..
MULTAN DIVISION.											
24	Montgomery	30	..	1,833	..	..	..	..	..	..	..
25	Lyallpur	24	1	969	..	..	..	..	..	..	..
26	Jhang	15	..	981	..	..	..	..	..	..	..
27	Multan	27	..	1,645	..	..	..	..	..	..	..
28	Muzaffargarh	25	..	848	..	..	..	..	..	..	..
29	Dera Ghazi Khan	25	..	713	..	..	..	..	..	..	..
Total		630	50	34,059	259	81	223	817	687	212	..

D. IX (a).

THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	Number.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
..	3	3	6	0.01	0.01	0.01	3.97	1
..	53	47	100	0.13	0.13	0.13	15.32	2
..	10	16	26	0.03	0.05	0.04	3.63	3
..	200	173	373	0.44	0.46	0.45	9.78	4
..	342	473	815	0.95	1.68	1.27	2.28	5
..	6
..	2	2	4	0.01	0.01	0.01	0.004	7
..	18	35	53	0.04	0.08	0.06	0.82	8
..	0.18	9
..	20	40	60	0.06	0.16	0.11	1.04	10
..	1	..	1	0.001	..	0.001	1.63	11
..	5.37	12
..	3.00	13
..	7	14	225	302	527	0.48	0.79	0.62	2.89	14
..	28	51	79	0.06	0.13	0.09	8.60	15
..	8.87	16
..	7.70	17
1	1	..	..	..	..	3	5	8	0.01	0.01	0.01	16.92	18
..	2.92	19
..	3.99	20
..	1.17	21
..	1.52	22
..	0.003	23
..	1.84	24
..	1	..	..	..	..	..	1	1	..	0.002	0.001	2.41	25
..	0.39	26
..	0.23	27
..	0.02	28
..	0.001	29
1	2	..	..	7	14	905	1,148	2,053	0.08	0.12	0.10	4.03	

STATEMENT
MONTHLY STATEMENT OF PLAGUE OCCURRENCES IN BR

Serial No.	Districts and Punjab States.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	Hissar .. ..	..	..	..	..	..	..	10	6	..	..	..
2	Rohtak	14	1	11	14	94	50	37	30	11	5	..	
3	Gurgaon	4	..	6	7	20	17	2	2	..	..	..
4	Karnal .. ..	..	..	67	37	205	186	144	108	65	42	..	
5	Ambala	63	24	203	64	501	287	721	338	125	99	..	
6	Simla .. ..	..	..	..	..	..	..	..	..	..	..	..
7	Kangra	9	2	1	2	..	..	..	..	..	..	..
8	Hoshiarpur	3	3	2	2	31	25	18	16	5	6	..	
9	Jullundur .. ..	..	..	..	..	..	..	..	..	..	..	..
10	Ludhiana	26	4	39	9	102	27	33	12	23	8	..	
11	Ferozepore .. ..	..	..	..	..	..	..	1	1	..	..	..
12	Lahore .. ..	..	..	..	..	..	..	..	..	..	..	..
13	Amritsar .. ..	..	..	..	..	..	..	..	..	..	..	..
14	Gurdaspur	105	47	165	88	290	188	191	132	86	46	..	
15	Sialkot .. ..	..	..	..	..	76	37	49	39	..	3	..	
16	Gujranwala .. ..	..	..	..	..	..	..	..	..	..	..	..
17	Sheikhupura .. ..	..	..	..	..	1	..	2	..	..	..	..
18	Gujrat .. ..	..	..	..	..	..	..	12	3	5	3	..	
19	Shahpur .. ..	..	..	..	..	..	..	..	..	..	..	..
20	Jhelum .. ..	..	..	..	..	..	..	..	..	..	..	..
21	Rawalpindi .. ..	..	..	..	..	..	..	..	..	..	..	..
22	Attock .. ..	..	..	..	..	..	..	..	..	..	..	..
23	Mianwal. .. ..	..	..	..	..	..	..	..	..	..	..	..
24	Montgomery .. ..	..	..	..	..	..	..	..	..	..	..	..
25	Lyallpur .. ..	..	..	..	..	..	..	..	..	..	..	..
26	Jhang .. ..	..	..	..	..	..	..	..	..	..	..	..
27	Multan .. ..	..	..	..	..	..	..	..	..	..	..	..
28	Muzaffargarh .. ..	..	..	..	..	..	..	..	..	..	..	..
29	Dera Ghazi Khan .. ..	..	..	..	..	..	..	..	..	..	..	..
	Total British Districts ..	224	81	494	223	1,320	817	1,220	687	320	212	..	
1	Patiala	9	3	99	87	286	199	274	247	98	69	2	
2	Bahawalpur .. ..	..	..	..	..	..	..	..	..	..	..	..
3	Jind	10	8	14	8	54	35	35	13	3	1	..	
4	Nabha .. ..	..	..	25	16	..	..	74	48	..	..	..
5	Kapurthala .. ..	..	..	..	..	..	..	..	..	..	..	..
6	Sirmur Nahan .. ..	..	..	..	..	..	..	..	..	..	..	..
7	Maler Kotla .. ..	..	..	..	..	..	..	..	..	..	..	..
8	Faridkot .. ..	..	..	..	..	..	..	..	..	..	..	..
9	Pataudi .. ..	..	..	..	..	..	..	..	..	..	..	..
10	Kalsia	14	8	80	47	79	46	26	24	13	6	..	
11	Dujana .. ..	..	..	..	..	..	..	..	..	..	..	..
12	Nagarh .. ..	..	..	..	..	..	..	..	..	..	..	..
	Total Punjab States ..	33	19	218	158	419	280	409	332	114	76	2	
	GRAND TOTAL ..	257	100	712	381	1,739	1,097	1,629	1,019	434	288	2	

IX (b).

DISTRICTS AND PUNJAB STATES IN THE PUNJAB DURING THE YEAR 1929.

JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		TOTAL.		Serial No.	REMARKS.
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.		
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
..	10	6	1	
..	167	100	2	
..	32	26	3	
..	481	373	4	
..	1,613	815	5	
..	6	
..	10	4	7	
..	59	53	8	
..	9	
..	223	60	10	
..	1	1	11	
..	12	
..	13	
..	18	7	23	14	878	527	14	
..	125	79	15	
..	16	
..	3	..	17	
1	1	1	1	..	..	..	..	..	..	..	..	19	8	18	
..	19	
..	20	
..	21	
..	22	
..	23	
..	24	
..	..	1	1	..	..	..	..	..	..	..	..	1	1	25	
..	26	
..	27	
..	28	
..	29	
1	1	2	2	..	..	..	..	18	7	23	14	3,622	2,053		
..	768	605	1	
..	2	
..	116	65	3	
..	99	64	4	
..	5	
..	6	
..	7	
..	8	
..	9	
..	212	131	10	
..	11	
..	12	
..	1,195	865		
1	1	2	2	..	..	..	..	18	7	23	14	4,817	2,918		

DEATHS REGISTERED FROM FEVERS IN THE DISTRICTS

1	2	3		4		5					
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from Fevers were reported.	Number in each district.	Number from which deaths from Fevers were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	27	27	960	959	847	811	1,095	1,473	885	1,470
2	Rohtak	20	20	722	722	888	776	944	1,352	1,513	1,438
3	Gurgaon	23	23	1,350	1,350	817	744	931	1,117	1,222	1,341
4	Karnal	24	24	1,390	1,390	800	574	835	789	1,312	1,450
5	Ambala	20	20	1,714	1,714	475	332	431	690	797	763
6	Simla	3	3	208	102	7	18	4	7	--	5
JULLUNDUR DIVISION.											
7	Kangra	19	19	709	709	898	758	884	1,060	1,184	854
8	Hoshiarpur	24	24	2,111	1,979	1,461	1,295	1,430	1,724	1,886	1,430
9	Jullundur	17	17	1,221	1,125	1,009	999	1,025	1,162	1,284	1,163
10	Ludhiana	15	15	840	712	470	509	596	810	832	854
11	Ferozepore	31	31	1,498	1,490	1,143	1,235	1,516	1,430	1,420	1,368
LAHORE DIVISION.											
12	Lahore	36	36	1,117	1,111	989	856	1,048	1,265	1,627	1,797
13	Amritsar	19	19	1,035	1,035	1,042	1,049	1,254	1,366	2,005	1,909
14	Gurdaspur	29	29	2,246	2,246	1,009	929	863	1,060	1,206	1,172
15	Sialkot	28	28	2,053	1,909	936	926	911	876	1,358	1,231
16	Gujranwala	22	22	1,212	1,212	980	828	801	711	1,090	1,199
17	Sheikhupura	22	22	1,212	1,209	751	723	705	651	1,016	1,081
RAWALPINDI DIVISION.											
18	Gujrat	19	19	1,436	1,320	1,183	1,030	907	718	1,041	1,112
19	Shahpur	27	27	985	985	1,349	1,169	1,038	1,048	1,375	1,493
20	Jhelum	15	15	888	888	796	772	616	516	607	712
21	Rawalpindi	14	14	1,170	1,170	728	693	573	616	733	672
22	Attock	14	14	618	618	888	804	724	630	751	671
23	Mianwali	16	16	375	375	804	770	725	598	730	720
MULTAN DIVISION.											
24	Montgomery	30	30	1,833	1,833	1,571	1,106	1,098	994	980	1,191
25	Lyallpur	24	24	969	969	1,225	1,079	1,103	1,156	1,648	1,648
26	Jhang	15	15	981	897	682	682	644	557	756	718
27	Multan	27	26	1,645	1,621	1,357	1,092	1,201	1,113	1,322	1,187
28	Muzaffargarh	25	25	848	848	1,083	1,013	729	805	922	731
29	Dera Ghazi Khan	25	25	713	658	725	628	543	487	610	612
Total ..		630	629	34,059	33,156	26,913	24,200	25,174	26,781	32,112	31,992

No. X.

OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	Number.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
1,033	902	1,204	1,260	1,266	1,275	7,356	6,165	13,521	16·89	16·17	16·55	20·71	1
809	844	1,085	1,162	1,164	1,467	7,334	6,108	13,442	17·57	17·21	17·41	22·87	2
813	776	979	1,032	1,018	1,285	6,473	5,602	12,075	17·60	17·83	17·71	21·35	3
842	805	1,340	951	1,359	1,141	6,581	5,617	12,198	14·51	14·98	14·72	25·77	4
487	491	544	602	511	621	3,577	3,167	6,744	9·91	11·27	10·51	13·95	5
23	17	10	16	9	13	75	54	129	2·72	4·05	3·15	5·88	6
736	883	1,067	1,119	931	993	6,022	5,345	11,367	15·32	14·38	14·86	14·13	7
1,212	1,407	2,107	2,071	1,807	1,654	10,041	9,443	19,484	20·14	22·02	21·01	22·67	8
1,044	1,185	1,472	1,382	1,316	1,312	7,351	7,002	14,353	16·33	19·26	17·64	19·61	9
656	688	809	865	941	888	4,657	4,261	8,918	14·61	17·13	15·71	17·38	10
1,032	1,205	1,378	1,604	1,818	1,786	9,055	7,880	16,935	15·12	16·40	15·68	16·70	11
1,329	1,387	1,566	1,960	2,028	1,990	9,258	8,584	17,842	14·54	17·88	15·98	14·98	12
1,430	1,622	1,763	1,989	1,815	1,781	10,015	9,040	19,055	19·32	22·05	20·52	23·48	13
1,103	1,183	1,528	1,538	1,335	1,424	7,597	6,753	14,350	16·25	17·76	16·93	19·11	14
960	1,087	1,435	1,443	1,483	1,490	7,297	6,839	14,136	15·45	17·24	16·27	20·02	15
899	899	1,082	2,009	2,587	2,520	8,299	7,306	15,605	23·80	26·58	25·02	20·95	16
788	749	797	1,118	1,429	1,516	5,995	5,329	11,324	17·07	19·23	18·02	16·83	17
822	943	1,067	1,560	1,867	2,149	7,475	6,924	14,399	17·04	17·96	17·47	15·34	18
952	841	1,190	3,077	4,511	3,911	10,759	11,195	21,954	27·44	34·15	30·50	16·37	19
542	501	833	1,537	1,979	1,548	5,455	5,504	10,959	22·69	23·41	23·04	17·11	20
659	664	865	1,205	1,486	1,410	5,220	5,084	10,304	17·86	20·47	19·06	16·17	21
582	600	746	1,523	2,138	1,989	6,139	5,907	12,046	23·43	24·01	23·71	19·89	22
584	503	808	1,940	2,506	1,744	6,377	6,055	12,432	33·56	36·00	34·71	23·41	23
780	820	1,139	1,862	2,418	2,339	8,461	7,837	16,298	21·51	24·46	22·83	19·05	24
1,256	1,271	1,379	1,745	1,884	1,912	8,817	8,489	17,306	16·87	20·54	18·49	17·92	25
590	484	620	1,513	2,729	2,631	6,261	6,345	12,606	20·50	23·94	22·09	18·24	26
1,018	996	1,329	2,437	3,887	3,839	10,830	9,948	20,778	22·35	24·90	23·50	20·70	27
694	664	870	2,629	4,209	3,128	8,059	8,518	17,477	29·03	32·78	30·74	22·84	28
502	431	871	2,626	3,543	2,814	7,611	6,781	14,392	29·57	32·04	30·68	21·38	29
24,207	24,848	31,883	45,775	55,974	52,570	209,347	193,082	402,429	18·68	20·73	19·61	19·15	

DEATHS REGISTERED FROM DYSENTERY AND DIARRHŒA IN THE DISTRICT

1	2	3	4	5							
Number.	Districts.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from Dysentery and Diarrhoea were reported.	Number in each district.	Number from which deaths from Dysentery and Diarrhoea were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	27	27	960	117	18	36	28	37	21	39
2	Rohtak	20	20	722	97	11	12	8	22	13	11
3	Gurgaon	23	23	1,350	185	8	4	6	26	20	17
4	Karnal	24	23	1,390	133	21	45	19	175	155	43
5	Ambala	20	19	1,714	77	11	2	5	17	19	13
6	Simla	3	2	208	11	3	..	4	1	1	3
JULLUNDUR DIVISION.											
7	Kangra	19	19	709	709	232	238	288	314	334	353
8	Hoshiarpur	24	22	2,111	187	2	2	3	1	19	36
9	Jullundur	17	17	1,221	115	17	12	18	17	24	21
10	Ludhiana	15	14	840	50	8	6	1	6	15	7
11	Ferozepore	31	30	1,498	97	16	17	19	11	29	22
LAHORE DIVISION.											
12	Lahore	36	30	1,117	81	31	31	44	75	96	72
13	Amritsar	19	19	1,035	189	25	29	20	26	53	37
14	Gurdaspur	29	27	2,246	313	58	45	36	18	92	101
15	Sialkot	28	26	2,053	197	21	9	8	15	33	22
16	Gujranwala	22	20	1,212	37	2	2	4	7	15	9
17	Sheikhpura	22	18	1,212	19	6	5	1	8	11	7
RAWALPINDI DIVISION.											
18	Gujrat	19	18	1,436	92	7	8	7	12	19	8
19	Shahpur	27	26	985	188	25	22	16	30	46	34
20	Jhelum	15	15	888	69	4	5	8	14	14	10
21	Rawalpindi	14	14	1,170	1,012	170	176	145	108	135	117
22	Attock	14	13	618	25	6	3	1	5	4	7
23	Mianwali	16	14	375	12	..	2	1	11	4	1
MULTAN DIVISION.											
24	Montgomery	30	23	1,833	50	14	2	3	4	7	10
25	Lyallpur	24	21	969	166	10	6	5	10	11	8
26	Jhang	15	15	981	98	13	7	6	7	14	10
27	Multan	27	19	1,645	92	23	10	10	26	37	26
28	Muzaffargarh	25	24	848	71	7	5	13	10	12	7
29	Dera Ghazi Khan	25	22	713	58	6	8	4	15	12	9
Total		630	580	34,059	4,547	775	749	731	1,128	1,265	1,060

XI.

THE PUNJAB, DURING EACH MONTH OF THE YEAR 1929.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	Number.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
24	36	39	36	24	22	197	163	360	0.45	0.43	0.44	0.37	1
8	33	57	43	44	19	148	133	281	0.35	0.37	0.36	0.33	2
10	44	50	66	43	30	187	137	324	0.51	0.44	0.48	0.58	3
69	107	90	76	37	17	415	439	854	0.91	1.17	1.03	0.23	4
16	27	26	25	4	12	106	71	177	0.29	0.25	0.28	0.42	5
2	1	..	3	3	1	13	9	22	0.47	0.67	0.54	1.14	6
207	184	256	275	223	180	1,478	1,606	3,084	3.76	4.32	4.03	3.67	7
27	36	18	38	36	35	164	89	253	0.33	0.21	0.27	0.01	8
29	61	41	31	22	16	188	121	309	0.42	0.33	0.38	0.41	9
11	27	34	21	12	7	85	70	155	0.27	0.28	0.27	0.49	10
18	32	74	53	52	51	210	184	394	0.35	0.38	0.36	0.27	11
89	146	155	95	73	59	539	427	966	0.85	0.89	0.87	0.79	12
23	54	62	74	35	43	266	215	481	0.51	0.52	0.52	0.60	13
125	138	160	55	37	31	552	444	996	1.18	1.17	1.17	0.90	14
20	39	79	66	29	24	215	150	365	0.46	0.38	0.42	0.59	15
8	22	12	17	6	7	61	50	111	0.17	0.18	0.18	0.41	16
4	9	3	7	6	3	42	28	70	0.12	0.10	0.11	0.17	17
14	17	29	24	26	22	108	85	193	0.25	0.22	0.23	0.24	18
23	26	38	51	50	64	241	184	425	0.61	0.56	0.59	0.26	19
13	12	14	8	12	9	76	47	123	0.32	0.20	0.26	0.32	20
97	113	156	201	225	171	904	910	1,814	3.09	3.66	3.35	1.75	21
2	3	8	5	7	10	32	29	61	0.12	0.12	0.12	0.06	22
3	13	16	16	35	9	57	54	111	0.30	0.32	0.31	0.16	23
6	5	7	12	10	6	59	27	86	0.15	0.08	0.12	0.13	24
7	14	47	21	22	22	96	87	183	0.18	0.21	0.20	0.17	25
7	15	17	25	24	28	96	77	173	0.31	0.29	0.30	0.52	26
41	55	39	45	59	45	208	208	416	0.43	0.52	0.47	0.29	27
6	8	8	10	25	78	104	85	189	0.34	0.33	0.33	0.12	28
6	18	16	32	73	33	135	97	232	0.52	0.46	0.49	0.27	29
915	1,295	1,551	1,431	1,254	1,054	6,982	6,226	13,208	0.62	0.67	0.64	0.53	

XII.

THE PUNJAB DURING EACH MONTH OF THE YEAR 1929.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	Number.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
81	100	115	70	54	86	772	650	1,422	1·77	1·70	1·74	1·95	1
97	97	130	136	121	113	948	818	1,766	2·27	2·30	2·29	2·13	2
88	85	94	136	136	248	909	742	1,651	2·47	2·36	2·42	2·50	2
77	109	73	90	130	189	741	694	1,435	1·63	1·85	1·73	2·02	4
374	382	477	486	523	617	3,322	2,796	6,118	9·20	9·95	9·53	12·41	5
..	..	..	23	25	18	31	35	66	1·12	2·62	1·61	0·35	6
355	338	477	384	382	396	2,593	2,512	5,105	6·60	6·76	6·68	5·57	7
111	126	161	116	152	202	1,347	922	2,269	2·70	2·15	2·45	2·60	8
139	162	159	158	148	193	1,142	904	2,046	2·54	2·49	2·51	2·27	9
91	95	82	93	131	185	723	690	1,413	2·27	2·77	2·49	2·84	10
162	113	125	170	241	272	1,316	1,027	2,343	2·20	2·14	2·17	1·67	11
281	197	202	266	335	527	2,025	1,751	3,776	3·18	3·65	3·38	3·37	12
264	330	289	307	326	374	1,988	1,799	3,787	3·83	4·39	4·08	4·35	13
141	162	262	366	434	353	1,591	1,317	2,908	3·40	3·46	3·43	6·59	14
183	219	275	220	225	300	1,578	1,276	2,854	3·34	3·22	3·28	3·34	15
45	46	27	35	44	98	436	289	725	1·25	1·05	1·16	2·13	16
14	26	22	21	38	58	210	160	370	0·60	0·58	0·59	0·58	17
117	95	142	170	158	223	1,162	901	2,063	2·65	2·34	2·50	2·49	18
91	90	92	90	167	253	1,141	726	1,867	2·91	2·21	2·59	1·10	19
55	60	54	51	55	97	507	380	887	2·11	1·62	1·87	2·42	20
98	94	102	104	126	182	760	730	1,490	2·60	2·94	2·76	3·18	21
57	49	49	47	41	52	375	358	733	1·43	1·46	1·44	1·45	22
36	49	45	68	75	33	330	283	613	1·74	1·68	1·71	0·94	23
12	9	30	16	33	68	292	158	450	0·74	0·49	0·63	0·61	24
22	25	59	67	76	151	399	301	700	0·76	0·73	0·75	0·83	25
38	59	50	79	104	140	515	400	915	1·69	1·51	1·60	1·93	26
74	76	61	113	147	204	773	658	1,431	1·60	1·65	1·62	1·26	27
26	29	20	30	43	73	229	183	412	0·74	0·70	0·72	0·34	28
18	20	18	22	26	38	160	102	262	0·62	0·48	0·56	0·51	29
147	3,242	3,692	3,934	4,496	5,743	28,315	23,562	51,877	2·53	2·53	2·53	2·69	

ANNUAL FORM

A—VACCIN

STATEMENT No. 1—SHOWING PARTICULARS OF VACCINATION

Serial No.	Division.	(a) District excluding Municipal towns. (b) Municipal towns.	Population of districts (excluding Municipal towns) and Municipal towns according to census of 1921.	Average population of districts per square mile.	Average number of vaccinators employed throughout the year.	TOTAL NUMBER OF PERSONS VACCINATED.			Average number of persons vac- cinated by each vaccinator.	PRIMARY VACCINATION.			
						Males.	Females.	Total.		Total.	Successful.		
											Under one year.	One year and under six years.	Total of all ages.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
AMBALA DIVISION.													
		(a) Districts excluding Municipal towns.											
1		Hissar	730,459	157	17	19,291	14,476	33,767	1,986	27,259	20,967	4,069	25,14
2		Rohatak	704,735	265	13	27,263	17,742	45,005	3,462	29,998	23,442	3,648	27,18
3		Gurgaon	631,068	301	20	28,288	18,086	46,374	2,319	25,428	18,129	5,896	24,14
4		Karnal	747,506	265	15	33,279	20,377	53,656	3,577	28,258	23,779	3,465	27,46
5		Ambala	582,974	341	13	28,111	16,303	44,414	3,416	22,265	16,134	4,038	20,46
6		Simla	14,788	405	..			No local	staff is e	employed.	Vaccinati	on is perf	ormed
		Total	3,411,530	..	78	136,232	86,984	223,216	2,862	133,208	102,451	21,116	124,35
		(b) Municipal towns.											
1		Hissar	21,415	..	1	529	233	762	762	457	318	74	39
2		Hansi	15,425	..	1	290	237	527	527	515	448	51	50
3		Bhiwani	33,270	..	1	565	511	1,076	1,076	1,071	768	197	97
4		Sirsa	16,241	..	1	199	150	349	349	332	201	51	22
5		Rohatak	25,240	..	1	1,001	579	1,580	1,580	1,070	994	69	1,06
6		Jhajjar	10,800	..	1	201	182	383	545	389	264	61	31
7		Gohana	5,107	..	1	89	73	162	..	159	126	13	11
8		Bahadargarh	5,955	..	..	172	131	303	..	267	235	21	21
9		Sonepat	12,981	..	1	303	294	597	597	601	515	43	52
10		Beri	7,454	..	..	134	117	251	..	251	195	35	21
11		Rewari	23,129	..	..	581	456	1,037	..	999	826	133	90
12		Palwal	9,352	..	1	224	229	453	453	465	280	14	21
13		Ferozpur	4,542	..	..	110	93	203	..	191	175	8	11
14		Hodal	5,854	..	..	313	147	460	..	308	265	28	21
15		Ballabgarh	3,721	..	..	97	78	175	..	151	107	36	11
16		Faridabad	4,337	..	..	135	91	226	..	187	108	72	11
17		Karnal	22,845	..	1	1,391	446	1,837	1,837	833	639	90	70
18		Kaithal	15,477	..	1	991	371	1,362	1,362	725	494	159	70
19		Panipat	27,343	..	1	934	638	1,572	1,572	1,312	1,133	121	1,27
20		Shahabad	11,329	..	1	328	230	558	672	467	421	16	41
21		Thanesar	4,226	..	1	56	58	114	..	115	91	6	11
22		Ambala	28,581	..	1	2,216	790	3,006	3,006	1,204	960	195	1,11
23		Jagadhari	11,544	..	1	328	262	590	590	504	422	54	41
24		Burya*	3,574	..	..	78	51	129	..	128	117	6	11
25		Sadhaura	7,630	..	1	392	165	557	557	315	260	42	31
26		Rupar	7,606	..	1	632	302	934	934	363	245	82	31
27		Simla	26,149	..	1	10,805	2,956	13,761	13,761	732	216	182	41
		Total of Municipal towns ..	371,127	..	17	23,094	9,870	32,964	1,939	14,111	10,823	1,859	12,9
		Total of Ambala Division ..	3,782,657	..	95	159,326	96,854	256,180	2,697	147,319	113,274	22,975	137,3
JULLANDUR DIVISION.													
		(a) Districts excluding Municipal towns.											
1		Kangra	761,682	77	13	44,465	35,069	79,534	6,118	23,488	15,527	6,398	22,0
2		Hoshiarpur	897,772	413	13	28,780	16,799	45,579	3,506	31,705	22,566	5,793	29,4
3		Jullundur	713,917	568	10	21,015	14,377	35,392	3,539	26,780	22,706	1,990	24,7
4		Ludhiana	489,632	391	11	28,745	14,905	43,650	3,068	20,434	17,376	2,093	19,6
5		Ferozepore	907,561	252	20	28,289	18,794	47,083	2,354	34,623	26,983	5,697	33,4
		Total	3,860,564	..	67	151,294	99,944	251,238	3,750	137,030	105,158	21,980	129,2
		(b) Municipal towns.											
1		Dharmssala	3,065	..	..	190	73	263	..	114	48	62	11
2		Hoshiarpur	21,285	..	1	525	449	974	974	705	461	227	61
3		Tanda Urmur	8,362	..	..	589	153	742	..	257	122	56	11
4		Jullundur	59,085	..	4	1,782	1,873	3,655	914	2,861	2,076	395	2,6
5		Kartarpur	8,512	..	1	269	213	482	482	453	334	49	41
6		Bangah	5,089	..	..	100	98	198	..	195	150	30	11
7		Rahon	5,947	..	..	152	195	347	..	252	223	20	21
8		Phyllaur*	4,696	..	..	736	324	1,060	..	201	135	54	11
9		Nurmahal*	6,845	..	..	180	148	328	..	259	171	13	11
10		Nakodar*	9,434	..	..	225	200	425	..	326	259	45	31
11		Ludhiana	51,880	..	3	5,497	3,463	8,960	2,987	2,246	1,401	486	1,9
12		Jagraon	17,731	..	1	891	608	1,499	1,499	759	568	158	71
13		Raikote	8,379	..	1	235	165	400	400	358	304	32	31
14		Ferozepore	29,695	..	2	923	919	1,842	921	1,240	870	231	1,1
15		Zira	4,622	..	1	278	83	361	361	193	166	20	11
16		Muktsar	10,539	..	1	324	272	596	596	580	500	73	41
17		Fazilka	13,829	..	1	556	325	881	881	670	581	27	41
18		Moga	14,145	..	1	505	629	1,134	1,134	595	384	155	41
19		Abohar	8,916	..	1	305	197	502	502	432	272	128	41
		Total of Municipal towns ..	292,056	..	18	14,262	10,387	24,649	1,369	12,696	9,025	2,261	11,7
		Total of Jullundur Division ..	4,152,620	..	85	165,556	110,331	275,887	3,246	149,726	114,183	24,241	140

*Vaccination Act not in force.

(Vaccination).

DEPARTMENT.

IN THE PUNJAB PROVINCE DURING THE YEAR 1929-30.

Unknown.	RE-VACCINATION.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		Persons successfully vaccinated per 1,000 of population.	PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING PREVIOUS FIVE YEARS.		AVERAGE ANNUAL NUMBER OF DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.		Serial No.
	Unknown.	Successful.	Unknown.	Primary.	Revaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.	
15	16	17	18	19	20	21	22	23	24	25	26	27	28
1,130	6,572	3,057	510	96.21	50.43	38.60	4.15	7.76	24,053	32.93	358	0.49	1
1,134	15,776	9,524	2,707	94.17	72.87	52.08	3.78	17.16	22,604	32.07	101	0.14	2
932	20,946	14,030	3,538	98.55	80.60	60.49	3.67	16.89	38,491	60.99	53	0.08	3
589	25,398	17,525	3,477	99.27	79.95	60.19	2.08	13.69	31,700	42.41	106	0.14	4
1,393	22,149	12,482	4,481	98.07	70.65	56.52	6.26	20.23	20,733	35.56	103	0.18	5
by the special staff, Punjab.											1	0.07	6
5,178	90,841	56,618	14,713	97.16	74.37	53.06	3.89	16.20	137,581	40.33	722	0.21	
27	305	170	72	92.79	72.96	26.57	5.91	23.61	912	42.59	77	3.60	1
3	12	3	9	98.63	100.00	32.93	0.58	75.00	550	35.66	15	0.97	2
51	5	4	..	95.29	80.00	29.34	4.76	..	902	27.11	8	0.24	3
32	17	10	2	86.33	66.66	16.56	9.64	11.76	451	27.77	12	0.74	4
2	510	413	20	100.00	84.29	58.68	0.19	3.92	1,265	50.12	6	0.24	5
28	15	2	..	90.03	13.33	30.28	7.20	..	315	29.17	18	1.67	6
20	3	2	..	100.00	66.66	27.61	12.58	..	195	38.18	2	0.39	7
1	45	45	..	96.24	100.00	50.55	0.37	..	149	25.02	2	0.34	8
6	8	5	1	93.78	71.43	43.37	1.00	12.50	227	17.49	..	..	9
21	..	..	..	100.00	..	30.86	8.37	..	281	37.70	..	..	10
1	38	38	..	100.00	100.00	44.79	0.10	..	879	38.00	8	0.35	11
17	4	4	..	65.63	100.00	31.86	3.66	..	433	46.30	2	0.21	12
5	12	12	..	98.39	100.00	42.93	2.62	..	195	42.93	1	0.22	13
15	152	134	7	100.00	92.41	72.94	4.87	4.61	201	34.34	3	0.51	14
1	24	11	1	96.00	47.83	41.66	0.66	4.17	163	43.80	1	0.27	15
3	39	24	4	98.37	68.57	47.27	1.60	10.26	179	41.27	..	..	16
73	1,004	838	162	100.00	99.52	69.95	8.76	16.14	996	43.60	11	0.48	17
6	637	594	17	98.19	95.81	84.00	0.83	2.67	755	48.78	6	0.39	18
29	260	255	2	99.22	98.84	55.88	2.21	0.77	1,522	55.66	8	0.29	19
7	93	20	9	95.43	23.81	40.52	1.50	9.68	427	37.69	2	0.18	20
2	1	..	1	87.61	..	23.43	1.74	100.00	115	27.21	3	0.71	21
1	1,802	1,235	22	99.58	69.38	85.13	0.08	1.22	1,817	63.57	17	0.59	22
6	86	52	2	97.59	61.90	46.60	1.19	2.33	582	50.42	11	0.95	23
5	1	..	1	100.00	..	34.42	3.91	100.00	82	22.94	..	..	24
1	242	135	3	96.50	56.49	57.40	0.32	1.24	266	34.86	2	0.26	25
15	571	377	56	98.56	73.20	94.66	4.13	9.81	348	45.75	5	0.66	26
319	13,029	1,983	8,883	99.76	47.83	91.59	43.58	68.18	2,196	83.98	6	0.23	27
697	18,915	6,366	9,274	96.51	66.03	52.04	4.94	49.03	16,403	44.20	226	0.61	
5,875	109,756	62,984	23,987	97.10	73.43	52.96	3.99	21.85	153,984	40.71	948	0.25	
1,450	56,046	29,195	12,231	99.91	66.63	67.24	6.17	21.82	51,506	67.62	106	0.14	1
1,961	13,874	7,982	3,132	99.00	74.31	41.69	6.19	22.57	33,076	36.84	812	0.90	2
1,357	8,667	4,032	1,121	97.38	53.70	40.36	5.07	12.93	24,302	34.04	163	0.23	3
449	23,216	7,940	4,261	98.08	41.89	56.25	2.20	18.36	21,026	42.94	177	0.36	4
974	12,460	6,300	2,544	99.34	63.53	39.82	2.81	20.42	31,639	31.72	288	0.29	5
6,191	114,263	55,469	23,289	98.79	60.97	47.85	4.52	20.38	161,549	41.85	1,546	0.40	
..	149	105	7	100.00	73.94	71.45	..	4.70	440	143.56	1	0.33	1
5	269	131	27	98.71	54.13	38.62	0.71	10.04	797	37.44	13	0.61	2
63	485	296	79	95.88	72.91	57.64	24.51	16.29	416	49.75	9	1.08	3
107	794	539	124	96.55	80.45	54.13	3.74	15.62	3,647	61.72	23	0.39	4
15	29	9	..	91.55	31.03	48.17	3.31	..	259	30.43	13	1.53	5
11	4	1	..	97.83	25.00	35.57	5.64	..	147	28.89	8	1.57	6
7	95	30	17	99.18	38.46	45.91	2.78	17.89	228	38.34	7	1.18	7
5	859	502	48	99.49	61.90	148.42	2.49	5.59	200	42.59	2	0.43	8
60	73	20	31	93.47	47.62	30.09	23.17	42.47	178	26.00	..	..	9
15	99	37	11	100.00	42.05	36.89	4.60	11.11	320	33.92	14	1.48	10
198	6,714	1,912	1,410	95.56	36.05	74.58	8.82	21.00	1,508	29.07	37	0.71	11
6	740	664	15	98.14	91.59	79.13	0.79	2.03	804	45.34	4	0.23	12
8	42	31	6	98.00	86.11	44.64	2.23	14.29	383	45.71	1	0.12	13
24	602	268	56	95.48	49.08	48.12	1.94	9.30	1,400	47.15	14	0.47	14
7	168	129	8	100.00	80.63	68.15	3.63	4.76	167	36.13	..	..	15
2	16	8	4	100.00	66.67	55.60	0.34	25.00	501	47.54	28	2.66	16
42	211	6	205	100.00	100.00	45.85	6.27	97.16	456	32.97	5	0.36	17
4	539	469	25	98.65	91.25	74.37	0.67	4.64	523	36.97	13	0.92	18
26	70	40	10	100.00	66.67	50.02	6.02	14.29	299	33.54	10	1.12	19
605	11,958	5,197	2,083	97.15	52.63	58.02	4.77	17.42	12,673	43.39	202	0.69	
6,796	126,221	60,666	25,372	98.65	60.16	48.56	4.54	20.10	174,222	41.95	1,748	0.42	

STATEMENT No. I—SHOWING PARTICULARS OF VACCINATION

Serial No.	Division.	(a) District excluding Municipal towns. (b) Municipal towns.	Population of districts (excluding municipal towns and municipal towns according to census of 1921.	Average population of districts per square mile.	Average number of vaccinators employed throughout the year.	TOTAL NUMBER OF PERSONS VACCINATED.			Average number of persons vac- cinated by each vaccinator.	PRIMARY VACCINATION.			
						Males.	Females.	Total.		Total.	Successful.		
											Under one year.	One year and under six years.	Total of all ages.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
LAHORE DIVISION.													
(a) Districts excluding Municipal towns.													
1		Lahore	793,933	415	12	23,007	16,569	39,576	3,298	32,375	28,608	1,675	30,730
2		Amritsar	763,903	583	12	37,546	23,622	61,168	5,097	29,577	22,923	4,548	27,774
3		Gurdaspur	795,596	449	16	38,880	25,814	64,694	4,043	33,576	28,155	3,675	32,127
4		Sialkot	800,664	721	16	24,357	15,530	39,887	2,493	29,639	23,812	3,662	27,658
5		Gujranwala	561,233	270	13	14,016	10,097	24,113	1,855	19,968	14,906	2,416	17,495
6		Sheikhupura	624,295	197	12	19,818	12,550	32,368	2,697	22,770	18,785	1,740	20,595
		Total	4,339,624	..	81	157,624	104,182	261,806	3,232	167,905	137,189	17,716	156,379
(b) Municipal towns.													
1		Lahore	257,295	..	8	25,056	13,391	38,447	4,806	13,718	10,532	2,373	13,185
2		Chunian	7,642	..	..	273	166	439	..	279	221	24	260
3		Kasur	31,018	..	1	1,076	737	1,813	1,813	1,402	1,230	116	1,361
4		Khem Karan	6,152	..	..	181	113	294	..	212	177	2	179
5		Patti	10,439	..	..	173	171	344	..	262	201	25	228
6		Bhagbanpura	10,251	..	..	334	157	491	..	283	214	35	253
7		Amritsar	157,031	..	4	10,109	6,395	16,504	4,126	10,902	7,219	1,594	10,621
8		Jandiala	7,464	..	..	286	198	484	..	329	272	12	286
9		Gurdaspur	8,906	..	1	314	471	785	785	461	366	52	441
10		Dina Nagar	4,047	..	..	137	79	216	..	190	175	15	190
11		Pathankot	7,353	..	..	245	171	416	..	327	271	41	318
12		Dalhousie	1,457	..	..	182	74	256	..	64	28	13	42
13		Batala	26,122	..	1	529	519	1,048	1,048	897	329	110	446
14		Dera Nanak	4,333	..	..	69	46	115	..	111	102	9	111
15		Sialkot	56,018	..	4	1,752	1,852	3,604	901	2,677	2,491	171	2,677
16		Pasrur	6,909	..	1	216	276	492	492	284	197	28	267
17		Narowal	5,343	..	1	181	157	338	338	218	152	47	203
18		Gujranwala	37,887	..	1	1,890	1,040	2,930	2,930	2,120	1,714	310	2,023
19		Wazirabad	18,645	..	1	447	354	801	801	617	398	153	560
20		Eminabad*	5,816	..	..	115	117	232	..	211	136	55	196
21		Sharakpur	4,127	..	..	167	127	294	..	157	125	11	137
		Total of municipal towns	674,255	..	23	43,732	26,611	70,343	3,058	35,721	26,550	5,196	33,989
		Total of Lahore Division ..	5,013,879	..	104	201,356	130,793	332,149	3,194	203,626	163,739	22,912	190,368
RAWALPINDI DIVISION.													
(a) Districts excluding Municipal towns.													
1		Gujrat	778,026	322	14	25,839	15,188	41,027	2,931	29,020	23,286	3,082	26,095
2		Shahpur	662,607	161	20	17,397	10,730	28,127	1,406	19,851	12,033	5,459	17,771
3		Jhelum	451,227	172	14	32,352	12,604	44,956	3,211	21,121	14,231	3,586	19,478
4		Rawalpindi	483,045	267	11	18,879	10,861	29,740	2,704	16,181	13,028	2,590	15,670
5		Attock	490,723	123	8	16,903	9,747	26,650	3,331	17,448	13,564	2,710	16,403
6		Mianwali	328,270	66	6	11,805	8,680	20,485	3,414	12,568	11,910	309	12,251
		Total	3,193,898	..	73	123,175	67,810	190,985	2,616	116,189	88,052	17,726	108,268
(b) Municipal towns.													
1		Gujrat	21,974	..	1	855	533	1,388	1,388	958	913	24	944
2		Jalalpur	10,792	..	..	360	191	551	..	351	300	24	329
3		Kunjah	7,240	..	..	748	281	1,029	..	350	247	53	328
4		Dinga	6,014	..	..	124	96	220	..	216	163	19	182
5		Sahiwal	6,582	..	1	112	49	161	161	104	59	40	99
6		Bhera	17,027	..	1	337	233	570	570	408	314	81	395
7		Miani	5,965	..	1	45	34	79	79	65	34	31	65
8		Khushab	10,009	..	1	446	198	644	644	508	387	98	498
9		Sargodha	17,728	..	1	1,159	579	1,738	1,738	872	592	241	844
10		Jhelum	14,422	..	1	1,325	483	1,808	1,808	518	367	91	499
11		Pind Dadan Khan	9,919	..	1	348	112	460	460	209	164	28	192
12		Rawalpindi	55,251	..	2	4,652	2,782	7,434	3,717	2,165	1,748	384	2,141
13		Murree	2,397	..	1	102	47	149	149	94	74	19	98
14		Pindigheb	9,419	..	..	745	160	905	..	385	293	64	358
15		Hazro	8,408	..	..	41	13	54	..	48	29	13	47
16		Campbellpur	3,669	..	1	1,353	572	1,925	1,925	247	152	87	244
17		Mianwali	9,115	..	1	750	546	1,296	1,296	426	313	65	382
18		Bhakkar	6,193	..	1	98	71	169	169	156	45	35	82
19		Isakhel	6,172	..	..	96	84	180	..	169	121	9	132
20		Kalabagh	8,455	..	..	88	48	136	..	124	85	37	124
		Total of municipal towns	236,751	..	14	13,784	7,112	20,896	1,493	8,373	6,400	1,443	7,978
		Total of Rawalpindi Division	3,430,649	..	87	136,959	74,922	211,881	2,435	124,562	94,452	19,169	116,246

*Vaccination Act not in force.

DEPARTMENT.

IN THE PUNJAB PROVINCE DURING THE YEAR 1929-30—continued.

Unknown.	RE-VACCINATION.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		Persons successfully vaccinated per 1,000 of population.	PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES		AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING PREVIOUS FIVE YEARS.		AVERAGE ANNUAL NUMBER OF DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.		Serial No.
	Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.	
15	16	17	18	19	20	21	22	23	24	25	26	27	28
957	7,201	3,790	1,451	97.81	65.91	43.48	2.96	20.15	26,926	33.91	649	0.82	1
1,222	31,591	16,181	8,362	97.95	69.66	57.54	4.13	26.47	33,568	43.94	291	0.38	2
1,247	31,118	17,168	5,632	99.38	67.36	61.96	3.71	18.10	33,907	42.62	177	0.22	3
1,516	10,296	5,720	1,547	98.35	65.38	41.69	5.11	15.03	26,712	33.36	423	0.53	4
1,610	4,228	2,323	808	95.30	67.92	35.31	8.06	19.11	19,418	34.60	332	0.59	5
1,878	9,598	3,874	2,587	98.58	55.26	39.19	8.25	26.95	22,052	35.32	375	0.61	6
8,430	94,032	49,056	20,387	98.06	66.61	47.34	5.02	21.68	162,583	37.46	2,247	0.52	
379	24,729	14,318	4,577	98.85	71.05	106.89	2.76	18.51	18,044	70.13	280	1.09	1
9	160	22	16	96.30	15.28	36.90	3.23	10.00	304	39.78	8	1.05	2
16	411	71	28	98.20	18.54	46.17	1.14	6.81	1,691	54.52	14	0.45	3
18	82	52	10	92.27	72.22	37.55	8.49	12.20	256	41.61	2	0.33	4
32	82	16	28	99.13	29.63	23.37	12.21	34.15	286	27.40	6	0.57	5
25	208	49	49	98.06	30.82	29.46	8.83	23.56	387	37.75	11	1.07	6
173	5,602	3,552	867	98.99	75.02	90.26	1.59	15.48	9,739	62.02	174	1.11	7
9	155	145	9	89.38	99.32	57.74	2.74	5.81	81	10.85	1	0.13	8
19	324	141	74	99.77	56.40	65.35	4.12	22.84	413	46.37	5	0.56	9
..	26	26	..	100.00	100.00	53.37	..	..	177	43.74	1	0.25	10
7	89	75	12	99.38	97.40	53.45	2.14	13.48	321	43.66	4	0.54	11
8	192	84	72	75.00	70.00	86.48	12.50	37.50	104	71.38	..	..	12
447	151	11	39	99.11	9.82	17.49	49.83	25.83	1,100	42.11	43	1.65	13
..	4	3	..	100.00	75.00	26.31	..	..	149	34.39	1	0.23	14
..	927	869	42	100.00	98.19	63.30	..	4.53	4,854	86.65	40	0.71	15
13	208	92	49	98.52	57.86	51.96	4.58	23.56	344	49.79	2	0.29	16
8	121	66	40	96.67	81.48	59.35	3.67	33.06	392	73.37	2	0.37	17
56	810	497	81	98.26	68.18	66.65	2.64	10.00	2,608	68.84	71	1.88	18
51	184	108	37	98.94	73.47	35.83	8.27	20.11	559	29.98	6	0.32	19
13	21	12	4	98.99	70.59	35.76	6.16	19.05	142	24.42	4	0.69	20
16	137	25	67	97.16	35.71	39.25	10.19	48.91	195	47.25	6	1.45	21
1,299	34,623	20,234	6,101	98.74	70.94	80.42	3.64	17.62	45,146	66.96	681	0.89	
9,729	128,655	69,290	26,488	98.18	67.82	51.79	4.78	20.59	207,729	41.43	2,928	0.57	
1,886	12,022	5,750	2,338	98.38	59.38	41.70	6.50	19.45	29,114	37.42	502	0.65	1
1,353	8,276	3,636	1,238	96.07	51.66	32.31	6.82	14.96	23,992	36.21	398	0.60	2
1,080	23,835	12,829	4,772	97.19	67.30	71.60	5.11	20.02	17,586	38.97	246	0.55	3
324	13,559	8,402	1,599	98.82	70.25	49.83	2.00	11.79	23,892	49.46	90	0.19	4
623	9,202	7,097	878	97.49	85.26	47.89	3.57	9.54	21,760	44.34	215	0.44	5
288	7,917	6,479	554	99.76	87.99	57.06	2.29	7.00	19,272	58.74	61	0.19	6
5,554	74,811	44,193	11,379	97.86	69.67	47.74	4.78	15.21	135,646	42.47	1,512	0.47	
9	430	259	54	99.47	68.88	54.75	0.94	12.56	1,287	58.57	5	0.23	1
15	200	70	39	97.92	43.48	36.97	4.27	19.50	434	40.21	14	1.30	2
18	679	387	116	98.80	68.74	98.76	5.14	17.08	279	38.64	3	0.41	3
28	4	1	2	96.81	50.00	30.43	12.96	50.00	212	35.25	1	0.17	4
3	57	23	1	98.02	41.07	18.54	2.88	1.75	351	53.33	12	1.82	5
5	162	153	..	98.01	94.44	32.18	1.23	..	1,069	62.78	23	1.35	6
..	14	12	..	100.00	85.71	12.91	..	..	145	24.31	4	0.67	7
5	136	64	3	99.01	48.12	56.15	0.98	2.21	617	61.64	13	1.30	8
13	866	467	75	98.25	59.04	73.95	1.49	8.66	1,113	62.78	5	0.28	9
8	1,290	750	284	97.84	74.55	86.60	1.54	22.02	1,143	79.25	5	0.35	10
12	251	191	26	97.46	84.89	38.61	5.74	10.36	292	29.44	9	0.91	11
3	5,269	2,421	933	99.03	55.83	82.57	0.14	17.71	3,486	63.09	33	0.60	12
1	55	36	5	100.00	72.00	53.82	1.06	9.09	191	79.68	1	0.42	13
17	520	194	22	97.28	38.96	58.60	4.42	4.23	351	37.27	1	0.11	14
..	6	4	..	97.92	66.67	6.07	..	..	317	37.70	4	0.48	15
..	1,678	1,031	303	98.79	74.98	347.51	..	18.06	459	125.10	2	0.55	16
41	870	765	105	99.22	100.00	125.84	9.62	12.07	636	69.78	1	0.11	17
72	13	11	..	97.62	84.62	15.07	46.15	..	158	25.51	1	0.16	18
17	11	7	2	86.84	77.78	16.44	10.06	18.18	212	34.35	1	0.16	19
..	12	12	..	100.00	100.00	21.96	..	..	205	24.25	12	1.42	20
267	12,523	6,858	1,970	98.42	64.99	62.66	3.19	15.73	12,957	54.73	150	0.63	
5,821	87,334	51,051	13,349	97.90	69.00	48.77	4.67	15.28	148,603	43.32	1,662	0.48	

STATEMENT No. 1—SHOWING PARTICULARS OF VACCINATION

Serial No.	Division.	(a) District excluding Municipal towns. (b) Municipal towns.	Population of districts (excluding Municipal towns) and Muni- cipal towns according to census of 1921.	Average population of districts per square mile.	Average number of vaccinators employed throughout the year.	TOTAL NUMBER OF PERSONS VACCINATED.			Average number of persons vacci- nated by each vaccinator.	PRIMARY VACCINATION.												
						Males.	Females.	Total.		Total.	Successful.											
											Under one year.	One year and under six years.	Total of all ages.									
1	2	3	4	5	6	7	8	9	10	11	12	13	14									
1 2 3 4 5 6 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	MULTAN DIVISION.	(a) Districts excluding Municipal towns.																				
		Montgomery	683,051	154	29	20,479	15,359	35,838	1,236	31,735	25,154	3,786	29,5									
		Lyallpur	900,184	339	18	27,064	18,647	45,711	2,539	35,573	28,809	3,077	32,3									
		Jhang	522,907	168	13	22,469	14,218	36,687	2,822	19,469	14,748	2,401	17,9									
		Multan	788,282	149	13	30,217	22,418	52,635	4,049	32,291	24,247	3,760	28,2									
		Muzaffargarh	544,459	94	8	31,209	24,349	55,558	6,945	23,799	18,184	2,904	23,1									
		Dera Ghazi Khan	428,061	88	17	88,337	62,955	151,292	8,900	57,253	26,740	13,584	49,0									
		Total	3,865,944	..	98	219,775	157,946	377,721	3,854	200,120	137,882	29,512	180,2									
		(b) Municipal towns.																				
		Montgomery	14,601	..	1	733	393	1,126	1,126	693	421	83	5									
		Kamalia	8,916	..	..	365	256	621	..	517	365	114	4							
		Pakpattan	7,218	..	1	200	160	360	360	318	250	67	3									
		Lyallpur	28,136	..	2	1,166	1,638	2,804	1,402	826	594	204	8									
		Gojra	7,622	..	1	239	108	347	347	186	151	17	1									
		Jhang-Maghiana	30,139	..	1	889	498	1,387	1,387	1,118	707	209	9									
		Chiniot	17,513	..	1	303	291	594	594	498	290	150	4									
		Multan	*95,252	..	3	2,134	1,620	3,754	1,251	3,270	2,226	851	3,1									
		Shujabad	6,730	..	1	413	87	500	500	206	153	26	2									
		Muzaffargarh	5,386	..	..	324	124	448	..	241	101	99	2							
		Khangarh	3,184	..	..	36	36	72	..	72	52	19	1							
Alipur	3,434	..	..	152	102	254	..	160	142	16	1									
Leiah	8,476	..	..	620	284	904	..	257	201	33	2									
Karor	3,539	..	..	110	72	182	..	85	83	2	1									
Dera Ghazi Khan	20,731	..	1	1,049	593	1,552	1,552	875	716	117	8											
Jampur	7,317	..	..	298	254	552	..	553	452	95	5									
Dajal	5,775	..	1	{	4,254	2,476	6,730	{	8,991	{	2,927	2,265	368	2,7								
Rajanpur	3,964	..													382	235	617	..	591	462	69	58
Kot Mithan	3,204	..													673	419	1,092	..	1,117	683	206	1,02
		Total of Municipal Towns	281,137	..	13	14,340	9,556	23,896	1,838	14,510	10,314	2,745	13,59									
		Total of Multan Division	4,148,081	..	111	234,115	167,502	401,617	3,618	214,630	148,196	32,257	193,86									
		Total of districts and muni- cipal staff.	20,527,886	211	483	897,312	580,402	1,477,714	3,059	839,863	633,844	121,554	778,81									
		Total of special staffs .. ..	..	..	18	45,203	35,371	80,574	4,476	23,206	8,096	10,042	21,41							
		Total of Cantonment staff	123,058	..	6	14,070	6,733	20,803	3,467	4,799	2,876	1,441	4,56									
		Total of Dispensary staff .. ..	..	..	..	3,824	1,229	5,053	..	1,680	1,070	395	1,57						
		Political staff, Dera Ghazi Khan .. ..	..	..	1	1,653	1,107	2,760	2,760	1,360	325	700	1,26							
		GRAND TOTAL	20,650,944	211	508	962,062	624,842	1,586,904	3,084	(a) 870,908	(b) 646,211	134,132	807,6									

(a) Difference between number of operations and number of persons.
 (b) These figures include 23,420 primary successful vaccinations of
 *Including Multan Cantonment.

SU

	TOTAL NUMBER OF PERSONS VACCINATED.		TOTAL NUMBER OF OPERATIONS PERFORMED.		PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.	
	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.
By District, Cantonment and special staff (Statement No. I).	866,043	713,048	867,868	713,048	98.14	68.30
By Dispensary staff (Statement No. I) ..	1,680	3,373	1,680	3,373	98.19	60.05
By other agencies, if any (Political staff, Dera Ghazi Khan.)	1,360	1,400	1,360	1,400	98.05	80.54
Total ..	869,083	717,821	870,908	717,821	98.14	68.29

DEPARTMENT.

THE PUNJAB PROVINCE DURING THE YEAR 1929-30.—concluded.

Unknown.	RE-VACCINATION.		PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.			Persons successfully vaccinated per 1,000 of population.	PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING PREVIOUS FIVE YEARS.		AVERAGE ANNUAL NUMBER OF DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.		
	Total.	Successful.	Unknown.	Primary.	Revaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.	Serial No.
15	16	17	18	19	20	21	22	23	24	25	26	27	28
1,945	4,103	2,097	927	99.09	66.03	46.29	6.13	22.59	27,246	58.74	881	0.19	1
2,454	10,138	5,701	2,104	97.58	70.96	42.23	6.90	20.75	41,238	45.81	618	0.69	2
1,257	17,275	13,365	2,523	98.73	90.60	59.94	6.46	14.60	25,206	48.20	78	0.15	3
3,434	20,344	7,618	5,312	98.02	50.68	45.55	10.03	26.11	38,282	48.56	281	0.36	4
666	31,759	23,079	3,953	99.93	83.00	84.85	2.80	12.45	36,543	67.12	164	0.30	5
7,552	94,573	45,696	22,785	98.69	63.65	221.33	13.19	24.09	33,522	78.31	223	0.52	6
17,308	178,192	97,556	37,604	98.61	69.39	71.85	8.65	21.10	202,037	52.25	2,245	0.58	
88	433	156	126	89.26	50.81	47.67	12.70	29.10	1,135	77.73	11	0.75	1
21	104	42	48	100.00	75.00	60.34	4.06	46.15	546	61.24	17	1.91	2
..	42	32	5	100.00	86.49	48.49	..	11.90	530	73.43	10	1.39	3
22	1,978	1,589	99	100.00	84.57	85.05	2.66	5.01	4,092	145.44	34	1.21	4
3	161	148	9	100.00	97.37	43.43	1.61	5.59	642	84.23	3	0.39	5
189	269	134	52	99.57	61.75	35.14	16.91	19.33	1,985	65.86	26	0.85	6
35	96	30	18	95.25	38.46	26.89	7.03	18.75	771	44.01	34	1.94	7
120	484	416	36	99.37	92.86	39.77	3.67	7.44	4,539	59.91	80	0.90	8
2	294	249	1	99.02	84.98	67.01	0.97	0.34	257	38.19	5	0.74	9
19	207	153	24	98.20	83.61	68.88	7.88	11.59	278	51.62	3	0.56	10
1	..	..	..	100.00	..	22.30	1.39	..	134	42.09	..	..	11
..	94	81	13	100.00	100.00	70.18	..	13.83	336	97.85	5	1.46	12
..	647	647	..	100.00	100.00	106.65	..	..	619	73.03	..	..	13
..	97	97	..	100.00	100.00	51.43	..	..	287	81.10	..	..	14
19	677	381	115	99.53	67.79	59.48	2.17	16.99	1,918	92.52	3	0.14	15
4	1	1	..	99.64	100.00	74.89	0.72	..	720	98.40	1	0.14	16
97	3,881	2,442	799	97.14	79.23	898.87	3.31	20.59	737	127.62	1	0.17	17
5	26	17	3	100.00	73.91	152.12	0.85	11.54	762	192.23	1	0.25	18
33	27	16	4	94.93	69.57	326.15	2.95	14.81	489	152.62	1	0.31	19
658	9,518	6,631	1,352	98.13	81.20	71.94	4.53	14.20	20,777	73.90	235	0.84	
17,966	187,710	104,187	38,956	98.58	70.04	71.85	8.37	20.75	222,814	53.70	2,480	0.60	
46,187	639,676	348,178	128,152	98.13	68.07	54.91	5.50	20.01	907,352	44.20	9,766	0.48	
1,487	57,368	33,761	9,392	98.58	70.37	..	6.41	16.37	53,177	..	..	..
132	16,004	4,539	9,674	97.73	71.71	73.95	2.75	60.45	7,231	58.76	14	0.11	
80	3,373	1,616	682	98.19	60.05	..	4.76	20.22	3,088	..	..	..
75	1,400	828	372	98.05	80.54	..	5.51	26.57	Not available		..	..
47,961	717,821	388,922	148,272	98.14	68.29	57.94	5.5	20.66	970,848	47.01	9,703	0.17	

vaccinated equals 1,825, which represents secondary operations, persons of six years and over six years of age.

TARY.

AVERAGE NUMBER OF PERSONS VACCINATED BY EACH VACCINATOR.		NUMBER OF CHILDREN SUCCESSFULLY VACCINATED.		Ratio of successful vaccinations per 1,000 of population.	Total cost of Department.	Average cost of each successful case.	REMARKS.
Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under six years.				
507	3,115	644,816	133,037	57.69	Rs. A. P. 3,97,299 13 3	Rs. A. P. 0 5 4	
..	..	1,070	395	..	..	..
1	2,760	325	700	..	..	..
508	3,084	646,211	134,132	57.94	Rs. A. P. 3,97,299 13 3	Rs. A. P. 0 5 4	

APPENDIX TO STATEMENT No. I.

STATEMENT SHOWING THE DETAILS OF THE VACCINATION OPERATIONS PERFORMED BY THE SPECIAL AND CANTONMENT STAFFS ACCORDING TO LOCALITIES DURING THE YEAR 1929-30.

1	2	3	4	5	6					7			8		9		10	
1	Districts.	Name of localities.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.	PRIMARY VACCINATION.					RE-VACCINATION.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH RESULTS WERE KNOWN.		PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		No.	
					Total 1.	Successful.				Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.		Re-vaccination.
						Under one year.	One year and under 2 years.	Six years and over six years.	Total of all ages.									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

THE VACCINATIONS PERFORMED BY THE SPECIAL STAFF ARE INCLUDED IN STATEMENT No. I.

1		Bilaspur State ..	3,627	3,282	1,674	1,526	22	3,222	24	345	102	55	..	..	..	..	..	1
2		Kumharain State ..	3,314	382	8	234	79	321	60	2,932	1,560	1,068	..	..	..	..	..	2
3		Theog State ..	187	29	..	9	18	27	2	158	73	61	..	..	..	..	..	3
4		Dhami State ..	161	142	46	52	6	104	38	19	12	3	..	..	..	..	..	4
5		Nalagarh State ..	2,607	1,942	1,012	681	4	1,607	235	665	213	261	..	..	..	..	..	5
6		Bashahr State ..	23,288	6,292	915	3,476	1,630	6,021	220	21,996	16,820	2,506	..	..	..	..	..	6
7		Mangal State ..	77	77	13	40	24	77	..	..	..	..	..	..	..	..	..	7
8	Simla	Kuthar State ..	1,966	104	69	15	6	90	10	1,862	481	250	..	..	..	..	..	8
9		Mehlog State ..	302	226	185	23	1	209	13	76	56	7	..	..	..	..	..	9
10		Beja State ..	58	24	17	4	..	21	3	34	11	9	..	..	..	..	..	10
11		Baghal State ..	1,114	681	332	182	22	536	139	433	261	113	..	..	..	..	..	11
12		Kumhar State ..	57	56	23	16	..	39	16	1	..	1	..	..	..	..	..	12
13		Kotkhal Tahsil ..	1,880	456	36	261	70	267	85	1,424	692	416	..	..	..	..	..	13
14		Simla Tahsil ..	2,114	125	73	44	..	117	6	1,989	280	435	..	..	..	..	..	14
15		Simla Town ..	3,311	35	10	11	..	21	14	3,276	591	1,134	..	..	..	..	..	15
16	Ambala	Kalsia State ..	2,327	2,000	1,585	273	19	1,877	112	327	144	22	..	..	..	..	..	16
17		Sirmoor State ..	1,384	456	232	165	1	398	39	928	317	133	..	..	..	..	..	17
18		Mandi State ..	19,051	5,327	975	2,603	1,282	4,880	316	13,724	8,962	1,121	..	..	..	..	..	18
19	Kangra	Suket State ..	6,098	518	219	179	27	425	91	5,380	1,991	1,591	..	..	..	..	..	19
20		Kangra District ..	998	200	19	94	54	167	33	798	683	84	..	..	..	..	..	20
21	Gurgaon	Pataudi State ..	612	612	497	86	1	584	24	..	..	..	..	..	..	..	..	21
22	Rawalpindi	Murree Town ..	602	165	114	45	..	159	4	437	238	44	..	..	..	..	..	22
23		Murree Cantonment ..	439	75	42	23	7	72	3	364	273	8	..	..	..	..	..	23
		Total ..	18	80,574	23,206	8,096	10,042	3,273	21,411	1,487	57,368	33,761	9,392	98.58	70.37	6.41	10.37	

THE VACCINATIONS PERFORMED IN CANTONMENTS BY THE DISTRICT STAFFS ARE INCLUDED IN STATEMENT No. I.

1	Attock	Campbellpur ..	..	121	87	46	34	5	85	1	34	21	6	..	..	..	..	1
2	Multan ..	Multan ..	..	117	96	85	9	..	94	..	21	18	..	..	..	..	..	2
		Total ..	..	238	183	131	43	5	179	1	55	39	6	98.35	79.59	0.55	10.91	

THE VACCINATIONS IN CANTONMENTS WHICH ENTERTAIN THEIR OWN VACCINATORS ARE SHOWN SEPARATELY IN STATEMENT No. 1.

1	Ambala	Ambala ..	1	1,549	1,240	597	551	37	1,185	36	309	158	64	..	..	..	..	1
2	Kangra	Dharmasala ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
3	Jullundur	Jullundur ..	1	1,900	384	137	197	27	361	18	1,516	713	244	..	..	..	..	3
4	Ferozepore	Ferozepore ..	1	1,019	656	563	60	18	641	7	363	186	63	..	..	..	..	4
5	Lahore	Lahore ..	1	9,756	612	331	153	16	500	44	9,144	107	8,926	..	..	..	..	5
6	Sialkot	Sialkot ..	1	1,066	317	172	87	56	315	2	749	546	88	..	..	..	..	6
7	Jhelum	Jhelum ..	..	1,028	120	43	76	1	120	..	908	703	19	..	..	..	..	7
8	Rawalpindi	Rawalpindi ..	1	2,538	1,325	1,002	228	70	1,300	23	1,213	1,034	48	..	..	..	..	8
9	Ambala	Kanali* ..	..	1,268	32	9	23	..	32	..	1,236	675	211	..	..	..	..	9
10		Sabathu* ..	..	257	60	12	29	19	60	..	197	175	..	..	..	..	..	10
11	Simla	Daphai* ..	..	203	53	10	37	..	47	2	150	123	11	..	..	..	..	11
12		Solon* ..	..	..	..	..	..	..	..	..	219	119	..	..	..	..	..	12
		Total ..	6	20,584	4,799	2,876	1,441	244	4,561	132	16,004	4,539	9,674	97.73	71.71	2.75	60.45	

* Performed by medical staff.

A—VACCINE DEPARTMENT.

STATEMENT No. II—SHOWING THE COST OF THE DEPARTMENT IN THE PUNJAB
PROVINCE DURING THE YEAR 1929-30.

STATEMENT No. II—SHOWING THE COST OF THE DEPARTMENT

1	2	3	4									
No.	Districts.	Super- vising Officers.	EXPENDITURE.									
			Pay.	Super- intend- ents of Vaccina- tion.	Pay.	Vaccina- tors.	Pay.	Peons, etc.	Pay.	Total pay of establishment.	Travelling allowances.	
1	2	3	4	5	6	7	8	9	10	11	12	
			Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A.	
1	Hissar .. ..	..	..	1	588 0 0	21	6,803 4 0	4	310 4 9	7,701 8 9	1,267 5 0
2	Rohtak .. ..	..	..	1	756 0 0	16	4,708 0 0	..	..	5,464 0 0	445 4 4
3	Gurgaon .. ..	..	..	1	648 0 0	21	6,570 0 0	1	180 0 0	7,398 0 0	516 13 0
4	Karnal .. ..	..	..	1	1,039 8 0	19	5,650 5 0	3	215 9 4	6,905 6 4	814 3 0
5	Ambala .. ..	..	..	1	740 0 0	19	6,495 12 7	4	363 0 0	7,598 12 7	428 7 0
6	Simla .. ..	..	..	..	..	1	460 0 0	1	174 6 0	634 6 0	..
7	Kangra .. ..	..	..	1	841 5 0	13	4,129 10 0	..	..	4,970 15 0	534 1 0
8	Hoshiarpur ..	..	..	1	533 7 0	14	4,286 1 0	..	..	4,819 8 0	492 7 0
9	Jullundur .. ..	..	..	1	840 0 0	17	5,227 7 0	3	474 0 0	6,541 7 0	478 14 0
10	Ludhiana .. ..	..	..	2	1,464 0 0	17	3,460 0 0	4	300 0 0	5,224 0 0	428 2 6
11	Ferozepore ..	..	..	1	1,020 0 0	29	9,345 0 0	6	468 0 0	10,833 0 0	471 7 6
12	Lahore .. ..	..	..	2	1,672 0 0	23	6,269 13 0	3	538 4 0	8,480 1 0	1,222 1 0
13	Amritsar .. ..	..	..	2	812 11 0	16	5,961 6 5	8	1,672 13 0	8,446 14 5	918 4 0
14	Gurdaspur .. ..	..	..	1	976 3 0	18	4,847 3 7	2	253 0 0	6,076 6 7	385 7 0
15	Sialkot .. ..	..	..	1	1,014 12 0	24	5,984 10 0	4	267 11 0	7,267 1 0	1,052 6 0
16	Gujranwala ..	..	..	1	1,020 0 0	15	4,219 0 0	2	294 0 0	5,533 0 0	661 4 0
17	Sheikhupura ..	..	..	1	924 0 0	11	2,882 9 0	..	..	3,806 9 0	596 4 0
18	Gujrat .. ..	..	..	1	865 2 0	15	5,942 5 0	..	..	6,807 7 0	310 7 0
19	Shahpur .. ..	..	..	2	920 12 0	25	6,855 9 6	1	96 0 0	7,872 5 6	451 3 0
20	Jhelum .. ..	..	..	1	480 0 0	16	2,769 1 0	1	72 8 0	3,321 9 0	791 0 0
21	Rawalpindi ..	..	..	1	616 0 0	16	5,854 2 0	3	144 0 0	6,614 2 0	300 0 0
22	Attock .. ..	..	..	1	822 6 0	9	2,399 8 0	1	24 0 0	3,245 14 0	856 0 0
23	Mianwali .. ..	..	..	1	978 7 0	8	2,361 15 0	..	..	3,340 6 0	448 15 0
24	Montgomery ..	..	..	5	1,208 0 0	26	6,354 6 0	2	236 9 0	7,798 15 0	673 5 0
25	Lyallpur .. ..	..	..	1	600 0 0	21	7,733 12 6	4	407 0 0	8,740 12 6	1,077 8 0
26	Jhang .. ..	..	..	1	676 15 0	15	4,215 3 0	2	152 5 0	5,044 7 0	453 4 0
27	Multan .. ..	..	..	2	1,039 4 0	17	4,887 0 0	7	693 8 0	6,619 12 0	924 8 0
28	Muzaffargarh ..	..	..	1	612 0 0	8	2,872 2 0	..	..	3,484 2 0	459 11 0
29	Dera Ghazi Khan ..	..	..	1	992 0 0	19	5,491 15 0	1	84 0 0	6,567 15 0	300 0 0
Total .. ..			..	37	24,700 12 0	489	1,45,037 0 7	67	7,429 14 1	1,77,158 10 8	17,758 7 4
Special staff, Punjab ..			(a) 1	14,089 3 0	2	2,040 0 0	15	5,221 13 0	2	432 0 0	(c) 25,856 3 0	3,483 1 0
Vaccine Institute ..			(b) 1	11,557 2 0	(d) 8	3,628 9 0	3	810 12 0	(e) 20,096 9 0	1,567 6 0
Assistant Director of Public Health, Ambala Circle.			1	9,154 3 0	..	..	..	3	588 0 0	(e) 11,535 10 0	5,480 9 0
Assistant Director of Public Health, Rawal- pindi Circle.			1	16,305 5 0	..	..	..	3	618 3 0	(e) 18,877 8 0	4,317 0 0
Assistant Director of Public Health, Multan Circle.			1	8,160 0 0	..	..	..	3	546 14 0	(e) 10,245 6 0	5,049 14 0
Assistant Director of Public Health, Lahore Circle.			1	9,800 0 0	..	..	..	4	798 12 0	(e) 12,418 15 0	2,110 4 0
Political Staff of Dera Ghazi Khan.			..	..	..	..	1	80 0 0	..	80 0 0	83 0 0
Total			6	69,065 13 0	2	2,040 0 0	24	8,930 6 0	18	3,794 9 0	97,110 3 0	22,021 2 0
GRAND TOTAL ..			6	69,065 13 0	39	26,740 12 0	513	1,53,967 6 7	85	11,215 7 1	2,74,268 13 8	39,849 9 4

Average cost is calculated on the total

(a) Assistant Director of Public Health

(b) Superintendent, Punjab Vaccine

(c) Including Rs. 13,279-7-0 on account

(d) Including two Laboratory Assistants

DEPARTMENT.

THE PUNJAB PROVINCE DURING THE YEAR 1929-30.

		5						6	7	8
		PAID FROM						Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.	No.
Contingencies.	Total cost.	Imperial Funds.	Provincial Funds.	Local Funds.	Municipal Funds.	Cantonment Funds.	Total.			
13	14	15	16	17	18	19	20	21	22	23
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	
2,006 2 3	10,975 0 0	..	..	9,132 10 0	1,842 6 0	..	10,975 0 0	30,519	0 5 9	1
1,972 13 0	7,882 1 4	..	..	6,664 1 4	1,218 0 0	..	7,882 1 4	39,748	0 3 2	2
2,757 1 0	10,671 14 0	..	..	10,362 15 0	308 15 0	..	10,671 14 0	40,487	0 4 3	3
2,205 15 0	9,925 8 4	..	331 8 0	7,399 0 0	2,165 0 4	..	9,925 8 4	49,975	0 3 2	4
2,740 2 5	10,767 6 0	..	160 4 0	7,688 14 0	1,742 13 6	1,175 6 6	10,767 6 0	39,253	0 4 5	5
821 6 0	1,455 12 0	..	..	..	1,455 12 0	..	1,455 12 0	2,919	0 8 0	6
3,434 6 0	8,939 6 0	..	..	8,855 6 0	84 0 0	..	8,939 6 0	51,433	0 2 9	7
1,006 3 9	6,318 2 9	..	..	5,973 0 9	345 2 0	..	6,318 2 9	38,733	0 2 7	8
1,501 10 0	8,521 15 0	..	..	6,465 0 3	1,989 14 9	67 0 0	8,521 15 0	35,197	0 3 10	9
2,321 4 0	7,973 6 6	..	..	6,101 5 3	1,872 1 3	..	7,973 6 6	38,188	0 3 10	10
1,731 11 6	13,036 3 0	..	..	9,577 14 6	2,716 12 6	741 8 0	13,036 3 0	45,015	0 4 8	11
3,131 3 9	12,831 5 9	..	..	5,055 4 9	7,238 4 0	539 13 0	12,831 5 9	65,121	0 3 2	12
3,041 2 4	12,406 4 9	..	35 6 0	8,290 14 4	4,080 0 5	..	12,406 4 9	58,559	0 3 5	13
2,025 1 6	8,486 15 1	..	525 11 0	7,127 13 6	833 6 7	..	8,486 15 1	51,183	0 2 8	14
1,726 0 9	10,045 7 9	..	172 0 0	7,456 8 0	2,227 7 9	189 8 0	10,045 7 9	38,413	0 4 2	15
760 4 0	6,954 8 0	..	..	5,904 8 0	1,050 0 0	..	6,954 8 0	23,219	0 4 10	16
746 8 9	5,149 5 9	..	..	4,755 5 9	394 0 0	..	5,149 5 9	24,631	0 3 4	17
1,449 3 3	8,567 1 3	..	39 14 0	7,851 3 3	676 0 0	..	8,567 1 3	34,945	0 3 11	18
1,429 11 6	9,753 4 0	..	..	7,391 3 0	2,362 1 0	..	9,753 4 0	24,027	0 6 6	19
637 14 6	4,750 7 6	..	30 1 0	4,006 0 0	714 6 6	..	4,750 7 6	34,762	0 2 2	20
1,493 14 0	8,408 0 0	..	..	5,862 5 0	1,513 0 0	1,032 11 0	8,408 0 0	31,097	0 4 4	21
1,287 4 0	5,389 2 0	..	..	5,389 2 0	..	..	5,389 2 0	25,378	0 3 5	22
646 15 0	4,436 4 0	..	75 3 0	4,014 12 0	338 5 0	8 0 0	4,436 4 0	20,245	0 3 6	23
3,256 4 10	11,728 8 10	..	..	10,320 7 3	1,408 1 7	..	11,728 8 10	33,201	0 5 8	24
3,387 11 6	13,206 0 0	..	..	10,735 1 6	2,470 14 6	..	13,206 0 0	40,744	0 5 2	25
1,440 7 0	6,938 2 0	..	52 6 0	6,125 8 3	760 3 9	..	6,938 2 0	32,875	0 3 5	26
2,751 9 0	11,295 13 0	..	..	8,129 7 0	2,166 6 0	..	10,295 13 0	39,901	0 4 2	27
1,813 2 0	5,756 15 0	..	..	5,668 7 0	88 8 0	..	5,756 15 0	47,964	0 1 11	28
1,295 4 9	8,163 3 9	..	53 4 0	7,178 3 9	931 12 0	..	8,163 3 9	103,364	0 1 3	29
54,818 5 4	2,49,735 7 4	..	1,475 9 0	1,99,482 5 5	45,023 10 5	3,753 14 6	2,49,735 7 4	11,36,096	0 3 6	
764 14 0	28,104 2 0	..	28,104 2 0	..	..	..	28,104 2 0	55,172	0 8 2	
16,386 4 9	38,050 3 9	..	38,050 3 9	..	..	..	38,050 3 9	..	..
2,083 1 0	20,099 4 0	..	20,099 4 0	..	..	..	20,099 4 0	..	..
2,661 7 0	25,855 15 0	..	25,855 15 0	..	..	..	25,855 15 0	..	..
3,179 1 2	18,474 5 2	..	18,474 5 2	..	..	..	18,474 5 2	..	..
2,288 5 0	16,817 8 0	..	16,817 8 0	..	..	..	16,817 8 0	..	..
..	163 0 0	23 0 0	140 0 0	..	..	..	163 0 0	2,088	0 1 3	
28,363 0 11	1,47,564 5 11	23 0 0	1,47,541 5 11	..	..	..	1,47,564 5 11	57,260	..	
83,181 6 3	3,97,299 13 3	23 0 0	1,49,016 14 11	1,99,482 5 5	45,023 10 5	3,753 14 6	3,97,299 13 3	11,93,356	0 5 4	

Number of successful vaccinations and re-vaccinations performed by the District, Municipal, Special and Cantonment Staff,—vide Statement No. I.

Technical Vaccination, Punjab.

Institute.

Pay of 15 Clerks (including one clerk from March to September 1929).

Ants and 1 Veterinary Assistant.

COMPARATIVE STATEMENT No. III.—SHOWING THE NUMBER OF PERSONS PRIMARILY VACCINATED AND THE NUMBER OF THOSE PERSONS WHO WERE SUCCESSFULLY VACCINATED IN THE PUNJAB IN EACH OF THE UNDERMENTIONED OFFICIAL YEARS.

PERSONS PRIMARILY VACCINATED.

[illegible]

YEAR ENDING 31st March.

	1967 to 1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.												
Government	105,213	98,784	23,628	22,397	23,628	19,230	21,834	17,634	22,145	17,217	28,648	24,633	20,184	23,987	35,201	31,476	17,063	15,240	16,617	14,597	33,259	30,177	23,206	21,411
Municipal																								
Local (District and Cantonment) Fund																								
Indian States	1,001	1,293	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Dispensaries	14,747	11,504	1,937	1,807	426	1,294	1,164	1,064	951	841	820	723	589	573	3,845	3,473	1,752	1,542	1,089	1,769	1,912	1,826	1,080	1,571
Total	541,028	507,662	605,143	563,995	650,938	594,417	625,079	576,358	649,053	588,386	674,203	622,986	670,640	621,962	747,162	671,143	720,328	657,036	765,094	705,169	858,983	783,962	869,548	806,361

Notes.—The figures from 1897 to 1909 are taken from Annual Vaccination Reports of the Dominion as published by the Dominion.

DEMENTS OF VACCINATION OR OTHER INSPECTING OFFICERS, THE PERCENTAGES OF THOSE INSPECTED TOGETHER WITH THE PERCENTAGES OF CASES FOUND SUCCESSFUL BY THEM, AS CONTRASTED WITH PERCENTAGES REPORTED BY THE VACCINATORS IN EACH DISTRICT OF THE PUNJAB DURING THE YEAR 1929-30.

No.	Districts.	TOTAL NUMBER OF PERSONS VACCINATED.				TOTAL NUMBER INSPECTED.				PERCENTAGE OF INSPECTIONS TO TOTAL NUMBER VACCINATED.				PERCENTAGE OF CASES FOUND SUCCESSFUL TO TOTAL NUMBER INSPECTED.				PERCENTAGE OF SUCCESS REPORTED BY VACCINATORS.		No.
		By District Health Officers, Civil Surgeons and Medical Officers of Health.		By Superintendents of Vaccination.		By District Health Officers, Civil Surgeons and Medical Officers of Health.		By Superintendents of Vaccination.		By District Health Officers, Civil Surgeons and Medical Officers of Health.		By Superintendents of Vaccination.								
		Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.							
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1	Hissar	29,905	6,920	2,226	1,254	8,539	1,316	7,44	18,12	28,55	19,02	93,13	69,94	97,54	62,39	96,07	51,35	1		
2	Rohat	32,735	16,357	10,489	5,025	22,895	10,248	32,04	30,72	69,94	62,65	96,83	63,08	94,39	67,80	94,40	73,31	2		
3	Gurgaon	26,152	20,433	1,933	6,178	9,455	9,455	7,47	20,24	18,81	46,27	97,95	51,72	99,63	47,90	98,05	80,68	3		
4	Karnal	31,706	27,333	2,892	2,173	20,119	14,113	9,12	7,93	63,45	51,62	100,00	55,27	99,95	57,48	99,16	81,06	4		
5	Amroha	26,159	25,733	2,889	1,135	4,722	2,601	11,04	4,41	18,05	10,11	97,96	52,95	96,27	48,37	98,13	70,40	5		
6	Simla	732	13,029	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6
7	Kangra	23,692	56,195	1,354	639	12,983	16,002	5,74	1,14	55,01	28,48	95,79	45,23	98,58	44,32	99,91	66,66	7		
8	Hoshiarpur	32,697	14,628	6,315	2,595	13,952	5,046	19,33	17,74	42,71	34,49	98,40	67,82	86,60	50,63	98,98	73,83	8		
9	Jalandhar	31,723	12,252	3,169	1,029	3,989	875	9,99	8,40	11,63	7,14	98,67	61,81	97,80	61,71	97,25	56,00	9		
10	Ludhiana	23,819	30,712	8,514	8,297	15,178	15,263	35,75	27,02	63,72	49,70	92,57	42,75	99,43	34,06	97,86	42,15	10		
11	Ferozepore	39,471	13,832	8,695	1,788	17,968	5,762	21,95	11,28	45,52	36,35	98,23	38,37	98,53	33,34	99,23	64,38	11		
12	Lahore	49,295	42,294	6,597	2,587	33,479	15,380	13,41	6,12	68,04	26,36	98,29	63,28	99,92	61,96	98,09	68,57	12		
13	Amritsar	40,895	37,358	5,778	2,005	9,420	4,805	14,16	7,21	23,09	12,86	97,65	55,88	98,24	57,17	98,17	70,72	13		
14	Gurgaon	36,192	32,522	1,791	877	5,339	4,539	4,96	2,70	14,79	13,96	97,77	63,17	99,42	93,99	99,34	67,14	14		
15	Sialkot	33,143	12,359	2,124	597	10,876	1,452	6,41	4,83	32,82	11,76	98,59	60,64	98,65	63,43	98,48	68,33	15		
16	Gurgaon	22,518	9,669	1,133	192	4,885	450	4,91	5,03	21,19	13,20	91,00	39,06	88,66	46,67	95,72	65,06	16		
17	Sheikhpura	22,518	9,669	1,133	192	6,892	1,098	5,77	2,25	30,61	11,36	95,00	33,03	86,65	38,71	98,57	55,06	17		
18	Gurgaon	30,889	13,335	4,125	1,356	22,264	5,738	13,36	10,17	72,10	43,03	99,22	66,74	99,64	66,68	98,41	59,96	18		
19	Shahpur	21,929	9,518	5,192	213	3,567	310	23,68	2,24	16,27	3,24	96,90	95,31	95,93	23,55	96,29	53,15	19		
20	Jhelum	21,929	9,518	5,192	213	1,408	1,412	4,43	3,12	6,41	5,37	98,56	69,35	98,44	67,85	97,21	67,85	20		
21	Rawalpindi	19,765	20,095	2,588	1,058	5,064	2,751	13,09	5,26	25,62	13,69	94,05	43,95	99,53	81,79	98,85	66,43	21		
22	Attock	18,215	11,440	8,080	2,500	8,100	2,738	44,36	21,85	44,47	23,93	99,88	72,36	99,94	72,50	97,51	81,60	22		
23	Manawali	33,285	5,580	932	498	7,595	5,167	10,58	5,64	56,50	58,56	99,77	98,39	98,67	70,76	99,59	89,12	23		
24	Montgomery	36,481	12,132	17,852	5,782	16,632	1,230	2,80	2,69	49,97	22,04	97,21	36,00	92,77	60,97	98,93	65,07	24		
25	Lyallpur	20,940	17,530	2,472	908	25,372	7,035	48,94	47,66	69,55	62,93	99,87	75,48	99,04	62,67	97,65	73,90	25		
26	Multan	35,797	21,122	4,438	3,228	1,116	456	11,81	5,62	5,33	2,60	99,19	91,22	100,00	100,00	98,68	89,91	26		
27	Muzfargarh	24,751	33,895	2,455	2,097	20,928	14,412	12,55	15,28	58,51	68,23	98,84	46,96	98,45	43,19	98,16	52,51	27		
28	Dera Ghazi Khan	64,676	100,585	9,154	12,551	10,982	7,131	9,92	6,20	44,37	21,09	100,00	77,54	99,94	89,31	99,91	83,49	28		
29	Special staff	23,296	57,368	939	2,596	32,841	8,175	14,15	12,48	50,39	33,64	97,19	61,05	99,52	65,44	98,57	64,33	29		
	Assistant Director of Public Health, Ambala Circle.	..	..	6,025	1,158	..	..	..	..	..	..	95,87	47,67	..	..	..	..	..
	Assistant Director of Public Health, Rawalpindi Circle.	..	..	2,979	294	..	..	..	..	..	..	96,11	35,37	..	..	..	..	..
	Assistant Director of Public Health, Multan Circle.	..	..	4,585	2,391	..	..	..	..	..	..	90,08	81,35	..	..	..	..	..
	Assistant Director of Public Health, Lahore Circle.	..	..	3,181	56	..	..	..	..	..	..	93,87	19,64	..	..	..	..	..
	Total	898,892	714,725	144,631	74,994	361,928	199,401	16,65	10,49	41,66	27,90	97,50	60,04	97,66	58,87	98,14	68,29			

STATEMENT No. V.

1016-15

STATEMENT SHOWING THE ANNUAL NUMBER OF SUCCESSFUL VACCINATIONS AND THE ANNUAL RATIO OF DEATHS FROM SMALL-POX PER 1,000 OF POPULATION IN EACH DISTRICT OF THE PUNJAB FOR FIVE YEARS ENDING 1929-30.

No.	Districts.	1925-26.		1926-27.		1927-28.		1928-29.		1929-30.		No.
		Number of successful cases.	Annual ratio of deaths from small-pox per 1,000.	Number of successful cases.	Annual ratio of deaths from small-pox per 1,000.	Number of successful cases.	Annual ratio of deaths from small-pox per 1,000.	Number of successful cases.	Annual ratio of deaths from small-pox per 1,000.	Number of successful cases.	Annual ratio of deaths from small-pox per 1,000.	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Hissar	29,209	0.63	23,844	0.74	23,656	0.35	32,449	1.07	30,519	0.64	1
2	Rohtak	21,446	0.03	21,537	0.05	26,876	0.20	30,728	0.49	39,748	0.30	2
3	Gurgaon	36,685	0.16	42,364	0.07	58,998	0.01	35,790	0.01	40,487	0.26	3
4	Karnal	29,786	0.14	35,439	0.29	38,774	0.32	46,483	0.06	49,975	0.32	4
5	Ambala	23,224	0.07	23,362	0.58	22,694	0.29	28,218	0.09	37,203	0.23	5
6	Simla	2,584	0.29	2,927	0.15	1,891	0.20	2,471	0.27	2,395	0.34	6
7	Kangra	47,486	0.12	55,782	0.22	57,896	0.18	59,837	0.14	51,433	0.05	7
8	Hoshiarpur ..	33,166	0.66	31,649	1.27	36,067	1.03	41,041	0.95	38,733	0.76	8
9	Jullundur ..	28,096	0.37	27,478	0.35	29,605	0.13	31,751	0.14	34,123	0.20	9
10	Ludhiana ..	22,946	0.64	23,082	0.60	22,520	0.22	28,632	0.15	33,188	0.72	10
11	Ferozepore ..	38,895	1.01	31,351	0.22	33,019	0.12	41,764	0.24	44,188	0.32	11
12	Lahore	50,768	0.99	53,264	1.42	45,732	0.65	52,749	1.01	64,514	0.58	12
13	Amritsar ..	37,850	0.52	38,780	0.67	51,253	0.44	55,870	0.47	58,559	0.32	13
14	Gurdaspur ..	34,160	0.14	33,766	0.52	36,488	0.29	39,900	0.24	51,183	0.21	14
15	Sialkot	36,645	0.55	27,795	0.86	35,196	0.51	34,093	0.54	37,532	0.25	15
16	Gujranwala ..	23,511	0.54	22,011	0.81	24,746	0.93	24,689	0.89	23,219	0.29	16
17	Sheikhpura ..	19,491	0.36	21,746	0.74	28,544	1.24	24,309	0.53	24,631	0.23	17
18	Gujrat	29,332	0.68	31,439	0.74	34,416	0.59	37,672	1.03	34,945	0.61	18
19	Shahpur	26,947	0.83	28,293	0.90	27,633	0.36	31,838	0.80	24,027	0.88	19
20	Jhelum	17,300	1.18	19,492	0.31	21,488	0.20	21,344	0.16	33,939	0.42	20
21	Rawalpindi ..	28,367	0.49	26,184	0.20	26,823	0.15	34,723	0.24	28,763	0.30	21
22	Attock	21,646	0.88	22,309	0.48	24,297	0.37	24,000	0.18	25,378	0.38	22
23	Mianwali	20,165	0.47	20,132	0.45	21,485	0.08	21,305	0.04	20,245	0.06	23
24	Montgomery ..	29,955	1.37	30,004	3.10	32,065	1.03	34,235	0.59	33,201	0.35	24
25	Lyallpur	45,680	0.57	48,283	1.38	51,317	0.86	49,434	0.44	40,744	0.21	25
26	Jhang	24,092	0.68	25,097	0.28	32,490	0.07	33,688	0.15	32,875	0.10	26
27	Multan	48,929	0.90	38,537	0.71	46,705	0.22	44,161	0.13	39,901	0.09	27
28	Muzaffargarh ..	37,191	0.27	43,686	0.92	44,088	0.23	43,530	0.03	47,964	0.03	28
29	Dera Ghazi Khan ..	24,141	0.18	42,132	1.58	32,408	0.60	70,803	0.09	103,364	0.04	29
	Total	869,693	0.56	891,765	0.75	969,190	0.43	1,057,507	0.42	1,126,996	0.34	
	Special Staff ..	44,688	..	59,138	..	31,761	..	78,107	..	55,172	..	
	Cantonment Staff ..	12,629	0.18	4,596	0.14	5,804	0.13	6,446	0.05	9,100	0.12	
	Dispensary Staff ..	6,448	..	2,500	..	2,751	..	3,114	..	3,187	..	
	GRAND TOTAL ..	933,458	0.56	957,999	0.74	1,009,506	0.43	1,145,174	0.42	1,194,455	0.34	