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Annual Report of the Chemical
Examiner to the Government
of Sind

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For the year 1940.

Price: As. 2 or 3 d.

KARACHI:
PRINTED AT THE GOVERNMENT PRESS
1941.

Copies obtainable from the Manager, Government Book Depot
and Record Office, Karachi.

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REPORT OF THE CHEMICAL EXAMINER TO THE GOVERNMENT OF SIND FOR THE YEAR 1940.

No. 2780 OF 1941.

CHEMICO-BACTERIOLOGICAL LABORATORY,
Karachi, 1st/2nd April 1941.

From

H. C. HIRANANDANI, Esq.,
CHEMICAL EXAMINER
TO THE GOVERNMENT OF SIND,
KARACHI.

To

THE CHIEF SECRETARY
TO THE GOVERNMENT OF SIND,
GENERAL DEPARTMENT,
Karachi.

Through

THE DIRECTOR OF HEALTH SERVICES AND
INSPECTOR-GENERAL OF PRISONS, SIND,
Karachi.

Sir,

I have the honour to submit the following annual report for the year 1940.

2. The work done during the year under report may be thus summarised:—

The number of articles examined in connection with medico-legal cases	...	...	1,414
Samples of Government Stores and miscellaneous articles	...	...	3
Samples from the Excise Department	...	...	1,160
Miscellaneous	...	...	6
Total	...	...	2,583

3. In the following table are shown the analyses under all heads during the past five years:—

Class.	1936	1937	1938	1939	1940
Medico-legal examination	1,290	1,302	1,375	1,371	1,414
Government Stores, Miscellaneous and Excise	599	798	711	991	1,163
Other Miscellaneous	44	8	7	3	6
Total	1,933	2,108	2,093	2,365	2,583

SECTION I.—MEDICO-LEGAL.

4. The Medico-legal cases examined during the year under report were received from 36 different stations of Sind and Baluchistan, and are arranged in classes as under :—

Class I.—Cases of suspected human poisoning ...	113
Class II.—Cases of suspected animal poisoning ...	3
Class III.—Stain cases (Blood and Semen) ...	272
Class IV.—Miscellaneous ...	22
Total ...	<u>410</u>

The following table gives the corresponding number of cases examined during the past five years :—

Class.	1936	1937	1938	1939	1940
Suspected human poisoning ...	100	101	98	106	113
Suspected animal poisoning ...	...	1	2	5	3
Stain cases ...	276	278	282	315	272
Miscellaneous ...	9	10	10	7	22
Total ...	<u>385</u>	<u>390</u>	<u>392</u>	<u>433</u>	<u>410</u>

Although the number of Medico-legal cases examined during the year under report was less by 23 than that of the previous year, the number of articles examined was the highest on record.

5. *Class I.—Cases of suspected human poisoning.*—One hundred and thirteen cases of this class were received for examination and report during the year. These included poisoning of 131 persons out of whom 74 died. Out of the total 113 cases of suspected human poisoning, poison was detected in 37, as shown in Table No. II. The poisons most commonly used were Dhatura, Opium and Arsenic. The details of these cases and the comparative figures for the quinquennium are given in the following table :—

Nature of poison.	1936	1937	1938	1939	1940
Opium ...	20	18	33	18	4
Dhatura ...	14	5	11	12	13
Arsenic ...	8	9	9	9	9
Other poisons ...	11	10	8	...	11
Total poisons ...	<u>53</u>	<u>42</u>	<u>61</u>	<u>55</u>	<u>37</u>
No poison ...	47	59	37	51	76
Total poison cases ...	<u>100</u>	<u>101</u>	<u>98</u>	<u>106</u>	<u>113</u>

Seventy-six cases in which poison was not found can be divided into three groups :—

(a) Cases in which some particular poison was suspected from the symptoms during life or from the *post mortem* examinations, but analysis failed to confirm the suspicion.

Details of such cases are as under :—

Mydriatic ...	3
Intoxicants ...	2
Opium ...	1
Arsenic ...	1
Irritants ...	6
Total ...	<u>13</u>

(b) Cases in which the cause of death had been provisionally determined, yet viscera, etc., were sent to confirm such provisional diagnosis by excluding poisoning.

Details of such cases are given below :—

Liver and intestinal disorders ...	3
High fever ...	3
Heart diseases... ...	3
Pneumonia ...	5
Pleurisy ...	1
Epilepsy ...	1
Sepsis ...	2
Hanging ...	5
Shooting ...	1
Burning ...	3
Hydrophobia ...	1
Snake bite ...	1
Electric shock... ...	1
Drowning ...	5
Fall ...	1
Murder ...	1
Total ...	<u>37</u>

(c) In the remaining 26 cases, there had been no definite evidence of poisoning nor could any other provisional cause of death be determined on account of death being unexpected or the body being found on a road-side and no definite cause of death being revealed at the *post mortem* examination.

6. *Class II.—Cases of suspected animal poisoning.*—Three cases under the class were examined during the year, and no poison was detected in any of them.

7. *Class III.—Stain cases.*—Two hundred and seventy-two cases of this class were received for examination and report during the year, of which 187 cases were suspected of having blood stains and the remaining 85 of having semen or semen and blood stains combined. The number of articles examined in this connection was 639 (*vide* Table No. II). Out of 187 cases suspected of having blood stains, blood was detected in 165 cases. These included 154 of homicide, 20 of culpable homicide, and the remaining under sections 307, 379, 382, 396, 397, etc., of the Indian Penal Code. During the year, 548 stains from 177 cases were forwarded to the Imperial Serologist, Calcutta, who reported that 463 were of human blood, 2 of ruminant animals and 83 disintegrated.

The remaining 85 cases were of blood and seminal stains class and included 45 of sodomy, 20 of rape, 5 of bestiality, and the remaining under sections 302, 304 and 366. Out of 85 cases of this class, semen was detected in 36, blood and semen in 5, and only blood in 8.

8. *Class IV.—Miscellaneous cases.*—Twenty-two cases under this head were received for examination and report. These included all cases falling outside Class I, II and III. The details of cases examined under this class are given as under:—

One case was under the Bombay Prevention of Adulteration Act, 1925, in which a sample of ghee was sent to me as a referee under the Act, the analysis of the Public Analyst being challenged by the accused.

Eleven cases in which some materials were sent, were received for examination to find out the explosive nature of articles used.

Two cases were examined in connection with investigation to find the cause of fire.

Three cases in which certain articles were sent for analysis and report referred to the investigation of kidnapping and theft.

Three cases alleged to be of cheating in which documents and chemicals were sent, were examined and reported during the year.

Out of the remaining two cases one was under the Arms Act and the other referred to the identification of bones which was forwarded to the Anatomist.

9. *Details of some interesting cases.*—(1) Medical Officer-in-charge, Naushero Feroze dispensary, sent viscera of 6 persons with a history that some poison appeared to have been administered to the six deceased and all of them were reported dancing before death and none of them vomited or purged. Dhatura was detected in the viscera of all the six deceased. Some food material was also sent but no poison was detected in these articles.

(2) Medical Officer-in-charge, Sinjhora dispensary, sent for analysis and report, vomited and faecal matter along with plates in which night rice meals were stated to have been served to 18 persons who vomited and purged. Some powder and seeds were also sent for analysis in this connection. Arsenic was detected in vomited and faecal matter, while the seeds were of Dhatura. No poison was found in the powder.

(3) At Karachi an unknown person was found dead and Civil Surgeon, Karachi, suspected some irritant poison from the results of *post mortem* examination. Hydrocyanic acid was detected in the viscera sent for examination. The two powders found on the person of the deceased and sent by the Police for examination in this case were Potassium Cyanide and Sugar.

SECTION II.—GOVERNMENT MISCELLANEOUS.

10. Three samples were forwarded by the following officers:—
Civil Surgeon, Larkana.
City Magistrate, Sukkur.
Third Class Magistrate, Umerkot.

The samples were—

Chloroform	..	..	1
Opium ...	...	...	1
Salt ...	..	..	1
Total	...	...	3 (included in Table V)

SECTION III.—EXCISE ANALYSIS.

11. 1,160 articles were examined for the Excise Department including the following examinations:—

Denatured spirit	...	540
Medicinal preparations	...	525
Essences	...	58
Toddy	...	16
Poppy heads	...	9
Charas	...	1
Opium	...	1
Balagolis	...	2
Miscellaneous	...	8
Total	...	1,160 (included in Table V).

Out of 525 samples of medicinal preparations, 192 samples were tested with a view to find out whether they conform to the British Pharmacopoea requirements.

SECTION IV.—MISCELLANEOUS.

12. Six samples of this class were examined during the year. These were :—

Cloth	6
Total ...	6 (included in Table V).

WORKING OF THE LABORATORY STAFF.

I was in charge of the laboratory throughout the year. During the year, the Junior Chemical Assistant of this Laboratory was sent for special training in Excise analysis to the Central Revenues Control Laboratory, New Delhi.

All the members of the staff worked to my entire satisfaction.

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

H. C. HIRANANDANI,
Chemical Examiner
to the Government of Sind, Karachi.

TABLE No. I.

Summary of work done.

	1939.		1940.		
	Number of cases investigated.	Number of articles examined.	Number of cases investigated.	Number of articles examined.	
1	2	3	4	5	
MEDICO-LEGAL ANALYSIS, &C.	Human poisoning cases (a) in Table No. II.	106	374	113	404
	Animal poisoning cases (b) in Table No. II.	5	7	3	5
	Stain cases (c) in Table No. II.	315	950	272	887
	Miscellaneous Medico-legal cases (d) in Table No. II.	7	40	22	118
Total ...	433	1,371	410	1,414	
General analysis and other work.	...	994	...	1,169	
Grand total ...	433	2,365	410	2,583	

TABLE NO. II.

Showing results of Medico-legal Analysis according to cases.

Name of exhibits.	1939.			1940.			
	Total number of cases investigated.	Number of cases detected.	Total number of articles examined.	Total number of cases investigated.	Number of cases detected.	Total number of articles examined.	
1	2	3	4	5	6	7	
HUMAN POISONING (a). General.	1. Cases in which viscera and contents were tested for poison. { The viscera of individuals— Poison detected in Poison not detected in }	69	33	236	71	16	245
	2. Cases in which tissues, other than viscera, were tested for poison.	...	...	...	...	...	...
	3. Cases in which excreta, dejecta, vomit or stomach contents received without viscera were tested for poison.	21	14	31	28	15	54
	4. Cases in which only miscellaneous articles were received.	16	8	55	15	6	41
	5. Miscellaneous articles received with cases under entries 1, 2 and 3.	...	..	52	...	...	64
Abortion.	6. Cases in which viscera or contents were examined.	...	..	...	...	...	...
	7. Cases in which only miscellaneous articles were examined.	...	...	...	...	...	...
	8. Miscellaneous articles received with cases under entry 7.	...	...	...	...	...	...
Total (a) ...	106	55	374	113	37	404	
ANIMAL POISONING (b).	9. Cases in which viscera from horned cattle were tested for poison. { The viscera of animals Poison detected in Poison not detected in }	5	...	7	1	...	1
	10. Cases in which the viscera or contents from the animals, other than horned cattle, were tested for poison.	...	...	...	2	...	4
	11. Cases in which animal tissues, other than viscera, were tested for poison.	...	...	...	...	...	...
	12. Cases in which animal excreta, dejecta or stomach contents forwarded without viscera were tested for poison.	...	...	...	...	...	...
	13. Cases in animal poisoning in which only miscellaneous articles were received.	...	...	..	...	...	...
14. Miscellaneous articles received with cases under entries 9, 10, 11 and 12.	...	...	...	...	...	...
Total (b) ...	5	...	7	3	...	5	

TABLE NO. II—contd.

Name of exhibits.	1939.			1940.			
	Total number of cases investigated.	Number of cases detected.	Total number of articles examined.	Total number of cases investigated.	Number of cases detected.	Total number of articles examined.	
1	2	3	4	5	6	7	
STAIN (c).	15. Blood-stain cases other than No. 16 ...	223	194	697	187	165	639
	16. Blood-stain, rape and unnatural crime cases.	...	...	...	..	...	...
	17. Seminal stain cases ...	72	35	198	71	36	195
	18. Mixed blood and seminal stain cases ...	20	18	55	14	13	53
	19. Other stain cases ...	...	...	...	...	...	...
Total (c) ...	315	247	950	272	214	887	
MISCELLANEOUS (d).	20. Cases in which human bones, hair, &c., were received.	7	2	40	22	13	118
	Total (d) ...	7	2	40	22	13	118
GRAND TOTAL ...	433	304	1,371	410	264	1,414	

TABLE No. III.

Showing the nature of poisons detected according to articles received under Head Nos. 1 to 14 of Table No. II.

1	Human poisoning.				Cattle poisoning.			
	2	3	4	5	6	7	8	9
Arsenic ...	8	...	12	14	...	...	...	...
Opium ...	8	...	2	...	...	...	...	...
Dhatura ...	22	...	6	7	...	...	...	...
Alcohol ...	8	...	...	...	...	...	...	...
Pot: Cyanide ...	...	...	...	4	...	...	...	...
Hydrocyanic acid ...	3	...	2	...	...	...	...	...
Hydrochloric acid ...	...	...	2	...	...	...	...	...
Acetic acid ...	2	...	...	1	...	...	...	...
Belladonna ...	...	...	...	2	...	...	...	...
Strychnine and Quinine ...	...	...	...	2	...	...	...	...
Copper sulphate... ..	...	...	2	3	...	...	...	...
Number of articles in which poison was detected ...	51	...	24	33	...	...	...	...
Number of articles in which poison was not detected ...	194	...	30	72	5	...	...	...
GRAND TOTAL, 1940 ...	245	...	54	105	5	...	...	...
GRAND TOTAL, 1939 ...	236	...	31	107	7	...	...	...

TABLE No. IV.

Showing the places from which cases in which viscera were tested for poison have been received during the year 1940.

1	2	Human cases.		Animal cases.	
		3	4	5	6
Karachi	22	4	2	...
Hyderabad	10	3	1	..
Sukkur	11	1	...	...
Larkana	5	1	...	...
Dadu	3	...	...	..
Upper Sind Frontier	4	...	...	...
Nawabshah	9	7	..	...
Thar Parkar	3	...	...	...
Baluchistan	3	...	...	...
Total	70	16	3	...
Number of cases in which poison was not detected.	54	...	3
Grand total, 1940	70	70	3	3
Grand total, 1939	69	69	5	5

TABLE No. V.

General Analysis For Government Departments, etc.

Received from 1	Nature of substance. 2	Number of examina- tion. 3	Increase or decrease over previous year. 4
Government (Stores and Miscellaneous).	...	3	-13
Excise Department	1,160	+185
Miscellaneous...	...	6	+3
Total, 1940	1,169	+175
Total, 1939	994	...

