



FINAL REPORT

OF THE

INDUSTRIAL CONDITIONS ENQUIRY

COMMITTEE

TOGETHER WITH

SUGGESTIONS FOR A LABOUR CODE

BOMBAY STATE

सत्यमेव जयते



BOMBAY

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I. INTRODUCTION

1. The Industrial Conditions Enquiry Committee was originally appointed by Government Resolution, Political and Services Department, No. 264/46, dated 8th November 1946. Under the terms of reference, the Committee was asked to examine and report its findings on the following questions :—

(i) Whether production in industries generally and in the cotton textile industry in particular has suffered recently as compared with the peak war year and with the pre-war period. If so, to what extent ?

(ii) What are the factors responsible for the fall in production ?

(iii) Whether absenteeism, indiscipline and violent behaviour on the part of the employees have increased and now prevail to an unusual extent ?

(iv) To what extent are economic privations, lack of facilities and unfair treatment responsible for the recent manifestations of labour unrest ? What other factors, if any, contribute to this unrest ?

2. The Committee, in the first instance, confined its attention to the cotton textile industry in Khandesh and submitted an interim report on 8th January 1947. Thereafter the Committee took up the problems of the cotton textile industry in Bombay City and Bombay Suburban District and submitted a further interim report on 21st November 1947. Following the submission of the interim report, the Committee was reconstituted by Government on 27th November 1947 and now consists of :—

Shri Purushottam Kanji, B.A. Chairman.

Shri P. V. Gillespie, M.L.A., and
The Director (now Deputy Commissioner) of Labour (Information). } Members.

3. In view of certain difficulties that arose in connection with the checking up of information from textile concerns, the Government of Bombay by a notification dated 29th December 1947 appointed the Chairman and Members of the Committee also as a Court of Enquiry and referred the following industrial matters for enquiry :—

(i) Whether absenteeism, indiscipline and violent behaviour on part of the employees in the cotton textile industry in the Province of Bombay have increased ?

(ii) Whether these matters have affected efficiency, employment and wages ; and, if so, how and to what extent ?

(iii) Whether wages and employment and the relations between employers and employees in the industry have been affected by changes in production and, if so, how ?

(iv) To what extent are economic privations, lack of facilities and unfair treatment responsible for the recent manifestations of labour unrest in the cotton textile industry and estrangement between employers and employees ?

4. With the unanimous adoption of the Industrial Truce Resolution at the Tripartite Conference in December 1947 at New Delhi, the Honourable Minister for Labour, Bombay, initiated steps to implement the terms of the resolution in the Provincial sphere. Among other things, it was felt that present-day conditions of work and amenities in industrial establishments and the scanty welfare efforts on the part of management could be a source of irritation and exacerbate relations between management and workers. The question was discussed by the Honourable Minister with the Chairman of the Committee *vis-a-vis* the Committee's terms of reference and it was agreed that the Committee should direct its attention to the evolving of a Labour code with regard to working conditions and amenities in industrial establishments. This view was later endorsed by the Provincial Labour Advisory Board in a Resolution passed during its sitting in March 1948.

5. The Committee had up to this time concentrated more or less on cotton textile establishments and obtained data relating to welfare, working conditions and amenities through questionnaires issued from time to time. The questionnaires were followed up by visits to a few mills and factories in Bombay, Ahmedabad, Broach, Sholapur, Barsi, Hubli, Gokak and Gadag. These visits were mainly directed towards a study of existing working conditions, amenities and welfare.

6. In these visits the more the Committee probed into these almost forgotten factors of industrial enterprise, the more it was felt that the less one knows about the difficulties surrounding these problems the easier it would be to produce the perfect plan to meet the situation. Our enquiries and studies have convinced us of the need for a re-orientation of social relationship and a correct approach to human values. Good relations can never be built on conditions under which the majority of our fellow-beings have to struggle to keep body and soul together. Goodwill can be created ; but hardly available on tap at demand. Managements, we feel, would be expecting the impossible if they ask for full co-operation from the workers on whom they place the indignity of being "hired" to eke out a miserable existence and "fired" at will. No management could have the right to deplore the lack of interest in their business among workers, despite all propaganda of national peril, if at the first sign of intelligent interest a shutter-like defence of "managerial functions" is lined up with the ignorance and illiteracy of workers. The work-people of today are but the products of the conditions of yesterday—conditions which are just changing for the better—and no appeal can ever succeed if it ignores their past—and present—unpleasant experiences.

7. We have, in the course of our enquiries, also attempted as detailed a study as possible of existing legislation and how far such legislation has assisted the worker out of the morass of most depressing conditions and environment. And, we found it difficult to escape the inexorable fact that most provisions in this regard could easily be put to vastly

better use if there was some change in outlook both among management and labour. In some instances, there is no doubt, much can be attributed to ignorance, not necessarily calculated. We have come across managements that had no idea of the elementary needs and values in this regard. On the other hand and at the other end, there are quite a few honourable exceptions conscious of their responsibilities for the welfare and well-being of their workers.

8. Replies, both oral and written, from employers of all sorts and from all industries, have shown unmistakably that, in many cases, outlook and imagination are clouded by a number of factors. These are :—

(a) The inroads that social activities in factories by employers would make on their immediate profits. Few seem to have been able to realise the long term effect and value of such measures.

(b) The anxious search for methods to nullify the social objectives of legislation intended to help the workers. In the first instance, efforts often are bent towards studying statutory provisions and the lowest minimum requirements. This is followed by efforts to keep as far below the minimum standards as is legally feasible and attempts to take away with the left hand what the right hand has been compelled to give. Instances with regard to the recent holidays with pay legislation are examples in point. One management, which undoubtedly had made quite good profits during the past few years, had made a careful study of the legal provisions for holidays with pay and, we were informed that none of their workers have ever qualified for this privilege. Further questions revealed that in this concern a single day's absence without leave disqualified the worker. Few managements, we further discovered, have realised the value and importance of this holiday period now available to the workers. The main concern is "how can we afford to have so many workers absent with leave for such a long period"? We understand that the employer would be within the law if the worker is given 10 days' earnings as *baksheesh*. To the worker, every penny is manna from heaven. He does not know that the ten days' rest would benefit him much more and, under existing conditions, even if he does avail of such leave, he can at best spend these days in insanitary dwellings. There is also the example of a very experienced mill manager who locks up a few lavatories and urinals on the ground that the number of such facilities he need keep open depends on the number of workers on his establishment. He was so enthusiastic about this ingenuity that he gave us this information with a certain amount of pride. In another place the receptacle for cool drinking water was safely under lock and key on a hot summer afternoon. Reason: the ignorant worker wastes the water.

(c) The utter lack of any effort by management—barring a very few—to even consider possibilities of improving on the minimum legislative provisions. Everywhere we went, we have received the complacent reply “we do everything in accordance with the provisions of the Factory Act”, while in actual fact the Committee felt that there were many an attempt at evasion. Rarely has any representative of management been able to point out instances where extra measures to supplement statutory provisions have been taken. On the other hand, it was even pointed out that labour is cheap and plentiful whereas machinery was expensive and difficult to replace, hence it was necessary to devote attention to the proper storing of machinery and other materials. The storage place in this case was the major part of a dining shed.

9. Earlier we had stated that a change of outlook is imperative among labour and management. Undoubtedly, managements' responsibility in this respect is great. This Committee in its Interim Report on the Textile Industry in Bombay City and Bombay Suburban District had pointed out that the “first step and many subsequent steps must be taken by Management, who by virtue of their controlling position in the industry must accept the heavier responsibility. Our Bombay employers display no lack of consciousness of their power, but we do not think that they frequently fail to realise the immense extent of the good which that power would enable them to do, not only to their employees but to the whole community” (*vide* Committee's Interim Report on Bombay and Bombay Suburban District—page 7). We feel that this remark still holds good with more emphasis even now. As for the workers, it might not be quite fair to hold fast to such an argument—need for a change in outlook—under existing circumstances. But workers' representatives and leaders in the many disputes with employers have so far paid little attention to questions of welfare and amenities. We have still to realise that “economic welfare enjoyed by anybody in any period depends on the income that he consumes rather than on the income that he receives; and any cause which increases the absolute share of real income provided that it does not lead to contraction in the size of the national dividend from any point of view, will, in general, increase economic welfare.” (A. C. Pigou). It is also necessary that we realise the factory as something more than a place of employment, that it has both a social and educational background, that industrial establishments are social units; understand intelligently and control the aids and deterrents to improved relations in industry.

10. The Labour Investigation Committee of the Government of India, in its main report, discussing the scope of welfare work, had stated that any definition of the term largely depended on the circumstances of each case and that “for our part, we prefer to include under welfare activities anything done for the intellectual, physical, moral and economic betterment of the workers, whether by employers, by Government or by other agencies, over and above what is laid down

by law or what is normally expected as part of the contractual benefits for which the workers may have bargained". Sir Wilfrid Garrett, late Chief Adviser of Factories, Government of India, in an article entitled "THE ELEMENTS OF INDUSTRIAL WELL-BEING" refers to a "new conception of management within the factory which deals with the study of conditions of work and is concerned with the general human relationships within an industrial organisation" that has come to be known as Welfare and Personnel Management. "The welfare side, which concerns itself with the physical amenities necessary for the comfort of the worker", he adds, "is a basis without which no progress can be made"

11. We, in this country, however, do not appear to have gone beyond bare definitions and are still at the "it largely depends upon the circumstances of each case" stage. In fact, the circumstances of each case constitute a useful barrier against progress. Further, when efforts are mainly directed towards evading or circumventing what is laid down by law, it is difficult to appreciate how it would ever be possible to consider possibilities of doing something over and above what is laid down by law. Undoubtedly, sufficient emphasis cannot be laid on the voluntary aspect of welfare, but experience has been that little opportunity has been afforded for such voluntary, but humane, features, so essential to a progressive industrial society. Much can be done by an employer once he is made to see and understand the need for generosity to his partners in production and the richer dividends that can be reaped from such a policy. What has been achieved so far is negligible and the time has come for society to take a hand to wear down recalcitrance and ignorance in this regard and to divert attention from the mere profit-motive.

12. We had referred to the necessity for a reorientation of social relationships and a correct approach to human values. Re-orientation, however, cannot be effected overnight. Neither has it been given much of a chance during the past many years. A stage has been reached where we can no longer afford to wait patiently for such re-orientation of outlook on the part of employers and compulsion over a much wider sphere is necessary to enforce reasonable standards of welfare and amenities in practice in every unit of industry.

II. THE COTTON TEXTILE INDUSTRY IN AHMEDABAD, SHOLAPUR AND OTHER CENTRES.

13. As stated earlier (para. 2 above), the Committee has already submitted its findings concerning the cotton textile industry in Khandesh, Bombay City and Bombay Suburban District. Following the reconstitution of the Committee in November 1947 and the appointment of the Chairman and members of the Committee as a Court of Enquiry (para. 3 above), the Committee visited eleven mills in Ahmedabad and all the mills in Sholapur, Broach, Barsi, Hubli, Gadag,

Gokak and Poona. At Ahmedabad, we had an opportunity for frank and cordial discussions with the Committees of Ahmedabad Millowners' Association, the Textile Labour Association and the Girni Kamgar Union, the last named composed mostly of Muslim Drawers-in belonging to the concerns in that city. At other centres too, opportunity was taken to discuss with union and management representatives various aspects of the terms of reference in the light of facts disclosed in replies to questionnaires and during actual visits to Mills.

14. We would here make special mention of the comparatively helpful attitude of the Ahmedabad Millowners' Association which, among other things, unhesitatingly agreed to the Committee visiting any mill during working hours without previous intimation. Again, in sharp contrast to its experience in Bombay City, the Committee was impressed by the courteous and co-operative approach of the managements towards representatives of the Textile Labour Association, Ahmedabad. Union leaders have free access to mill premises and no objection was raised to union representatives accompanying the Committee during its visits to mills. This was indeed a refreshing experience as compared to Bombay where union leaders were compelled to remain outside the gates even during the Committee's visits. At other centres also it was seen that union leaders had free access to premises.

15. *Fall in production.*—As in Bombay, the Committee has found that there has been a definite fall in the production of cloth and yarn as compared to the pre-war and peak war years. This will be clearly seen from the production figures shown in the following tables for the various centres.

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** Figures given in thousands.

Name of Mill.	Monthly Average January- June 1936.	Monthly Average July- December 1936.	Monthly Average January- June 1944.	Monthly Average July- December 1944.	Monthly Average January- June 1946.	July 1946.	August 1946.	September 1946.	October 1946.	November 1946.	Notes.
1. Ahmedabad Advance.	..	1,223	2,358	2,307	1,831	781	1,106	1,345	1,215	1,351	
	Yarn ..	..	580	634	580	214	356	404	361	355	
2. Ahmedabad Cotton.	..	..	168	150	145	44	110	141	128	130	
	Yarn ..	..	171	151	151	46	106	136	136	136	
3. Ahmedabad Jayabharat.	..	..	1,198	1,136	1,102	411	752	828	736	799	
	Yarn ..	..	201	219	230	65	135	153	162	180	
4. Calico and Jubilee.	518	594	901	926	714	237	478	546	555	571	in lbs.
	Yarn ..	588	1,043	1,123	818	231	566	640	637	643	
5. Ahmedabad Jupiter.	..	..	1,108	1,130	1,250	427	980	1,088	1,024	1,025	
	Yarn ..	..	204	207	248	64	195	235	214	196	
6. Ahmedabad Kaiser-I-Hind.	162	165	135	134	232	80	132	156	154	147	in lbs.
	Yarn ..	144	144	142	248	57	129	155	168	149	
7. Ahmedabad Laxmi Cotton.	..	..	..	..	..	..	..	..	..	..	Monthly figures not given.
	Yarn ..	..	..	..	..	..	..	..	..	..

Name of Mill.		1936.				1944.				1946.				Notes.
		Monthly Average January- June	Monthly Average July- December	Monthly Average January- June	Monthly Average July- December	Monthly Average January- June	Monthly Average July- December	Monthly Average January- June	Monthly Average July- December	August 1946.	September 1946.	October 1946.	November 1946.	
8. Ahmedabad New Cotton.	Cloth ..	417	817	1,331	1,261	1,115	402	642	854	811	898			
	Yarn ..	84	132	211	214	186	56	106	143	142	136			
9. Ahmedabad New Textiles.	Cotton ..	..	..	186	213	183	32	105	129	130	133			in lbs.
	Yarn ..	153	159	168	209	165	39	89	122	123	131			
10. Ahmedabad Sarangpur.	Cloth ..	234	202	199	184	285	99	261	275	234	255			
	Yarn ..	187	157	214	202	301	93	238	270	240	256			
11. Ahmedabad Shri Ram- Krishna.	Cloth ..	..	..	796	817	892	288	492	706	737	755			
	Yarn ..	..	..	103	119	121	34	71	101	94	102			
12. Ajit Mills.	Cloth ..	1,506	1,320	1,433	1,398	1,261	396	731	970	1,019	1,024			
	Yarn ..	..	..	312	330	247	87	166	199	197	226			
13. Anand Mills.	Cloth ..	905	1,069	602	1,047	1,067	473	810	874	918	985			
	Yarn ..	173	190	218	218	233	93	163	182	186	213			
14. Aruna Mills.	Cloth ..	1,166	1,405	2,095	2,076	2,064	638	1,467	1,655	1,539	1,590			
	Yarn ..	233	289	433	433	413	120	289	328	308	304			

15. Arvind Mills	Cloth ..	2,192	2,141	2,089	2,185	2,031	482	1,423	1,695	1,721	1,802
H	Yarn ..	354	341	366	378	328	91	247	282	284	286
16. Aryodaya Ginning and Mfg.	Cloth ..	162	152	363	387	368	133	228	273	216	248 in lbs.
17. Asarva	Yarn ..	225	158	350	355	353	117	215	283	248	255
	Cloth ..	..	..	1,084	1,139	1,070	347	877	993	953	988
	Yarn ..	..	..	216	255	231	69	187	217	201	206
18. Aryodaya Spg. and Wvg.	Cloth ..	..	..	2,227	2,642	2,558	1,082	1,686	2,189	1,956	1,874
	Yarn ..	273	213	358	363	335	123	239	292	263	276
19. Ashok	Cloth ..	291	306	467	451	445	138	353	391	321	378 in lbs
	Yarn ..	286	289	465	492	479	157	376	448	369	419
20. Becharidas	Cloth ..	82	78	204	196	204	77	180	219	187	187
	Yarn ..	82	78	201	197	204	80	168	192	209	215
21. Bhalakia	Cloth ..	..	..	1,247	1,201	1,074	551	849	874	871	969
	Yarn ..	..	..	226	212	242	119	191	195	201	194
22. Bharat Suryodaya.	Cloth ..	..	..	719	280	726	373	619	645	555	489
	Yarn ..	..	..	116	180	170	74	128	178	151	125
23. Bharatkhand	Cloth ..	178	194	249	245	189	71	146	146	140	152
	Yarn ..	193	196	248	247	181	52	119	145	143	136

Name of Mill.	Monthly Average January-June 1936.	Monthly Average July-December 1936.	Monthly Average January-June 1944.	Monthly Average July-December 1944.	Monthly Average January-June 1946.	July 1946.	August 1946.	September 1946.	October 1946.	November 1946.	Notes.
24. Bihari	Cotton ..	..	1,288	1,195	933	309	780	796	749	805	
	Yarn ..	139	135	266	217	73	177	189	159	146	
25. City of Ahmedabad.	Cloth ..	..	..	..	..	..	..	..	..	..	..
	Yarn ..	..	..	242	259	65	116	172	160	185	
26. Commercial Ahmedabad.	Cloth ..	..	..	1,658	1,611	567	1,085	1,272	1,250	1,164	
	Yarn ..	161	166	330	339	112	242	278	261	257	
27. Giridhardas Harivallabhdas.	Cloth ..	..	..	..	..	..	..	..	..	..
	Yarn ..	131	165	135	152	43	82	142	142	138	
28. Gujerat Cotton.	Cloth ..	..	..	..	..	..	..	..	..	..	Fig. not available.
	Yarn ..	..	..	..	..	..	..	..	..	..
29. Gujerat Spg. and Wvg.	Cloth ..	1,205	1,220	1,951	1,919	577	1,117	1,468	1,482	1,400	
	Yarn ..	230	230	474	496	142	275	375	368	359	
30. Harivallabhdas Mulchand.	Cloth ..	..	..	1,316	1,324	343	903	1,010	989	927	
	Yarn ..	..	..	230	248	63	169	185	206	175	

Name of Mill.		Monthly Average			Monthly Average			August 1946.	September 1946.	October 1946.	November 1946.	Notes.
		January-June 1936.	July-December 1936.	January-June 1944.	July-December 1944.	January-June 1946.	July 1946.					
40. Marsden	Cloth	1,477	1,263	1,566	1,595	1,486	948	894	1,184	1,300	1,318	
	Yarn	265	237	346	314	416	231	215	322	316	289	
41. Monogram	Cloth	..	..	1,593	1,602	1,263	1,102	1,087	1,164	1,100	1,354	
	Yarn	278	260	400	405	388	294	308	358	314	341	
42. Nagri	Cloth	..	..	1,442	1,375	1,148	276	785	888	856	851	
	Yarn	..	..	264	276	267	63	183	222	204	193	
43. National	Cloth	..	..	..	..	..	..	..	..	..	..	Not replied to the Questionnaire.
	Yarn	..	..	..	..	..	..	..	..	..	..
44. New Commercial	Cloth	1,580	1,356	1,903	1,916	1,825	647	1,566	1,635	1,581	1,632	
	Yarn	311	278	418	405	356	130	352	358	312	294	
45. New Maneek-chowk.	Cloth	1,109	1,160	1,774	1,829	1,581	502	1,133	1,313	1,068	1,143	
	Yarn	..	..	304	301	303	83	217	235	199	219	
46. New National	Cloth	..	..	927	680	984	391	700	816	801	827	
	Yarn	..	..	119	121	137	54	98	122	121	129	

47. New Rajpur	Cloth ..	..	852	919	722	302	581	648	635	641	
	Yarn ..	73	65	161	103	40	81	92	107	136	
48. New Swadeshi	Cloth ..	..	..	..	..	..	..	..	..	..	No records.
	Yarn ..	..	..	..	..	..	..	..	..	..
49. Nutan	Cloth ..	1,224	1,223	1,266	1,182	1,236	322	794	829	963	
	Yarn ..	167	181	219	245	203	62	125	147	156	
50. Patell	Cloth ..	468	447	506	530	501	222	402	424	436	
	Yarn ..	58	59	90	99	87	29	62	81	76	
51. Raipur	Cloth ..	1,308	1,296	1,169	1,217	1,046	390	779	896	928	
	Yarn ..	273	280	204	223	176	66	142	154	157	
52. Rajnagar	Cloth ..	331	225	287	313	292	93	193	236	256	
	Yarn ..	298	201	266	284	286	76	176	248	249	
53. Rohit	Cloth ..	372	348	290	318	238	75	135	156	180	in lbs.
	Yarn ..	..	..	320	330	277	60	146	198	106	
54. Rustum Jehangir.	Cloth ..	..	..	1,099	1,105	906	484	708	773	826	
	Yarn ..	..	..	170	187	140	67	111	114	118	
55. Sarangpur Cotton.	Cloth ..	487	483	801	789	676	228	411	480	511	
	Yarn ...	434	432	824	811	760	213	476	588	571	

63. Vijay Mills	Cloth ..	395	406	343	343	325	123	253	280	273	295 in lbs.
	Yarn ..	363	348	319	326	302	105	241	267	260	255
64. Vikram	Cloth ..	..	..	1,333	1,202	1,093	341	723	796	933	884
	Yarn ..	324	291	290	271	245	86	180	220	219	206
65. Gujarat Hosiery Factory.	Cloth ..	..	..	..	..	..	..	..	..	..	..
	Yarn ..	..	..	72	78	80	54	67	74	71	70
66. Shri Bhagawati	Cloth ..	..	..	..	..	..	..	..	..	..	..
	Yarn ..	..	..	48	51	38	10	15	29	30	35
67. Prabha (Virangaum)	Cloth ..	..	..	145	163	710	892	831	843	803	799
	Yarn ..	..	..	139	167	161	258	220	233	232	237
68. New Shorroek (Nadiad).	Cloth ..	162	178	253	293	243	217	195	195	173	202
	Yarn ..	154	162	336	408	295	283	243	234	217	239
69. Jam Shri Ran- gisingji (Sholapur).	Cloth ..	763	811	821	847	656	816	728	786	761	775
	Yarn ..	252	284	393	435	385	467	415	428	423	442
70. Laxmi Cotton	Cloth ..	353	404	647	700	659	874	716	688	701	730
	Yarn ..	368	406	711	750	682	847	693	711	773	755
71. Vishnu Cotton	Cloth ..	554	587	882	1,013	844	1,212	1,010	1,011	863	947
	Yarn ..	559	566	964	1,123	896	1,067	977	994	883	923

Name of Mill.		Monthly Average				Monthly Average July-December 1944.	Monthly Average January-June 1946.	August 1946.	September 1946.	October 1946.	November 1946.	Notes.
		Monthly Average January-June 1936.	Monthly Average July-December 1936.	Monthly Average January-June 1944.	Monthly Average July-December 1944.							
72	Narsinggirji	Cloth .	304	326	354	457	399	430	432	437	444	
		Yarn ..	406	454	528	607	518	600	591	587	604	
73	Sholapur Spg. and Wvg.	Cloth ..	..	..	1,060	1,239	837	1,134	1,047	978	996	in lbs.
		Yarn ..	..	..	1,448	1,558	1,011	1,421	1,293	1,147	1,170	
74.	Barsi Spg. and Wvg.	Cloth ..	139	161	180	182	185	219	173	154	177	
		Yarn ..	149	161	181	182	173	193	167	153	167	
75.	Jayshankar	Cloth ..	..	..	..	..	..	..	..	..	..
		Yarn ..	164	114	210	249	250	253	197	188	195	
76.	Lokamanya (Barsi).	Cloth ..	..	..	..	..	..	..	..	..	..
		Yarn ..	76	76	233	244	246	251	267	252	234	
77.	Broach Fine Counts.	Cloth ..	..	..	95	117	70	79	109	139	133	
		Yarn ..	..	..	135	133	79	81	101	132	131	
78.	Gopal Mills (Broach).	Cloth ..	..	..	..	..	..	..	..	..	..	Not replied to the Questionnaire.
		Yarn ..	..	..	..	..	..	..	..	..	..

79. Surat Cotton	Cloth ..	91	152	159	131	143	138	117	124	145	134
	Yarn ..	92	148	146	135	144	155	123	139	129	134
80. Niranjan (Surat).	Cloth ..	171	183	356	330	324	347	286	304	309	318
	Yarn ..	..	..	70	71	67	73	58	62	62	66
81. Raja Bahadur Motilal Mills (Poona).	Cloth ..	141	185	139	213	151	172	164	191	174	196 in lbs.
	Yarn ..	120	173	129	201	181	180	178	195	179	195
82. Gokak	Cloth ..	..	..	28	38	32	37	38	43	40	43
	Yarn ..	946	931	946	946	991	1,064	913	892	861	871
83. Bharat Spg. (Hubli).	Cloth ..	898	858	983	1,111	887	677	738	970	944	954
	Yarn ..	387	406	421	441	337	294	292	363	352	382
84. Narayandas Chunilal (Gadag).	Cloth ..	12	19	43	44	36	20	22	25	28	22
	Yarn ..	117	120	91	91	80	72	68	72	74	55

16. As for the period after 1946, we have to invite attention to the figures of cotton production reported in the Labour Gazette from month to month. We reproduce below the total production for Bombay Island, Ahmedabad and Bombay State as a whole for the period 1945-50. It will be noticed from these figures that apart from the year 1948-49, the trend is towards a fall. This period, however, included the hectic few months of derationing and decontrol of cloth while, during 1949-50, accumulation of cloth stocks and shortage of cotton were among the problems which the industry had to face.

Cotton Mill Production.

Yarn spun (in lbs.) 000's omitted.

Year.		Bombay Island.	Ahmedabad.	Bombay State.
1945-46	..	4,88,982	2,24,935	8,09,825
1946-47	..	3,80,342	1,90,212	6,44,189
1947-48	..	3,84,615	1,95,597	6,68,144
1948-49	..	4,28,712	2,17,315	7,42,003
1949-50	..	3,73,189	1,81,065	6,48,977

Woven Good Manufactured (in lbs.)
000's omitted.

Year.		Bombay Island.	Ahmedabad.	Bombay State.
1945-46	..	4,18,082	2,00,949	7,00,200
1946-47	..	3,26,590	1,60,561	5,35,374
1947-48	..	3,02,724	1,57,302	5,19,931
1948-49	..	3,57,679	2,06,199	6,36,567
1949-50	..	3,22,650	1,75,483	5,68,009

17. *Suggested causes.*—A number of reasons have been given in replies to the Committee's questionnaire to explain this fall in production. There was, however, hardly any uniformity or general agreement, particularly as regards the extent to which each of the suggested causes had contributed to this deterioration. Further, almost all replies tended towards generalisation with little or no substantial or definite evidence to support these assertions. Analysing the available material on the lines followed in the Committee's interim report for Bombay, replies from 83 concerns reveal interesting details. The following table classifies these replies.

71	1	Reduction of hours of work resulting from the recent amendment of the Factories Act.
25	2	Stoppages of work due to strikes, lockouts, hartals, etc.
21	3	Stoppages due to other causes (e.g. mechanical breakdown or shortage of fuel).
46	4	Increase in absenteeism, loitering, "go slow" tactics, etc.
45	5	Shortage of labour or infiltration of unskilled labour.
6	6	Discontinuance of shifts, voluntary closing down of machines, etc.
5	7	Reduction in orders from Government (war departments or civil departments.)
20	8	Decline in nutritional standards of the workers.
3	9	Deterioration in or diminution of any amenities already supplied.
5	10	Any change in internal working conditions.
6	11	Any change in the nature of production.
29	12	Shortage of or decline in quality of materials.
16	13	Mechanical deterioration.
36	14	Any fall in the efficiency of the individual worker.
12	15	Any change in the attitude of management to labour or vice versa.
24	16	Any other cause.

18. *Reduction in working hours.*—The replies, tabulated above, indicate that the great majority of employers are inclined to attribute a part of the current fall in production to the reduction in working hours from 9 to 8 hours. It may, however, be mentioned that these replies were received within a short while after reduction was effected and consequently are based on an insufficient appreciation of the value of this measure. Further, no concrete evidence in support of this contention has been given in any of the replies. We may add that in the course of our visits to a number of mills an attempt was made to obtain more detailed reasons on this question. Our conclusion on this point, therefore, is that even if the reduction does affect production comparatively, there should be no retrograde step to raise the daily working hours. On the other hand, we feel that with improvements in production methods etc. efforts should be towards a progressive reduction of working hours without affecting production. Any move in this direction must however be preceded by efforts towards raising production to levels prevailing prior to reduction from 9 to 8 hours a day.

19. *Work stoppages.*—According to replies from 25 concerns, strikes, lockouts and hartals have also contributed towards the fall in production. This may be best studied with the help of figures of disputes, number of workers involved and working days lost. The following tables give these statistics for the years 1945 to 1949 for all industries in the State, for the textile industry alone and for the textile industry at different centres.

Statement showing the number of disputes, the number of workers involved and the working days lost for the Textile Industry.

		1945			1946		
		No. of dis- putes.	Workers in- volved.	Working days lost.	No. of dis- putes.	Workers in- volved.	Working days lost.
*Bombay City	..	66	72,636	4,16,567	180	4,14,841	14,02,790
*Ahmedabad City	..	20	15,891	16,817	64	1,15,310	2,26,295
*Gujarat (Ahmedabad ex- cluded).		16	8,109	45,175	21	12,917	85,471
*Other Centres (Ahme- dabad, Gujarat, Bombay and Khan- desh excluded).		12	6,382	77,104	10	32,772	4,17,073
*Bombay State	..	115	1,05,770	5,63,619	279	5,80,456	21,69,648
Bombay State (All Industries).	310	2,39,188	11,49,862	544	7,86,645	33,83,016	

* Textiles only.

		1947			1948		
		No. of dis- putes.	Workers in- volved.	Working days lost.	No. of dis- putes.	Workers in- volved.	Working days lost.
*Bombay City	..	203	4,36,219	22,77,132	114	1,01,107	3,13,583
*Ahmedabad City	..	50	42,694	1,55,442	19	13,581	19,534
*Gujarat (Ahmedabad excluded).		30	17,752	1,40,817	23	20,783	1,21,451
*Other Centres (Ahme- dabad, Gujarat, Bombay and Khan- desh excluded).		8	19,185	66,407	29	57,677	4,52,827
*Bombay State	..	293	5,16,990	26,59,179	190	1,99,414	10,21,584
Bombay State (All Industries).	(All	650	7,26,594	37,83,817	536	3,34,385	18,10,793

		1949		
		No. of dis- putes.	Workers in- volved.	Working days lost.
*Bombay City	..	95	1,00,807	2,48,682
*Ahmedabad City	..	11	9,394	3,1395
*Gujarat (Ahmedabad excluded)	..	14	8,888	58,278
*Other Centres (Ahmedabad, Gujarat, Bombay and Khandesh excluded).		21	27,152	2,35,895
*Bombay State	..	147	1,52,096	7,15,439
Bombay State (All Industries)	..	376	2,79,883	17,65,586

* Textiles only.

These are impressive figures and indicate that losses under this heading have been diminishing steadily, and if continued, strike losses should reach a further new low. We have made a further analytical comparison of this unhappy feature in industrial relations. The Table below gives details of strikes, their causes, duration and their results for the years 1947 and 1949 in Ahmedabad, Gujarat, Sholapur and other centres.

*Analysis of Strikes and Hartals in Cotton Textile Mills in Bombay State
except Bombay City, Bombay Suburban District and Khandesh,
for 1947.*

1. Grounds.

Wage, Leave, reduction of hours, change of hours or change of shift.	Rationalisa- tion, reduction of hands.	Better materials.	Bad working conditions, Better amenities.	Removal of unpopular official or protest against conduct of official.
1	2	3	4	5
22	1	2*	1*	3

Reinstatement.	Holidays.	Discontinuance of third shift.	Protesting against change from machine.	Miscellaneous.	Total.
6	7	8	9	10	11
13	6	.....	5	11	64*

2. Results.

Partially or wholly successful.	Wholly unsuccessful.	Result indefinite (compromise, referred to arbitration, etc.)	Total.	Total man-days lost.
1	2	3	4	5
13	35	15	63	2,41,581

3. Duration and Distribution.

Strike lasting one day only.	Lasting from 2 to 5 days.	Lasting from 6 to 15 days.	Lasting from 16 days to one month.	Lasting more than 1 month.	Total.
1	2	3	4	5	6
21	30	10	1	1	63

* One of the strikes-related to two separate causes—hence indicated separately under each heading.

Analysis of Strikes and Hartals in Cotton Textile Mills in Bombay State except Bombay City, Bombay Suburban District and Khandesh, for 1949.

1. Grounds.

Wage, Leave, reduction of hours, change of hours or change of shift.	Rationalisation, reduction of hands.	Better materials.	Bad working conditions, Better amenities.	Removal of unpopular official or protest against conduct of official.	
1	2	3	4	5	
10	2	1	....	1	
Reinstatement.	Holidays.	Discontinuance of third shift.	Protesting against change from machine.	Miscellaneous.	Total.
6	7	8	9	10	11
4	2	....	....	2	22

2. Results.

Partially or wholly successful.	Wholly unsuccessful.	Result indefinite (Compromise, referred to Arbitration, etc.).	Total.	Total man-days lost.
1	2	3	4	5
6	12	4	22	2,23,124

3. Duration and Distribution.

Strike lasting one day only.	Lasting from 2 to 5 days.	Lasting from 6 to 15 days.	Lasting from 16 days to one month.	Lasting more than 1 month.	Total.
1	2	3	4	5	6
8	9	3	2	..	22

It will be seen that as against 64 strikes in 1947, there were only 22 in 1949 and *no violence* has been reported in any of these cases. This comparatively happy state of affairs, we have no doubt, should be credited to a great extent to the machinery created by the Government of Bombay for conciliation and arbitration and the increasing resort to the same by the parties concerned. We have tabulated below details of the working of this machinery for the years 1947 to 1949. From these it would be seen that there is quite a rush to legal remedies provided by Government instead of the old resort to work stoppage at the slightest provocation,

CONCILIATION.

Textile Industry in Ahmedabad.

UNDER BOMBAY INDUSTRIAL RELATIONS ACT.				
		1947	1948	1949
Number of cases filed.	.. ..	61	100	385
Pending from previous year	.. ....		44	24
Successful	.. ..	8	54	130
Failed	.. ..	1	2	11
Withdrawn	.. ..	5	51	133
Closed	.. ..	1	8	1
Not pursued	.. ..		1	..
Referred to adjudication or arbitration	.. ..	2	4	100
Pending at the end of the year	.. ..	44	24	34

CONCILIATION.

Textile Industry in Gujarat (Ahmedabad excluded).

UNDER BOMBAY INDUSTRIAL RELATIONS ACT.				
		1947	1948	1949
Number of cases filed	.. ..	26	11	45
Pending from previous year	.. ....		10	1
Successful	.. ..	6	4	21
Failed	.. ..	2	5	6
Withdrawn	.. ..	1	6	7
Closed	.. ..		
Not pursued	.. ..		
Referred to adjudication or arbitration	.. ..	7	5	10
Pending at the end of the year.	.. ..	10	1	2

CONCILIATION.

Cotton Textile Industry in the other centres of the Bombay State excluding Gujarat, Bombay, Bombay Suburban District and Khandesh.

	1947	1948	1949
	Under Bombay Industrial Relations Act.	Under Bombay Industrial Relations Act.	Under Bombay Industrial Relations Act.
Number of cases filed	13	27	90
Pending from the previous year ..	....	3	8
Successful .. ..	....	2	18
Failed	9	19	35
Withdrawn .. ..	....	1	4
Closed .. ..	....	....	1
Not pursued	1	....	12
Referred to adjudication or arbitration .	....	....	24
Pending at the end of the year ..	3	8	4

CONCILIATION.

Textile Industry in the whole of Bombay State except Bombay City, Bombay Suburban District and Khandesh.

	UNDER BOMBAY INDUSTRIAL RELATIONS ACT.		
	1947	1948	1949
Number of cases filed	100	138	520
Pending from previous year ..	....	57	33
Successful	14	60	169
Failed	12	26	52
Withdrawn	6	58	144
Closed	1	8	2
Not pursued	1	1	12
Referred to adjudication or arbitration .	9	9	134
Pending at the end of the year ..	57	33	40

CONCILIATION.

**Textile Industry in the whole of Bombay State.*

				UNDER BOMBAY INDUSTRIAL RELATIONS ACT.		
				1947	1948	1949
Number of cases filed	..	..	..	260	285	745
Pending from previous year	..	..	..	....	82	76
Successful	..	..	..	26	90	245
Failed	..	..	..	83	82	114
Withdrawn	..	..	..	30	79	187
Closed	..	..	..	10	18	3
Not pursued	..	..	..	19	9	37
Referred to adjudication or Arbitration				10	13	170
Pending at the end of the year	..	..	..	82	76	65

**For Bombay Centre figures are for cotton textile industry only.*

ARBITRATION.

Bombay State—Textile Industry.

		1947		1948		1949	
		Industrial Court.	Labour Court.	Industrial Court.	Labour Court.	Industrial Court.	Labour Court.
Number of cases pending from the previous year.	107	..	..	125	..	69	208
Number of cases filed during the year.	226	..	..	152	832*	567	1,817
Number of cases decided during the year.	134	..	..	176	624	316	1,530
Number of cases withdrawn during the year.	74	..	..	32	61	..	325
Number of cases pending at the end of the year.	125	..	..	69	208	320	495

**Includes those cases filed during September to December 1947.*

20. *Indiscipline and violent behaviour.*—Regarding both indiscipline and violent behaviour, the Committee was pleased to find that there were very few incidents of indiscipline and violent behaviour in Gujarat. The Committee was informed of some cases of indiscipline and rowdism among a section of workers at Sholapur but there have been no incidents at these centres comparable to what prevailed formerly in Khandesh and Bombay.

21. *Fuel shortage and machinery break-down.*—Twenty-one concerns have admitted fuel shortage and/or machinery break-down as some of the causes for the fall in production. We have no doubt that these difficulties do exist but the effect of these on production, in our opinion, is comparatively negligible.

22. *Absenteeism, Loitering and "Go-slow" tactics.*—Absenteeism, loitering and "go-slow" tactics have been emphasised by 36 mills, from Ahmedabad and 10 from other centres. Loitering as a cause was particularly raised by the Ahmedabad Millowners' Association and the Committee had an opportunity to discuss it in detail with Associations during its inspection visit to that city. We reproduce below a letter from the Association addressed to the Honourable Minister for Labour and which has been passed on to the Committee :

" Ahmedabad Millowners' Association

No. 2647

Ahmedabad, 27th May 1947.

The Honourable the Minister for Labour,
Government of Bombay,
Bombay.

Dear Sir,

I am directed to draw attention of the Government to the practice of the workers of frequently going out of the departments during the working hours. For instance, it may be mentioned that in the Ring Spinning Department where there is time wage, there is no incentive for workers to give higher production and the system of going out by turns is being practiced on an organised basis and is admitted even by the representatives of the Textile Labour Association in one of the local mills that workers in spinning Department spend 2 hours and 45 minutes out of 8 hours outside the Department.

As the Government are aware, the subject was brought to the notice of the Royal Commission of Labour and the Textile Labour Enquiry Committee. The defence of labour for this practice was the long hours of work. The hours of work have since been reduced from 60 to 48 hours per week and thus the Indian worker is in respect of working hours, placed on the same footing as his compeer in the western countries. The defence of labour therefore no longer exists.

It may further be added that such loss of time involves an appreciable reduction in production and as the Government are aware we have limited capital equipment and we have to make the best use thereof. The reduction in production and the increase in cost is obviously a national loss and therefore hope that the Government would join with us in depreciating this loss of time and production. Besides, as a matter of discipline the employers cannot allow this practice.

In view of these facts, the employers are obliged to take steps to put a stop to it which the workers resist. It has therefore become a source of constant friction between the employers and the workers. The provision of Bombay Industrial Act are interpreted by the workers as sanctioning the continuance of this practice on the ground that it has been long established. The provision of the Act were meant to safeguard the legitimate rights and privileges of workers and not to perpetuate such mal-practice.

I am therefore directed by the Association to request the Government to take early and effective steps to put a stop to this practice, which will contribute to the establishment of harmonious relationship between the employers and labour as envisaged in the Government Labour Policy.

Yours faithfully,

(Signed) M. H. PATEL,
Assistant Secretary."

23. Following our discussions with the Association, we paid special attention to this question during our visits to mill premises and we find that loitering does exist—not necessarily to the extent claimed by the Association—in these mills. We must, however, point out that what has been characterised as "loitering" should be attributed in a great measure to the deplorable working conditions in these establishments. During our visits to the various mills we were surprised to note that amenities and conditions of work which are provided at the other centres of the Industry did not exist to the same extent at Ahmedabad. We were also surprised that a prominent millowner from Ahmedabad in his publication—"Towards increased cloth production"—has only dealt with the technical and other aspects of production. It is a matter of surprise to note that better working conditions was not considered essential to increased production. As stated in our interim report for Bombay City (P. 16) "those managements which do not claim for themselves a wholesale perfection are frank enough to admit that working conditions are not all they should be. They are less ready to acknowledge that such conditions exercise any adverse effect on production; nevertheless there are some which honestly concede at least that production would increase, if e.g. a proper air-conditioning system could be introduced. Only the other day the President of the Federation of Indian Chambers of Commerce and Industry conceded that the workers' increasing discontent with their conditions of employment is one of the chief causes of the rapid deterioration in the country's productivity". The importance of better working conditions in any programme for achieving better industrial relations cannot be over-emphasised and we have therefore devoted a good portion of this report to a detailed discussion of the various aspects of working conditions as we found in industrial establishments in this State.

24. On absenteeism, the Committee has not obtained much information from the mills in Ahmedabad and other centres. We would, however, invite attention to statistics of absenteeism among permanent workers published in the Labour Gazette reproduced below.

*Average Percentage Absenteeism among permanent workers.
(Textile Industry).*

	1944				1945			
	Bombay City.	Ahmedabad.	Sholapur.	Broach.	Viram-gaum.	Bombay City.	Ahmedabad.	Sholapur.
January	.. 9.94	4.71	14.86	....	2.63	10.20	5.45	14.31
February	.. 11.20	4.71	15.45	....	2.38	11.85	6.81	13.80
March	.. 11.85	5.05	15.32	....	2.21	10.47	6.75	15.95
April	.. 12.72	5.95	14.52	....	....	11.84	5.89	15.29
May	.. 13.40	6.51	18.67	....	....	13.56	6.79	16.39
June	.. 12.06	5.92	16.53	....	2.71	12.75	7.26	21.77
July	.. 11.46	5.15	13.75	....	2.05	14.18	6.92	19.93
August	.. 11.35	6.20	14.63	....	2.76	11.08	7.03	21.46
September	.. 11.70	6.28	14.91	....	5.23	12.64	7.86	22.97
October	.. 10.51	6.55	14.94	....	6.49	12.15	7.68	20.82
November	.. 10.62	5.82	15.11	....	4.90	13.49	8.66	21.84
December	.. 10.10	5.47	15.43	....	3.35	12.56	9.13	20.53

*Average Percentage Absenteeism among permanent workers.
(Textile Industry).*

		1946					1947				
		Bombay City.	Ahmeda- bad.	Sholapur.	Broach.	Viram- gaum.	Bombay City.	Ahmeda- bad.	Sholapur.	Broach.	Viram- gaum.
January	..	9.43	5.50	23.86	....	2.82	12.22	6.49	16.39	....	5.84
February	..	12.71	5.17	19.83	....	....	14.35	6.09	19.60	....	3.40
March	..	14.97	6.63	22.54	....	3.76	14.17	6.52	15.87	....	2.32
April	..	15.52	6.87	22.26	....	4.68	15.62	6.31	18.72	....	1.46
May	..	17.55	8.06	23.51	....	5.43	18.15	7.91	22.35	....	2.77
June	..	14.25	8.60	20.87	....	4.51	16.56	6.93	20.33	....	2.46
July	..	14.52	11.96	18.82	....	4.14	15.00	6.88	18.42	....	2.26
August	..	12.83	8.19	14.55	....	5.30	13.36	5.80	16.29	....	2.80
September	..	13.01	6.74	17.46	....	5.80	13.70	5.87	19.59	....	2.36
October	..	15.51	6.76	19.87	....	6.49	13.14	6.28	19.58	5.71	2.14
November	..	15.43	7.68	19.64	....	4.42	13.41	5.69	25.02	4.79	2.94
December	..	14.16	6.86	17.63	....	7.18	12.96	5.87	17.34	4.17	3.01

*Average Percentage Absenteeism among permanent workers.
(Textile Industry).*

	1948					1949				
	Bombay City.	Ahmeda- bad.	Sholapur.	Broach.	Viram- gaum.	Bombay City.	Ahmeda- bad.	Sholapur.	Broach.	Viram- gaum.
January	.. 12.16	5.81	18.35	3.17	2.46	13.08	5.14	18.02	11.03	6.65
February	.. 12.48	5.64	20.28	4.57	8.05	13.83	5.99	19.98	9.41	7.47
March	.. 13.61	5.99	19.88	8.79	7.46	14.81	6.24	16.88	....	10.30
April	.. 13.55	6.52	18.86	16.22	8.74	14.29	6.62	17.84	....	8.99
May	.. 15.81	6.79	20.02	13.69	13.95	15.58	6.60	23.88	....	10.32
June	.. 15.11	6.41	18.63	....	11.59	16.17	6.61	20.28	....	9.33
July	.. 12.65	5.73	15.49	7.21	9.98	15.02	6.18	15.73	....	8.99
August	.. 11.61	5.50	16.42	5.50	8.25	14.34	6.37	15.17	....	8.95
September	.. 12.11	5.45	15.87	4.45	7.75	14.03	6.73	17.16	....	11.67
October	.. 12.43	5.54	16.03	9.72	7.15	15.75	6.79	19.89	....	7.95
November	.. 12.78	5.23	18.40	....	7.20	14.58	6.91	21.54	....	8.69
December	.. 15.17	5.78	18.94	5.32	6.33	14.45	6.76	20.69	....	8.94

There has been, it would appear from these tables, ~~some~~ increase in percentage absenteeism among permanent workers but if account is taken of the comparatively large number of "badli" workers, it would seem that this cause may have, at best, affected earnings of individual workers and production to a negligible extent. As regards go-slow tactics, the Committee has not come across any tangible evidence substantiating this as a cause for the fall in production.

25. *Shortage of skilled labour.*—Quite a number of concerns have adduced shortage of skilled labour and the influx of unskilled workers as one of the reasons leading to the fall in production. None of the forty-five concerns who hazarded this suggestion have, however, produced any evidence of labour turnover that would substantiate this cause. We have not also been in a position to find any details during our visits to a number of mills to bear this out. On the other hand we have seen statistics of employment relating to some fifty-four thousand workers in 25 mills from Ahmedabad collected by the office of the Deputy Commissioner of Labour Information. According to these statistics, 7,493 out of 54,268 workers had less than one year of service while 9,084 had been in employment between one and two years, 11,961 between two and five years, 12,197 between five and ten years and 13,533 had over ten years service in the industry. On the other hand, we understand that under the decasualisation scheme for textile labour recently opened by the Government of Bombay, demands from mills have been comparatively heavier in regard to skilled occupations while difficulties in placement are experienced as regards the less skilled types of labour. On the whole, we would reiterate our finding on this issue in our interim report for Bombay City, namely, that this shortage may have had some effect on production but not very much.

26. *Nutritional standards.*—Only 20 managements have considered the comparatively poor nutritional standards prevailing among workers as a possible cause for the present decline in production but in the absence of adequate health, hygiene and labour turnover statistics it is not possible to evaluate the extent to which this has contributed to this decline in production. We would reiterate our earlier finding that the necessities of rationing, shortages and high prices must have exercised a serious effect on the workers' physique.

27. *Decline in labour efficiency.*—More than 30 concerns are of opinion that decline in workers' efficiency is an important cause of the fall in production. We have mentioned earlier that labour efficiency is interlinked with a number of other factors, including working conditions in industrial establishments. Many managements, in the course of our discussions with them, have emphasised the fact that the Indian worker in this respect compares most unfavourably with his counterpart in America and Europe. The Indian Fiscal Commission, in its report just

released, is also inclined to the view that "there has been an appreciable fall in labour efficiency" in recent years. The Commission however, has pointed out that relevant statistics do not exist to make studies into labour efficiency similar to those made in the United States and the United Kingdom and that till these statistics are available, material for study can be obtained only by intensive "sample" enquiries in industries for which production and employment statistics exist over a long period and for which information is also available about their progressive capitalisation during the period under investigation. We would here refer to the observations of the Labour Investigation Committee on this question of worker's efficiency. The Committee said :—

"It has been fashionable for a number of years now to justify the low wage level of the Indian industrial worker on the ground of his alleged inefficiency. Numerous comparisons are often attempted such as that an average Lancashire girl in a weaving shed can do the work of six Indian cotton mill operatives, etc. Such opinions usually emanate from individual employers who desire to sweat their labour. In this country, however, very few time and efficiency tests are taken in order to ascertain the efficiency of the worker. It must be realised that efficiency in the weaving shed of a cotton mill referred to above does not necessarily depend upon the efficiency of the operatives, but is largely dependent also on the efficiency of the machinery, the lay-out of the plant, the conditions of work, and, what is most important, the efficiency of the management itself.

"From the published evidence as is available and from the information we have been able to gather during the course of our investigations, we have come to the conclusions that the alleged inefficiency of the Indian worker is largely a myth. Granting more or less identical conditions of work, wages, efficiency of management and of the mechanical equipment of the factory, the efficiency of Indian labour generally is no less than that of workers in most other countries. Not only this, but whether mechanical equipment or efficiency of management are not factors of any importance, the skill of the Indian labourer has been demonstrated to be even superior in some cases to that of his prototypes in foreign countries. The following observation made by the Managing Director of the WIMCO, which controls about 80 per cent. of the match production in this country, is of interest : 'A great advantage enjoyed by factory managers in India is the abundance of cheap labour which can be trained by expert supervisors to operate the various intricate machines efficiently and keep them functioning smoothly. In well organized plants the employee-production ratio is satisfactory even in comparison with European industrial standards'. A few years ago, the General Manager of the General Motors Ltd., Bombay, stated that given the preliminary training, an individual Indian worker was as efficient as an average American worker "

28. Undoubtedly the lack of statistics and investigations based thereon constitute a serious handicap in arriving at any definite conclusions on this question. While, it would not be very wrong to assume a decline in labour-efficiency during recent years, it would be presumptions to attribute it entirely or in great part to the worker and ignore other equally important factors. As the Labour Investigation Committee rightly observed "efficiency in the weaving shed of a cotton mill does not necessarily depend on the efficiency of the operatives, but is largely dependent also on the efficiency of the machinery, the lay-out of the plant, the conditions of work, what is most important, the efficiency of the management itself". Our visits and enquiries have convinced us that the fall in labour efficiency—as far as many textile concerns in this State are concerned—can well be attributed to these factors.

29. *Mechanical deterioration and deterioration in quality of materials.*—Mechanical deterioration has been quoted as one of the reasons for the fall in production by 16 concerns. We, however, see no reason to change our views expressed in the interim report for Bombay, namely, "the effect is scarcely appreciable". As regards shortage or deterioration in quality of materials, there is no doubt that this has adversely affected the production of cloth during the past four years. This shortage has now reached a critical stage and Governments—both Union and State—are making strenuous efforts in the right direction to overcome vital difficulties. There is also little doubt that low grade cotton and poor quality of mixing has accentuated the problem and we would recall our earlier finding and recommendation in this regard. (*Vide* the Committee's interim report on Bombay, pages 24 and 56).

30. *Labour-management relations.*—While much has been said by both sides on what is stated to be the unsatisfactory attitude adopted by management towards labour and vice versa, only twelve concerns have suggested that the fall in production is partly accountable to this cause. We have already discussed this question at great length in the interim report on Bombay and there is little to be added. We were, however, impressed by the comparatively better relations prevailing in Ahmedabad and, as far as labour is concerned, we would further commend the following views of Samuel Gompers, Founder and President of the American Federation of Labour, quoted in the June 1950 issue of Labour Intelligence. He said : "The object of organised labour is to make the home more beautiful, to go down to the very lowest and lift them up, to make today brighter than yesterday and each day brighter than the one which has gone before. Some people think that the labour movement's object is to strike. We don't want to strike. It is an interruption and burden to our progress. We don't want to fight and we don't want to strike, but there are worse things than a strike — a degraded, debased, demoralised manhood. Organised labour contends for the improvement of the standard of life, to uproot

ignorance and foster education, to instil character and manhood and an independent spirit among our people, to bring about a recognition of the interdependence of the modern life of man and his fellowman. What does labour want? It wants the earth and the fullness thereof. There is nothing too precious, there is nothing too beautiful, too ennobling unless it is within the scope and comprehension of labour's aspiration and wants. We decline to yield the leadership of our movement to those who do not work". These words are, we believe, of the utmost importance to Indian workers and the Indian labour movement today.

31. From the above analysis it will be seen that it is not possible to evaluate the individual effect of any of the various suggested causes for the fall in production during recent years. As stated earlier, evidence available before this Committee consisted mainly of generalisations and opinions not based on any adequate investigations or studies. There is no doubt that all these factors have played their part, however small, in leading up to the present situation in the industry. We have little doubt, however, that much of these minor issues would automatically fall out if the present improvement in labour-management relations is maintained and adequate measures are introduced to improve working conditions.

32. One of the recommendations of this Committee in its Interim Report for Bombay was the introduction of three shift working as a means towards increased cloth production (Page 49—Interim Report for Bombay). We must, however, mention that our visits to Ahmedabad and other centres in Gujerat have brought out some sustained opposition to the three shift scheme from various labour organizations. We have found that working conditions in these centres are not comparable to what we saw in Bombay City and Suburbs. We are not convinced that the existing deplorable working conditions militate against the continuance or introduction of three shift working. We feel that the adverse effect of such a step on the health of the working class in general will greatly outweigh the value of any increase in yarn or cloth production. Besides, it is necessary to take into account the changed and unsettled conditions in the industry at present. Further, the problem of increased production alone should not be the main factor for resorting to three shift working. In our opinion the continuance or introduction of three shift working must be made dependent on certain precisely defined minimum conditions in establishments. These we have discussed in subsequent chapters.

33. Before concluding it is of interest to note the reactions of a team from the Lancashire cotton towns which visited the United States last year to study productivity in the cotton mills of the United States. Referring to this, LABOUR, the T. U. C. Magazine, in the April 1950 issue, has stated : " It speaks of the high rate of output in the average

American mill where 100 workers produce the same amount of cotton yarn as 238 workers in Britain, without any strain on themselves or their machines. And, the English operatives work just as hard or even harder for the lower output". Three reasons have been advanced to explain this difference, viz., Production-mindedness, novelty-mindedness and research-mindedness. In the team's opinion "nobody in America believes that he will work himself out of a job if output goes up. Mill hand and Company director, both believe that low output means high costs which drive the customers away. Producing more at lower costs means that customers buy and buy again, keeping men and machines busy". Other points discovered by the British team are : 1. Americans do not separate their spinning and weaving mills and dyeing and bleaching and printing are often carried out in the plant that does the spinning and weaving. 2. Fewer varieties of fabrics are made in mills in the U. S. A. They prefer long runs and manufacturers can quickly decide which are the most profitable lines to make and how productivity can be best increased and costs lowered. 3. Work assignments are another feature closely watched by the mill's own time-study staffs. "When new machines, processes or methods of work are introduced, the employer has the right to change the work load or assignment and prepare a scientific work analysis, including time studies". This, trade unions recognise, enables the mill to operate efficiently and to use the workers' time without undue nervous or physical strain. But to make sure that new methods on work assignments do not bear unfairly on their members, unions employ their own experts.

One important reason for the higher productivity in America, according to the Lancashire team is the important work done by the Employment and Personnel Departments of mills. Some of the subjects which come within the scope of these Departments are (i) Engagements ; (ii) Personal records ; (iii) Job training ; (iv) Technical training ; (v) Promotions ; (vi) Timekeeping ; (vii) Cleanliness ; (viii) Welfare arrangements ; (ix) Works information.

34. These apart, the Committee is of opinion that an important pre-requisite for any improvement in production is immediate action for drastic changes for betterment in working conditions and the lines on which these changes could be effected are discussed in detail in the subsequent sections primarily meant for the establishment of a Labour Code for the State. The Committee has therefore nothing further to add to its recommendations in its 2nd Interim Report (pages 51-70) as far as the cotton textile industry in the State as a whole is concerned.

III. INDUSTRIAL ESTABLISHMENTS IN BOMBAY STATE.

35. On December 31, 1948, there were 4,162 perennial and 1,092 seasonal factories covered by Sections 2 (J) and 5 of the Factories Act, 1934, in Bombay State with an average daily employment of 737,460 workers as against a total of 4,703 establishments with a complement of 697,895 workers during the preceding year. Of these 342 were textile concerns and the Committee's final questionnaire—Appendix "A"—was sent to 292 establishments employing 50 or more each. A supplementary Special Questionnaire in three parts was also forwarded to these concerns. Two hundred and one concerns replied to the final questionnaire while Part I—Appendix "B"—was answered by 216 concerns, Part II—Appendix "C"—by 213 concerns and Part III—Appendix "D"—by 215 concerns. According to the Committee's terms of reference regarding other industrial units and the decision to pay special attention to working conditions, welfare and amenities a further questionnaire—Appendix "E"—was forwarded to 1,208 non-textile establishments. Replies were received from 604 concerns of which 273 employed more than 100 workers apiece and 264 between 50 and 100 workers each. No replies were received from 123 non-textile units employing more than 100 workers and 207 with 50 to 100 workers apiece.

36. In a very large number of cases, it was found that the replies from the management were incomplete and/or indifferent and a number of important questions relating to working conditions and amenities were either left unanswered or answered with lackadaisical monosyllables by the managements. In one case, the legal officer of an internationally reputed chemical and dye concern enquired whether the Committee had any statutory powers of compulsion and asked for a copy of the Government Resolution constituting the Committee. This concern, however, subsequently replied to the questionnaire with promptitude and in detail. An Electric Supply Company in one of the mofussil towns, at first, declined to reply to the questionnaire on the ground that the Committee's terms did not include that particular town. It was, therefore, necessary to approach Government for a modification in the terms of reference to include "the industry pertaining to the generation and supply of electrical energy in the whole Province" before answers could be obtained from this concern.

37. Difficulties were also experienced with regard to entry into factory premises. While most establishments received the Committee cordially and freely extended facilities to study working conditions and welfare and amenities for their workers, in quite a few cases considerable persuasion was necessary before cooperation was forthcoming. A Chromate company, in the first instance, refused entry to the Committee to its premises and it was only after pressure was brought to bear on the management that a second journey at night resulted in a conducted tour of the premises under the Managing Director's

personal guidance. The Committee's worst experience was, however, at the hands of a pharmaceutical manufacturing company in Bombay. The concern was intimated by telephone that the Committee would be visiting its premises at an appointed time. On arrival at the premises the Committee was kept waiting for more than half an hour at the door before being brusquely informed that no entry to the factory premises would be permitted. The matter was represented to Government, to whom the concern subsequently replied as follows :—

“ The Managing Director was not attending office, and the factory being overhauled as per Postwar plans, with machinery, switch boards etc. etc. lying all over with short circuits of gas, electricity and steam, etc. etc. it was absolutely the wrong time for any visitor.

“ We should certainly be very pleased with a visit from self and the said Committee, no sooner our Laboratory machineries are refitted and installed, and we resume our old methods, adopted for nearly twenty-five years now.

“ We will be pleased to inform you officially no sooner we are ready ”.

This was in June 1948 and, to date, no further intimation has been received from this concern. It may be that they are not yet ready, though, in all probability, production has not been stopped during this period on account of the astounding conditions of the premises as described in the first paragraph of the letter from the Management quoted above.

38. In some of the establishments, large and small, visited by the Committee, we were pleasantly surprised at the high standard of welfare facilities and provision for amenities by the managements. A standard “ very much over and above what is laid down by law or what is normally expected as part of the contractual benefits for which the workers may have bargained ”. We were particularly impressed by the cooked-meal canteen and restaurants, medical facilities and creche at the Century and Zenith Mills; the creche at the India United Mill No. 1; the sanitary arrangements and the health precautions at the Britannia Biscuit Factory; the spick and span appearance of the departments and premises of the Finlay Mills and General Motors Factory; the medical facilities at the Lakshmi, Vishnu, Calico and Jubilee Mills; the creche, montessori and medical facilities at the Ahmedabad Advance Mills; the housing accommodation provided by the Lakshmi, Vishnu and Jayashankar Mills; the Canteen arrangement at the H. V. M. Factory and the proposed modern canteen—since completed—by Firestones. These indeed, constitute some of the pleasant interludes in an otherwise drab and dreary picture of man's inhumanity to man. These are indications that, given the right outlook and approach on the part of the employer, “ the welfare side, which concerns itself with the physical amenities for comfort of the worker, is a basis without which no progress can be made.”

39. Visits to premises also revealed differences between the answers to questions and the actual state of affairs prevailing on the premises. In a number of cases, it was noticed that sanitary facilities were appalling even though these were strictly within the provisions of the Factories Act. A reference has already been made to a mill manager who locked up lavatory facilities according to the number of people employed from time to time. In this mill the kitchen where tea and snacks were prepared adjoined a number of urinals with open gutters. At another place drinking water was contained in an old, disused and rusty boiler. Privies in another establishment overflowed with filth. Workers of a mill in Ahmedabad had to pick their way through over-growths of weeds and grass and stacks of coal to privies where maggots crawled up from the pans on to the floor. More than half of what was stated to be a dining shed in one concern was used for keeping stores of cotton and other materials while the workers ate their mid-day meal amidst accumulated dirt in the open watched by packs of dogs — most of them vermin-infested. At one very large establishment in Sholapur working more than one shift, the Committee's visit synchronised with the end of one shift and the starting of the next. A number of male workers, it was noticed, were easing themselves in the compound and when asked why they did not avail of the lavatory facilities it was pointed out that before the end of the first shift and a while after the commencement of the next shift, the entrance from the departments to these facilities were kept locked by the management. The Committee did find that this was correct. In the same town, the Committee visited the accommodation provided for the workers by one concern. According to the replies to the questionnaire it was thought that there was one concern which did make an effort towards providing living accommodation. However, actual inspection showed that the accommodation provided was in no better condition than stables. Adjacent to these hovels we also saw the quarters provided for workers by another concern. These were well-constructed, airy and roomy with many facilities. As for canteens and teashops rarely did the worker get a fair deal either in prices, quality or quantity. In many establishments the managements obtained unconscionable rents from contractors to whose tender mercies the workers and their food and drink on the premises were left. These are only a few examples of conditions that prevail generally barring a few honourable exceptions.

40. It must be mentioned here that conditions referred to in this report are those prevailing under the Factories Act of 1934 and rules thereunder which has since been replaced by the 1948 legislation. The new Act goes much further and the draft rules provide for more stringent requirements as regards responsibilities concerning welfare and amenities on the part of managements. It is not that the 1934 Statute did not go far enough. It is the ease and impunity with which the law is evaded that has negated much of the useful provisions of the Act.

IV. CANTEENS AND TEA SHOPS.

41. As against a total of 4,162 perennial factories in the State, the total number of canteens where cooked food was sold to workers numbered only 66 on 31st December 1948 while tea and refreshment shops number 183. While the Factories Act, 1934, did not contain any provision with regard to canteens and teashops for workers in industrial establishment, an amendment in 1947 Act V of 1947 and rules thereunder provided for canteens. The total number existing on 31st December 1948 is an indication of the progress made in this regard and the extent to which statutory provisions for the benefit of workers can be side-tracked. The position in general is only very slightly better than what was observed by the Labour Investigation Committee of 1944 when it was pointed out that "in a majority of mills and factories there are no canteens at all.....In most places, where they exist, they are little more than private contractors' tea stalls.....where foodstuffs are supplied, they are neither cheap nor good in quality, while the environments are anything but clean, sanitary or attractive." The Textile Labour Enquiry Committee, a decade ago, had pointed out that high rents were charged to tea-stall and canteen contractors and as a result the workers received either bad food at low prices or had to pay high prices. The position today shows little or no difference except that bad food does not necessarily mean low prices.

42. Section 46 of the Factories Act, 1948, empowers State Governments to make rules for the provision and maintenance of canteens by employers where there are more than 250 workers and draft rules 65 to 71 published by the Bombay State Government cover this badly neglected aspect of industrial welfare. These rules have (since brought into force) not as yet been brought into force and even when they are, our experience of the manner in which the amendment of Act and Rules relating to canteens of 1947 have operated in practice indicates that for a long time to come these salutary and long-needed provisions will be honoured more in the breach than otherwise.

43. It would be opportune here to give details of what the Committee actually saw at a number of places. A textile mill employing about 2,000 workers and situated at DeLisle Road had no canteen but had a small tea stall run by a contractor. The tea shop was located beneath a stairway and provisions were found to be very inadequate. A number of workers who gathered round complained of the quality of the tea and foodstuffs. These were sampled by the Committee and it was found that the workers were not unjustified in their complaints. There was no dining shed. Representatives of the management explained that they lacked space. It was, however, felt that, given the will, there should have little or no difficulty in locating reasonably good canteen and dining room. At the Century and Zenith Mills the dining room was found to be large enough to accommodate about 400 workers at a time.

The cooking and service arrangements were sufficient to cater to this number. The charge per meal was annas two which was subsequently increased to annas four. A system of staggered recess hours enabled a large number of workers to patronise the canteen and the workers appeared to be content with the bill-of-fare. For the first time it was noticed that men and women workers sat together in the dining room—each individual being provided with a small table and chair. These mills had three restaurants located in different parts of the premises. Tea was served at one pice a cup and tasted good. Eatables were also good and in sufficient quantities. This concern, we understand, is losing about Rs. 8,000 per month on its canteen and restaurants. Another mill in the neighbourhood had a tea and snack stall run by a contractor who paid a monthly rent of Rs. 235 to the management for two small rooms admeasuring 6' x 8'. Both rooms were used as cookhouses, one for brewing tea and the other for making "papdi". Both these rooms were little better than dungeons and were black and dirty. An adjoining verandah recently constructed by the contractor, provided a couple of tables and benches. From their appearance, these premises had not been swept for some days. The contractor stated that an average of about 1,200 cups of tea were sold per day at one anna and half anna per cup, the former containing a modicum of extra milk. The contractor employed two cooks, two boys to serve at the canteen counter and three boys to carry tea to the departments. There were more than 2,000 permanent workers employed by this mill. The Britannia Biscuit Factory had an adequate dining room where wholesome meals are given to the worker at a nominal rate. This company also gives a cup of tea and two biscuits per worker free each day. The canteen and tea shops cost the company about Rs. 1,000 per month.

44. Canteens for workers are accepted essentials to Factories from the view point of health and efficiency of the industrial population. Popularity of canteen feeding in the United Kingdom may be seen from the fact that in place of the 1,500 or so industrial canteens that operated in 1939 there are now over 28,000 such canteens serving 15 million meals each week of the conventional "meat, two veg and pudding" variety, besides 54 million other meals*. An early appreciation of the economies of large scale catering led to a rationing system which gives substantial priority to manual workers in that country through the medium of the works canteen. In 1940 the British Government assumed powers to compel where necessary but the spontaneous co-operation of the employers made compulsion superfluous and canteens for workers increased by thousands every month. In fact the Chief Inspector of Factories in that country was hard put to it to keep pace with the demand for guidance and help from industrial establishments. Full employment in Great Britain, it may be added, has resulted in canteens becoming competitive attractions among unskilled workers and

* Economist, 9th April 1950.

virtually every factory which is not well served by a civic restaurant on its doorstep now has a canteen or shares one with other factories. There is general agreement that good canteens pay dividends in reduced, absenteeism and better industrial relations. In this country, with the deficient and unbalanced diets of our working class, the value of cheap, clean and nutritional food needs no emphasis. There is also the added factor of the too short a time—half an hour per shift—allowed for the midday meal recess. In Bombay city a very common street scene in the industrial areas is workers doubling to their homes for meals and doubling back with sweat pouring out after gulping down a hurried meal. It is, therefore, very necessary that the rules prescribed by the State Government in regard to canteens be brought into force without any further delay and steps taken to hurry through the building of canteen and lunch room premises in all establishments covered by section 46 of the Factories Act, 1948.

45. In our opinion, however, the mere bringing into force of these rules by itself will not suffice. As pointed out earlier, an outstanding feature of most statutory provisions for the welfare of workers is the apparently calculated and successful manner in which their effects have been neutralised. It is essential that the enforcement programme should be reinforced with stringent measures and penalties and no efforts spared to (a) start these canteens without delay and (b) ensure that no loophole is left for the evasion of these provisions. The benefits of doubt, it is felt, should not be given to offenders in this regard. The Factory Inspectorate should, for this purpose, be adequately strengthened with qualified staff and Government should lay down a dead-line by which all establishment should be ready with their canteen premises to enable the inspectorate to check and pass canteens for use by workers. Already sufficient time has been afforded in this respect by the provisions of the earlier amendment Act to the 1934 Statute. Occupiers should not now be given too long a time to give effect to plans and it is this Committee's considered opinion that under any circumstances the beginning of 1951 should see the starting of all industrial canteens.

46. One of the obstacles in the way of the erection of canteens by concerns has been the scarcity of building materials. At many concerns, visited by the Committee, a frequent and common complaint from the management has been the non-availability of or difficulty in obtaining sanctions for materials from the authorities concerned. Government should, therefore, issue instructions to the departments dealing with building control to give top priority to constructions essential for the welfare and amenities of industrial labour in factory premises.

47. We, however, regret to note that the law only provides for canteens in factories employing 250 or more. According to employment returns for the period ending 31st December 1948, perennial factories

employing 250 and over number 371 with a total complement of 5,59,445 workers while those between 100 and 250 total 327 and employ 49,180 workers per day. Here is a concrete opportunity for employers to comply with the definition of welfare activities as something over and above what is provided by the law. Government should, therefore, initiate measures to encourage the voluntary construction of canteen by establishments employing between 100 and 250 workers. It should be possible for these employers to maintain small but compact canteens. It has been stated that small canteens serving up to 100 or 150 meals have a great advantage over larger ones in that these can be run on more informal lines, thus giving much scope to the employer's initiative, benevolence and consideration for the well-being of his workers.

48. Even so, this still leaves out more than 2,600 establishments employing less than 100 workers each and covering a daily employment of 83,770 workers. In important industrial centres like Bombay, Ahmedabad, Sholapur, Poona, etc. such employers should be encouraged to build common canteens on a co-operative basis and located conveniently. It is necessary for Government to take the initiative in this regard, perhaps by providing sites free of cost, loans for construction of buildings and advice and active assistance in the running of these canteens. The State Government has during the past three years set apart Rs. 10,23,200 besides a sum of two crores for Postwar Schemes under the heading Labour Welfare. In our opinion a portion of this amount should be allocated towards loans and other assistance in the starting of these co-operative canteens as well as loans to employers of 100 to 250 workmen each for the building of their individual canteens.

49. Draft Rule 61(5) of the 1948 legislation only provides that the canteen building shall be in accordance with plans approved by the Chief Inspector of Factories. This, it is felt, leaves much latitude to the individual employer. Government must lay down standard plans and specifications for canteens according to employment strength in factories. Occupiers must be made to comply strictly with these plans. Attention in this regard is drawn to the December 1948 issue of LABOUR INTELLIGENCE wherein plans for kitchens etc. quoted from a publication of the Indian Tea Market Expansion Board are given. We, therefore, see no difficulty for Government to specify minimum requirements of plans and layouts.

Similarly rule 67 should be amended to specify the minimum number of utensils, crockery, furniture and other equipment, the number of employees per canteen and clothing for these employees. The inspection of canteen premises must be very strict and at least once a month, preferably by surprise visits. Forms should be drawn up on which the inspecting officers will report on individual items. In our opinion rules 68 and 71 should be further tightened. In these days of high prices and bad food, it will not be enough to provide that sales

shall be on a non-profit basis. Recently a textile mill is reported to have given a notice of change raising the prices of articles sold in the canteen by 100 per cent. to minimise the loss incurred at present. This would only mean that the poorer class of workers will still find the food beyond their means and the fundamental object of canteens defeated. The least what could be specified is that prices should not exceed levels prevailing in 1939 and the balance in costs up to three-fourths of the total running cost must be borne by the employer.

50. Canteen activity must not end here. In industrially advanced countries canteens are laboratories for nutritional and dietetic experiments. Now that canteens in industry have been statutorily recognised, Government must set up a department dealing with nutritional research dealing with the feeding of the industrial population. It would not be out of place here to quote the comments of Dr. Aykroyd, reproduced in the main report of the Labour Investigation Committee. Referring to tea and snacks establishment, he remarked "in general snacks which are for sale do not supply in abundance the elements in which the worker's diet tends to be deficient. . . . Canteens must sell at very low cost food of high nutritive value and, in particular, foods which supply the elements (vitamins etc.) which the worker must require. . . . A piece of white bread or a portion of sweet-meats supply calories but they are not rich in certain of the most important constituents of food. A cup of tea or coffee is essentially water plus a little stimulant. On the other hand whole-meal bread, cheap fruit, butter-milk and many other foods which could be mentioned are of higher nutritive value. Canteens could be organised so that foods which are specially good from the standpoint of nutrition are offered for sale and the worker encouraged to buy them. . . . The meal provided should be based on cheap foods of relatively high nutritive value such as whole cereals, pulses, certain classes of vegetables, etc. Some knowledge of nutrition is necessary in devising satisfactory feeding at minimum cost and due regard must be paid to the dietary habits of the worker. . . . In certain countries (e.g. U. S. A.) canteens have been organised and run by expert 'dieticians'; this development has been characteristic of factories conducted on the best modern lines. It would be fitting for Bombay to give a lead to the rest of India in this matter." No apology is needed for quoting what has been said more than six years ago for the simple reason that as yet little progress has been made in this direction. It is, therefore, now necessary that Government take a positive step to remedy the situation. The appropriate Government department should start a canteen and dietary branch of activity and in consultation and co-operation with public health authorities and non-official agencies and bodies ensure proper action in this direction without delay.

V. DINING HALLS AND REST ROOMS.

51. The Factories Act, 1948, directs that in every factory wherein more than 150 workers are ordinarily employed adequate and suitable rest and lunch rooms with provision for drinking water shall be provided, with a proviso that in the case of establishments with 250 or more workers, arrangements with regard to canteens shall be regarded as part of the requirements for lunch rooms. Draft rule 66 provides that the dining hall shall accommodate at least 30 per cent of the workers at a time while rule 72 adds that rest and lunch rooms shall provide 12 square feet of floor area for each person but that "workers who habitually go home for their meals may be excluded in calculating the number of workers to be accommodated." These legal minima constitute radical progress for the benefit of workers, at least on paper.

52. At present very few establishments—mostly those employing 1,000 or more—provide for dining sheds and among these, barring a handful, what is provided is very inadequate and maintained very indifferently. Rest rooms are rare and where they exist are little better than godowns. The Committee during visits to a number of establishments have seen workers consuming their midday meals in the work room or in the open amidst flies, refuse and stray dogs, while a large number run home and back for meals. Any rest they can avail of is in the workroom or under any shade that may be offered by a convenient wall of the premises. It is, therefore, necessary that, if legal provisions under the Act are not to remain dead letters, immediate steps should be taken to expedite the construction of the premises. As in the case of canteens top priority in the sanctioning of building and other materials is essential and occupiers should be made to complete the constructions within a year at the latest from now.

53. With regard to dining halls coming within the legal requirements of canteens, we are of opinion that rules should be further tightened to lay down the minimum drinking water facilities attached to lunch and dining rooms. The existing law—section 47—only provides that lunch rooms will be "with provision of drinking water". There must be separate drinking water facilities—over and above the requirements of section 18 and rules thereunder—and the number of drinking water taps and fountains should be prescribed according to the number of workers to be accommodated at a time.

54. We are also of opinion that the same room should not be used for both dining and rest purposes. There must be separate rooms for rest and least of all no worker should find it necessary to rest in work rooms. It is also necessary that rule 72 (2) (d) should be further amended to prescribe the furniture to be provided in rest rooms, including the minimum number of chairs and benches. In addition to benches there could also be a few couches on which workers can

recline in comfort. The furniture in rest rooms must further include the correct type of lockers at the rate of one per worker. Separate rest rooms must be provided in factories where more than 10 women are employed. Lastly, the discretion to reduce the floor area per worker from 12 square feet per worker in certain cases should not be permitted.

55. For dining halls, Rule 66(4) only states that "sufficient tables, chairs and benches shall be available to the number of diners to be accommodated". This rule must be amended to insist on tables and benches or chairs seating at the most ten workers per table—i.e. four on each side and one at each end. Dining halls attached to canteens or lunch rooms should have special arrangements for warming up meals brought from home by any worker and the requirements of such workers should not go by default in the catering for those eating from the canteen. Lastly, the proviso to the rules to count out those who "habitually go home for their meals" should be deleted as it would be detrimental to the objective of canteens vis-a-vis the nutritional needs of workers. The canteen is an accepted means to introduce a nutritional balance in the otherwise deficient and unbalanced dietary of the average worker who, therefore, should be discouraged from running home for the midday meal. Apart from the valuable minutes that would not be available to the workers for rest, this proviso might easily be an inducement for a certain type of employers to provide the bare minimum of food at the canteen.

VI. DRINKING WATER.

56. The fundamental requisite with regard to drinking water in industrial establishments is that it should be free from harmful bacteria—i.e. fit for drinking—and that it be served in a sanitary way to prevent contamination. In the majority of cases seen by the Committee in Bombay State, neither of these conditions are adequately fulfilled. Mortality and morbidity statistics for the industrial areas or for the State as a whole, however, do not disclose the extent to which insanitary conditions, including that with regard to drinking water, contribute to the existing state of public health. In Bombay City, where the source of drinking water is that provided by the Public Authority, the first condition is satisfactorily met in that, up to the point when water is taken into the industrial premises concerned, it is free from harmful bacteria. The manner in which the water is actually reached to the worker however can be improved towards accepted standards for preventing contamination. In mofussil towns, the position is infinitely worse as methods of storage are far from sanitary, while methods of serving water include little care in preventing contamination.

57. In Bombay City, the usual practice is to depend on storage tanks in the premises to which a number of water taps are connected. One of the main difficulties experienced is common to the population of the

City as a whole, namely, scarcity and consequent short supply except at fixed hours. This can be met by adequate storage tanks and correctly pressurised pumping to the taps. In mofussil towns, while dependence is in many cases on the local water supply, storage is generally in earthen vessels or other containers from which the water is drunk, invariably through non-sterilised utensils. In one instance, the Committee came across water stored in a disused and rusty boiler kept at the entrance to one of the departments and workers from this department conveniently met their drinking water requirements from it. On enquiry we were told that the contents of this boiler were not for drinking but that the management could not help the workers disregarding the fact that the water was unfit for human consumption. The workers, on the other hand, complained that little or no water was available at all times of the working day from the drinking water points maintained on the premises and that the service was unsatisfactory. Consequently, they were compelled to resort to whatever that was readily available. At other places, the rooms in which containers were kept were not maintained in a sufficiently clean and sanitary condition, the attendants were clad in unkempt and far from clean clothes and the common drinking cup was the general practice. We have not come across any premises where sanitary drinking fountains are provided though we are informed that in certain places where these were provided, the workers did not take kindly to these asking "hum kutha hai kya?"

58. With regard to the source of supply the provision that it shall be from taps connected to a public water supply system, in our opinion, is satisfactory. The alternative "any other source approved in writing by the Health Officer", should be altered to ensure the highest possible standard of purity. It would be better that the alternative should be permitted only in the absence of a "public water supply system" and latitude should not be given to the occupier to prefer "any other source". Further, it is not enough that the alternative source be approved by the Health Officer. There should be periodic inspection and testing of the source and supply, preferably once a month.

59. We are also not satisfied that the provision for storage is sufficiently stringent to prevent contamination, while in the case of water drawn from a public supply system, particularly Bombay City, there should be adequate storage arrangements to avoid shortage. All water not derived from a public system should not be permitted to be stored in vessels but should be kept in sufficiently large tanks beyond any possibility of contamination by any agency. These tanks must be constructed according to correct sanitary specifications and occupiers must make arrangements for the proper chlorination and other accepted—and prescribed—standard methods of purification. Storage tanks must be washed out and cleaned once a fortnight. Rule 37 (2) should be amended to ensure inspection and testing of the sterilised contents of the well, reservoir or storage tank once a month. Methods of sterilisation permissible to the occupiers should also be prescribed.

60. While Rule 34 prescribes that the quantity provided per day shall be "at least as many gallons as there are workers", in our opinion, this would not be sufficient to meet the actual needs of workers even though the rule further provides that "drinking water shall be readily available during working hours". Normally, where drinking fountains are provided there should be at least one fountain per fifty workers. It is, therefore, necessary that there should be arrangements to ensure that water tap or allied facilities attached to storage tanks should conform to this requirement. This can be ensured by a suitable amendment of rule 39 (d) relating to "water centres".

61. A reference was made earlier to the reaction of some workers to drinking fountains (*vide* para. 57) that have been erected in some establishments. This, it is felt, is nothing worse than normal human reaction to any innovation. After all, almost similar comments were heard when the first railway engine steamed out. Workers can be educated to overcome this dislike and, in our opinion, early steps should be taken to convert the existing system of serving drinking water to sanitary drinking fountains. This is because the existing practice is a sure source of contamination and a consequent danger to public health. Where taps exist a common sight is that of workers applying their mouth to the faucet or cupped hands touching the faucet. Where earthen vessels or similar containers are in vogue the common drinking cup or utensils used by several persons without proper sterilisation is the practice.

62. In prescribing drinking fountains at the rate of at least one per fifty workers we would commend the following requirements that have been prescribed by authorities elsewhere, including the American Public Health Association :—

(1) The source of water should be absolutely pure. Water not suitable should be so marked.

(2) The drinking fountain should have a slant-stream jet having an angle of not less than 15 degrees or more than 30 degrees from the vertical.

(3) Bubbling fountains should be of impervious material such as vitreous china, porcelain, enamelled cast iron, other metals or stone.

(4) Jets shall issue from non-oxidising impervious metal.

(5) The nozzle and every opening in pipe or conductor leading to the nozzle shall be above the edge of the bowl so that nozzle or opening shall not be flooded if drain from the bowl becomes clogged.

(6) The nozzle shall be protected by non-oxidising guards to prevent the mouth or nose of the drinker from coming into contact with the nozzle.

- (7) The jet or water shall not touch the guard.
- (8) The bowl of the fountain shall be so proportioned as to prevent unnecessary splashing and the drain from the fountain shall not have direct physical connection to water taps unless trapped.
- (9) The bowl of the fountain shall be free from corners difficult to clean or collecting dirt.
- (10) Waste opening and pipe shall be large enough to carry off water promptly and the opening shall have a strainer.
- (11) The hands, mouth, face or any part of the body should not touch any part of the faucet, bubbler, head or guards of the fountain.
- (12) Heights at drinking level shall be convenient to most persons using the fountain and where necessary steps should be provided.
- (13) The water supply pipe shall have adjustable valve fitted with loose key or automatic valve permitting regulation of rate of flow of water to fountain so that valve manipulated by the drinker will merely turn the water on or off.
- (14) Water should be cool but not iced.
- (15) Facilities should have frequent cleaning, disinfecting and repairs and adjustments where necessary.
- (16) Workers should be educated and instructed to use the fountain correctly.

VII. WASHING FACILITIES.

63. Rules regarding washing accommodation were first framed and came into force in Bombay State in 1946 under Sections 19 and 32 of the Factories Act, 1934, which, however, did not specifically provide for such facilities. The 1948 Act directs the provision of "adequate and suitable facilities for washing". It was noticed during the Committee's visit to certain concerns that in many places drinking and washing water taps were practically next to each other while in some other concerns these taps were in the open without any shelter for the workers who may use them. At other places, particularly in Ahmedabad, many textile mills had constructed wash-houses under the guidance of the Factory Inspectorate with showers and other conveniences. These, however, remained unused as the necessary water connections had not been received from the authorities.

64. We would recommend that washing facilities should not be near—and never adjacent to—drinking water facilities. These may be located near rest rooms and should consist of wash-basins as well as shower baths. Rule 62 (3) should be amended to give the fixed proportion of showers, troughs, wash basins and taps on standpipes that are required for stated number of workers. This is because a large

number of workers have little or no facilities for washing in the chawls where they reside and it is, therefore, necessary that workplaces should provide for such accommodation and facilities. Incidentally, we are unable to understand the provision that washing facilities are to be fixed "having regard to the needs and habits of the workers". As human beings, washing is a dire necessity and there can be no question of habits and needs and as in the case of drinking water requirements, lavatory and urinals, the minimum number required must be prescribed under the rules.

65. The directive concerning drainage of wash rooms can be more specific instead of stating that they shall be "adequately drained". The rules should provide that wash room floors should have a certain minimum slope towards the drain connections and that waste water should be removed by means of covered drains. The law at present only provides for screening of wash places used by women workers. We are of opinion that, wash basins, troughs and taps, showers should be in properly enclosed bathrooms and not in the open. Rule 62 (7) also needs amendment to provide for the erection and maintenance of sufficiently large storage tanks. The exemption with regard to the minimum quantity, in our opinion, gives too little water for the use of workers. In fact, where water requirements are connected to a public supply system it should not be necessary to lower the minimum limits and even in other cases we are unable to understand why it should not be practicable for the employer to provide at the rate of six gallons per worker per day. Under any circumstances, the exemption limit must be raised from one gallon per worker per day to at least three, and where such exemptions are granted, the workers should be consulted whether they have any objection to such exemption being granted. Finally, if this beneficent legal requirement is to be a success, Government—as in the case of canteens etc.—must see to it that every high priority is given to the supply of materials necessary for these constructions and all occupiers must be made to complete these constructions before the beginning of 1951. In all cases of new constructions for this purpose, plans must be submitted to the Factory Inspectorate for approval and before these are put into use they should be inspected and passed by the Inspectorate. There should also be periodic inspection—at least once in six weeks—to ensure that there is no evasion or negligence on the part of the employer.

VIII. LAVATORIES AND URINALS.

66. It is just as important to life to get rid of waste products as to secure food and drink and industrial establishments inadequately equipped for the removal and disposal of body wastes can become menaces to the health of their employees particularly and the community in general. In order to serve their purpose, however, the mere installation of such facilities is not sufficient. It is necessary that they be properly installed, equipped to fulfil their purpose in an adequate manner and be cleanly maintained. It does little good to have lavatories conveniently located, if it is so poorly maintained or so unclean that the worker will not use them. Neither is a lavatory of much value if the water supply for flushing is so poor in quantity or so variable in pressure that frequently the contents cannot be flushed out. A self-respecting person will not be willing to use a toilet where the demands of decency are insufficiently met. Many workers, it must be remembered leave home too soon in the morning to have been able to secure the necessary movement of the bowels. Fatigue, it has been stated, is often dependent on the absorption of toxins from the intestinal tracts and toxins are generated by retained accretions in the bowels. In Bombay State, the problem is of still greater importance because of the utterly inadequate and often insanitary facilities provided in the chawls where the rapidly increasing over-crowding of industrial towns has further accentuated the difficulties in this regard.

67. While legal requirements as to the number of lavatories are in most cases scrupulously observed by managements scant respect, it has been noticed, is paid to cleanliness, particularly in mofussil areas where privies are provided in the absence of flushing water closets. Even where flushes are installed, fouled closets were seen in many places. In each case, further examination, invariably, revealed that flushes were not functioning or the water-supply was inadequate. There were also a few cases of users negligently leaving the closets fouled. In the case of privies, managements had complained in some cases that they were handicapped by the lack of promptness and insufficient attention on the part of local authorities. Consequently the privies were full of filth and in some cases maggots were seen crawling out of the pans on to the seats. In a number of cases the surroundings were maintained indifferently and the approaches to privies were found to be most insanitary, the foul smell being noticeable from a distance.

68. As mentioned earlier, this state of affairs may be attributed to a desire on the part of management—there are indeed many exceptions—to merely comply with minimum legal requirements and the problem is further worsened by the inadequate Government inspection staff. In one case deplorable conditions were seen by the Committee barely a few minutes after the Factory Inspector had concluded his periodic inspection. In making this statement, we are not attempting to fasten all blame on the Inspector. We are only too well aware of the limitations

and handicaps under which he has to function. Apart from the wide areas that he has to cover, his difficulties and problems are not minimised by the unhelpful—perhaps ignorant attitude of many managements. The minimum number of lavatories and urinals are always there. But innumerable excuses—some with force—are readily brought forth. In one case it may be the lack of co-operation from the local public health authorities. In another case it is the lack of materials or sufficient space. In a third case it would be inadequate drainage or scavenging facilities. And, if none of these stand examination, it might well be the fault of the worker who does not know enough to keep the toilet facilities clean. Rarely has any management felt their responsibility for some of the deplorable conditions that have been observed by this Committee in the course of its visits.

69. Yet, in quite a few places we have seen comparably much better conditions, some being excellent from all points of view. In one place—in Bombay City—the spotlessly clean and sanitary condition of lavatories and urinals must be seen to be believed. There was absolutely no odour. The floors and walls were clean. The bowls were in good condition. Every flush worked. If one establishment can maintain its sanitary facilities at this high standard, it is incomprehensible that others are unable to approach anywhere near this standard. It can only mean that utter indifference on the part of managements alone permits such unfair conditions.

70. A serious weakness that makes the law ineffective lies in the fact that the wording of requirements tends to be indefinite and, as a result, they are more or less of little or no use as a set of standards that can be enforced. And, in places where keenness to keep as far below minimum requirements without infringing the law exists, such loose wordings are loopholes that hamstring the inspection staff. Terms such as “adequate”, “sufficient”, “suitable”, “properly enclosed” etc. are frequently used. In practice, the results are wide differences from establishment to establishment though each one is carefully within the law. Rule 41, for instance, only provides that latrines shall “comply with the requirements of the public health authorities” while rule 45 adds that in the case of urinals such compliance is necessary only in establishments with 250 or more workers. In fact Section 19 (2) calls for “prescribed sanitary types” of urinals and latrines only where more than 250 workers are ordinarily employed. We would recommend that in all cases the employer must comply with the requirements of public health and what constitutes minimum public health needs must be specifically described in the rules.

71. Connections to sewerage, according to rule 46, are not necessary if the factory is beyond 100 feet of an existing sewer. In our opinion this rule must be amended and so long as a factory is within the limits of a municipality or other local authority providing for underground sewerage, its latrine and urinal facilities must be connected to the sewers.

Section 19 (2) (c) is also far from satisfactory. Workplaces where a number of people are together cannot have latrines and urinals "washed and cleaned", "once in every seven days". These must be cleaned and washed daily and the type of disinfectant or detergents must be specified instead of being described as "suitable". In this connection, the proviso to rule 47 seem to run contrary to Section 19 (2) (c) as in the case of facilities that have glazed tiles or otherwise finished to provide a smooth, polished impervious surface washing with detergents and disinfectants need only be "once in every period of four months". White washing or colour washing may be every four months washing must be daily and as far as possible the use of glazed tiles, etc. must be compulsory for all latrines and urinals.

72. As regards the actual construction of latrines and urinals, we have seen that the size, floor space, doors, windows etc. vary from establishment to establishment. We would recommend that as far as area is concerned the following minimum requirements should be complied with :—

		Width.	Depth.	Floor space.
Latrines	..	32"	3' 6"	16 sq. feet.
Urinals	..	24"	3' 6"	12 sq. feet.

Further, urinals should be constructed of materials that are not only impervious but also resistant to moisture. The floor to a distance of not less than 24 inches in front of all urinals should be of waterproof materials and should slope towards the urinal though for all "floor level" urinals. The walls of compartments or partitions between fixture may be less than the height of room walls but the top should not be less than five feet from the floor. Where flushing facilities are not available, the employer must provide the necessary arrangements to deodorize and wash out urinals troughs every two hours at least. In the case of latrines, rule 42 should be amended to provide selfclosing doors and latches. All windows to latrines and urinals should be translucent and not transparent, while illumination should be at least 10 foot-candles measured 30 inches above the floor. As regards water taps on latrines—Rule 49—these water taps should be at the rate of at least one in each latrine and where they are not laid on to each latrine separately, they should be located in a room adjoining the latrines on the basis of one tap for five latrines. Where piped water supply is not available, storage tanks should be constructed with pipes running down to the room provided for this purpose.

73. Earlier, a reference has been made to inadequate inspection and the difficulties of enforcing cleanliness and sanitation. Apart from the staff of the Factory Inspectorate, Government should lay down that local authorities—through qualified sanitary Inspectors—shall make arrangements to inspect at least once a month all latrines and urinals. These inspections should be stringent and all infringements dealt with deterrently.

IX. CRECHES.

74. During 1948, it was reported that 140 concerns employing 34,521 women provided for creches for children up to six years of age while on 31st December 1948 a daily average of 85,327 women found employment in 1,573 factories. Section 33 (2) of the Factories Act, 1934, enabled a Provincial Government to make rules for reserving a room for the use of children of women employees in factories where the latter numbered more than 50. Rules framed thereunder in Bombay State, however, prescribed that creches need be provided only when the daily employment of women in a factory was over 100. From these figures it would be seen that in the case of over 50,000 women workers there are absolutely no arrangements at all for creches in over 1,400 concerns. The majority of the existing creches, according to the Factory Inspection Report for 1948, were in the textile mills of Bombay and Ahmedabad. The Inspectorate, however, received reports on the working of creches only from 54 out of 65 concerns in Bombay and 46 out of 52 in Ahmedabad. From the reports received from 120 concerns in the State during 1948 it would be seen that for an average daily employment of 34,212 women, there were 4,889 children on the roll of these creches while the average daily attendance came to only 3,019.

75. The Committee in the course of its visits to a number of concerns, have noticed widely varying conditions prevailing from establishment to establishment as regards this vitally important aspect of welfare. There were, indeed, concerns where the utmost care is taken of infants and children; where properly qualified nurses are available under the active supervision of lady doctors; where hot nutritional meals for the older children besides milk, tonics and fruits were available and where the children lead a happy, healthy and care-free existence for eight hours a day. In these institutions, it was further seen, attendance was very high and working mothers had considerable trust in the love and care bestowed on their children during their absence at work. On the other hand, there were also a good many concerns where just a godown or a ramshackle shed was provided for the few children to huddle themselves under the indifferent care of a more or less untrained women, surrounded by swarms of flies and the stench of stale urine. In some cases clothes were dirty or tattered; in others the beddings were filthy and sleeping infants had flies crawling over their mouths and eyes. Infants that were obviously ill moved about—or rather dragged themselves—and looked up with dull curiosity or hopeless misery in their eyes. In one concern the bedding consisted of folded hessian cloth while in some others the cradles were so fashioned that tender bodies were more or less doubled up in them. Records are indifferently maintained and when children were absent for a number of days no effort appears to have been made to indicate the reasons for their absence. The Labour Investigation Committee had pointed out mildly that “on the whole the employers have been rather slow in observing the requirements in regard to the

provision of creches even in Provinces where the law requires it." Time has marched on but progress since then must have been painfully slower. The situation as we found—barring the few exceptions—can still be concisely described in the words of that Committee five years back :

" Mills which are not legally obliged to establish creches do not have them at all. Even those employing 100 or more women, in a large number of cases evade the provision of the law and put forward some lame excuse or other in justification such as e.g. that the women are unmarried, that only women who have passed the child-bearing age are employed, or that they are widows. **EVEN WHERE THE RULES ARE OBSERVED, THE TENDENCY IS TO CONFORM ONLY TO THE LETTER OF THE LAW AND TO BREAK THE SPIRIT OF IT.**

" Generally speaking, the creche is one of the neglected corners of the factory and if an Ayah or nurse is in attendance, she seldom pays sufficient attention to the requirements of the children left there. **THE EMOLUMENTS OF NURSES IN CHARGE ARE USUALLY LOW** The atmosphere is seldom very clean and standards of sanitation seldom very high."

And, the Factory Inspection Report for 1948 states that " much more awaits to be done if the high infant mortality among the industrial population is to be lowered to that in other industrial countries." In our opinion, if the existing state of affairs is permitted to continue, not only will infant mortality continue to remain high but there is also a likelihood of morbidity and mortality rates among the industrial population going higher.

76. One significant fact that was noticed during the Committee's visits and from replies to questionnaire was that the provision for creches was only found among textile mills. In fact at one glass works tiny tots were left to fend for themselves amidst a litter of broken glass while outside, not too far away was an unsecured and unguarded barrel of what was stated to be " arsenic ". In this case the number of women employed was below 100 and the employer was within the law, and there would be hundreds of other establishments of this sort. It is, therefore, pertinent to enquire as to what happens to the remaining 50,000 and over women workers. Even with regard to concerns that have provided creches, published statistics reveal an unsatisfactory position. While the total number of children on the roll of creches is 4,889, the average daily attendance is only 3,019. Nobody, we dare say, is aware as to the fate of about 1,000 and odd children of working women. (Note.—The highest attendance on any day is stated to be 3,879).

77. Rules under Section 33 of the Factories Act, 1934 were framed and came into force from 1939 and the conditions described above are the results of the operation of these rules during the past 12 years. The need for creches in factories employing 50 or more women is, however, recognised in the 1948 Act while the draft rules thereunder are

slightly more elaborate as regards the location of creches, open-air, playgrounds, furniture and equipment, wash rooms, clothes for creche staff and supply of milk—at least half a pint per child per day. Judging by our experience of the law as it operated till now, we are extremely doubtful if much progress would be achieved unless greater interest is taken in strictly enforcing the new provisions. For one thing, there is only one lady inspector of factories for the entire State and there are over 375 factories employing more than 50 women apiece. Apart from the urgent need for augmenting the inspecting staff in this regard we would like to invite attention to a recommendation of the Royal Commission on Labour which does not appear to have been given effect to. That Commission had suggested that where women are engaged in substantial number, at least one educated woman should be appointed in charge of welfare and supervision throughout the factory. We would recommend that Section 49 of the Factories Act, 1948, should be amended to provide for the employment of qualified lady welfare officers in all factories where 50 or more women are ordinarily employed. With regard to factories where the employment of women is between 25 and 50, the employers concerned should be encouraged to co-operate and appoint one lady welfare officer for two or more concerns. Government should also appoint more qualified lady welfare officers to assist the Lady Inspector of Factories in matters relating to the welfare, of women workers, creches, etc.

78. Official insistence on compliance with legal requirements, we feel, would not be sufficient to ensure the very high standards necessary in regard to the children of women workers. There are a number of women's voluntary organisations anxious to help improve conditions among women. We would suggest that these organisations be persuaded to take a very active interest in baby creches in factories. Maternity and child welfare among the industrial population would then make a much greater headway than hitherto and the frequent visits from these organisations coupled with the increase in the enforcement staff, suggested above, would spur employers to take really serious interest in the children of their workers.

79. Before concluding this section we would refer to the question of comparative productivity of industrial workers. It has been said that our workers compare very unfavourably with those in industrially advanced countries and that the present generation of workers compare also unfavourably with those a decade or two ago. Now that the industrial population has become and is becoming more stable and less migratory in nature it would seem that many recruitments are from the children of workers. Government, or perhaps non-official agencies, could now usefully initiate a series of sociological study of industrial workers, particularly with regard to environment and background vis-a-vis productivity and other issues. We feel sure that such a study would yield valuable data.

X. VENTILATION.

80. Section 13 of the Factories Act, 1948, prescribes that "effective and suitable provision shall be made for securing and maintaining in every workroom adequate ventilation by the circulation of fresh air and such temperature as will secure reasonable conditions of comfort." The State Governments are further authorised to prescribe standards of adequate ventilation and reasonable temperature. Previously the law required that "every factory shall be ventilated in accordance with such standards and such methods as may be prescribed". The Draft rules published by the Bombay Government do not include any provisions to cover standards of ventilation or temperature, while Rule 25 under the 1934 Act directed that "the cooling properties of the air shall be determined by using Kata thermometers." Section 16 (2) of the new Act, however, requires at least 500 cubic feet of space for every worker in factories built after the commencement of the Act and 350 cubic feet for those already in existence. The problem of ventilation, however, does not appear to have attracted much attention and from our experience of units visited little thought has been given to provisions for ventilation and temperature comfort to workers. In textile factories the need for artificial humidification has resulted in some detailed legal minima concerning hygrometers and use of steam for artificial humidification.

81. A large air space or specifications regarding artificial humidification, in our opinion, are not the only factors that deserve consideration. Apart from the fact that the air must be free from impurities, it is also necessary that the atmosphere in workplaces should be cool rather than hot, dry rather than damp and moving rather than still, the last being of much greater importance in this country particularly during the hot weather. In the widest sense, it has been stated, ventilation is effected not only by the means provided for changing the air but by all means which impart movement to it and that the combined effects of the dry bulb temperature, the air velocity and the radiation determine whether the conditions are comfortable or not. Since few employers are aware of these essentials to the well being of their workpeople, it is felt that the provisions of Section 13 needs amplification under the rules and that the State Government should prescribe in definite terms minimum standards of ventilation and temperature in workplaces.

82. It is of interest here to refer to a recent decision by the Commissioner for Workmens' Compensation in a case from Ahmedabad. According to evidence before the Court, the deceased—a Weaver—"died of heat stroke owing to insufficient working conditions in the mill at that time". There were not sufficient air conditioning facilities due to only one "carrier" working for the 1,200 looms that were run in that department. The mill authorities had tried to prove that the humidity in the weaving shed on that fatal day was normal but the Court did "not attach importance to this fact as there is evidence

to show that the workers still complained of excessive heat in spite of the precautions alleged to have been taken by the mill authorities." According to the judgment workers had complained to the mill authorities of the excessive heat in the department and that the outturn of workers was consequently less and that steps should be taken to remedy this grievance. The Court expressed the opinion "the only inference is that the heavy strain which the workers of the weaving department were doing to keep up the production was an immediate cause of this death. With temperature ranging between 115 degrees and 118 degrees it is not difficult to imagine the agonising atmospheric conditions in the department with only one carrier plant working. It was subsequently proved that the death of this worker was due to rise in blood pressure and internal hæmorrhage on account of excessive heat in the department. The Court held that the death of the deceased was not accidental but due to the abnormal heat in the department on that day and allowed compensation of Rs. 3,523-8-0. During a visit to one Mill in Gujerat, the Committee saw workers actually sweating inside the department which was full of steam. At the request of one of the workers we tried to remain in the department for 10 minutes at a stretch and found it almost unbearable. Most of the workers worked without any shirt and those with Ganjias were seen removing these and wringing them dry of perspiration. There were also cases where, in the absence of carrier plants, water was sprinkled on the floor to create artificial humidity. The possible consequences of pneumonia need hardly be stressed in such attempts of artificial humidification.

83. Government should lay down a definite number of air changes per hour in workplaces. Where the workers constitute the only source of contamination, a fresh air supply between 16 and 30 CFM per worker on an air change of 4 per hour is considered to be usually sufficient provided the air space is about 400 cubic feet to worker. Since the air space in existing factories is limited to 350 cubic feet, the number of air changes needs be higher and must be secured by means other than natural ventilation. Further in places where high temperatures are necessary or where harmful fumes occur in manufacturing processes more air changes per hour must be insisted on. For cotton textile mills, the Sub-Committee on Minimum Standards of Ventilation etc. of the Post-war Planning Committee has recommended from 12 to 15 changes per hour. The employer should be directed to ensure that the change of air is effected without creating unpleasant draughts.

84. While air changes may result in satisfactory ventilation in the premises, rules must also require that air movement at the working position is adequate. We have found in some establishments that, though the natural ventilation was satisfactory to all appearances, that in the actual working position of workers was far from comfortable. In glass factories, the extreme heat from the furnaces resulted in sweating men having to go out frequently for a breather. Similarly in a Vanaspati factory one of the workrooms had, of necessity, to maintain

conditions that were not bearable for more than a short while at a time. In textile mills too, while conditions prescribed regarding artificial humidification was being more or less observed, it was noticed that air movement was far from satisfactory and it would appear that one of the reasons for "loitering", particularly in the hot weather, must be the difficult atmospheric conditions in work-places. In this case, we were given to understand that workers used to move out of departments for tea, even though tea could have been served in the departments. We have no doubt that this tendency towards loitering is directly dependent on the abnormal working conditions in most factories. To meet requirements of this type, we would recommend the installation of "Plenum" ventilation combined with extraction of the vitiated air by fans.

85. Earlier it was pointed out that Rule 25 of the 1934 statute (para. 80) had directed the use of Kata thermometers for determining the cooling properties of the air. Draft rules under the new Act has omitted this provision. We understand that this elimination was deliberate as Kata thermometers were not considered a satisfactory means for this purpose, and that an index—used in the United States of America—which gives a good measure of the warmth of the environment is **EFFECTIVE TEMPERATURE**. Effective temperature takes into account the temperature, humidity and rate of movement of the air. In Great Britain a scale of **WARMTH** known as **EQUIVALENT TEMPERATURE** is used by heating and ventilating engineers. With regard to effective temperature, it has been pointed out that "in extremely hot conditions, e.g. at effective temperatures above 90 degrees Fahrenheit, effective temperature makes too much allowance for dry-bulb temperature, and that at such levels of warmth bodily reactions are more closely related to wet-bulb temperature than to effective temperature." As regards equivalent temperature, it is stated that "it takes into account radiation, air temperature and air movement, but it makes no allowance for atmospheric humidity, and, therefore, is not suitable for use when the air temperature is much higher than 70 degrees Fahrenheit". One limitation of effective temperature is that "if there is much disparity between the temperature of the air and that of the surroundings, some radiation correction needs to be applied to the effective temperature". The above points from "Environmental Warmth and its Measurement" by T. Bedford—Medical Research Council War Memorandum No. 17—have been quoted to indicate the differences of opinion regarding the alternatives to the use of Kata thermometers. In our opinion, it is inopportune to remove the original rule concerning the Kata thermometer and its use. In the first place; the alternatives are either still in the experimental stage or not suitable to tropical conditions. Further, to leave the matter unprovided for under the circumstances would mean that even the very little protection that could be availed of by recommending the use of Kata thermometers is now removed. Government should, therefore, amend the draft rules

in order to provide for the maintenance of Kata thermometers in all factories employing 50 or more workers. As in the case of hygrometers employers must maintain correct records of Kata thermometer readings which should be frequently checked by the Factory Inspectorate. It may here be mentioned that for purposes of "effective temperature" index in the absence of Kata thermometers, the dry bulb of the hygrometer is expected to be availed of. We may point out that hygrometers have not been maintained in all establishments, these being only in premises where artificial humidification is necessary. Consequently in the vast majority of other units, in the absence of hygrometers, it would not be possible to comply with the requirements of "effective temperature." Incidentally, we were interested to note during our visits to factories that the Kata thermometer and its use were prominently absent despite Rule 25. If employers did not or found it difficult to comply with this recommendation, there is even greater probability that the more complicated alternative would be an even greater rarity.

86. Before concluding this section, it would be relevant to invite attention to the suggested provisions for general ventilation by the International Labour Office Regulation 19 to 23 of Section 3 of the Draft Model Safety Code for Factories (Appendix F). We would here emphasize regulation 21 and 22 concerning air, cleanliness and air movement. As regards humidity and temperature, we have noticed in some premises visited by us the lack of proper insulation of roofs, walls and floors and no protection been afforded to workers against radiation and excessive temperature. We would, therefore, recommend that Rules regarding ventilation should be introduced under the Factories Act, 1948, for insulation of roofs, walls and floors according to specifications covering both materials and constructions to be laid down by Government. The Factory Department should also draw up a list of industries and processes involving exposure of workers to unduly high temperatures and employers concerned should be directed to provide Passage rooms where the workers can cool themselves off to the prevailing outside temperature before passing off into it. In cases where air-conditioning is provided or is being introduced, there should be similar passage rooms for warming up to outside temperature before passing into it.

87. While the above suggestions would at best amount to palliative, we would here advert to this Committee's recommendation regarding air conditioning in its interim report on Bombay City and Bombay Suburban District. There it was recommended that air conditioning should be made compulsory, as rapidly as the plant can be supplied in in all textile mills. And, Labour Unions had demanded the introduction of air conditioning in order to assist in increasing production. Air conditioning should be compulsory in all factories employing 250 or more workers and, if necessary, Government should assist by giving the requisite priorities for the import of plants.

89. The Sub-Committee on "Minimum Standards for lighting" etc. of the Post-War Planning Committee (Textile) appointed by the Government of India emphasised the necessity of good lighting and have considered the natural lighting in modern saw-tooth roof type of buildings to be satisfactory. That sub-committee has also recommended that where side-lighting is resorted to, the minimum window area should in no case be less than 15 per cent. of the floor area, assuming windows on both sides of the room. According to the sub-committee, double and treble shift working have shown that existing conditions of artificial lighting are "woefully inadequate." While admitting that high standards are now recommended, this sub-committee was of opinion that the following standards should be adopted in the case of textile mills :—

Department.	Minimum Footcandles measured 30 inches from floor level.
Opening, mixing, blowroom, carding and drawing .	10
Slubbing, Roving, Spinning ..	20
Winding, Warping ..	20

Department.	Minimum footcandles measured 30 inches from floor-level.		
Sizing headstock :			
Grey goods 20
Colour goods 50 to 100
Folding and Inspection :			
Grey goods 50
Coloured Goods 100
Automatic tying-in 50 to 100
Drawing-in by hand above 100
Weaving 25
Knitting machines 20
Dyeing 20

These standards were considered to be very much higher than conditions existing in mills at that time.

90. The Illuminating Engineering Society, New York, have recommended the following standards of illumination for different industries :

Industry.	Minimum footcandles measured 30 inches from floor-level.		
<i>Glass works.</i>			
Mixing and furnace rooms, pressing and lehr, glass blowing machines	10
Grinding, cutting glass to size, slivering	20
Fine grinding, polishing, bevelling, etching and Decorating	50 C*
Inspection	B* C*

Leather Manufacturing.

Vats	..	..	5
Cleaning, tanning and Stretching	..	..	10
Cutting, fleshing and stuffing	..	..	20
Finishing and Scarfing	..	..	30
Pressing, winding and glazing	..	..	10 to 20

Machine shops.

Rough bench and machine work	..	..	20
Medium bench and machine work, ordinary automatic machines, rough grinding, medium buffing and polishing	..	..	30

Industry.	Minimum Footcandles measured 30 inches from floor-level.
Fine bench and machine work, fine automatic machines, medium grinding, finebuffing and polishing	B*
Extra fine bench and machine work, grinding—fine work	10

Power plants, Engine room, Boilers.

Boiler, coal and ash handling, storage battery room ..	5
Auxiliary equipment, oil switches and transformers..	10
Engines, generators, blowers, compressors ..	20
Switch boards	30

Printing.

Type foundries—matrix making, type dressing ..	A*
Front assembly—sorting	B*
Hand casting	30
Machine casting	20
Presses	30
Proof reading	A*

Rubber.

Plasticating and Milling	20
Calendering	30
Fabric preparation—stock cutting, bead building ..	30
Tubing machines	20

Tyre building.

Solid tyres	20
Pneumatic tyres	50
Curing	B*
Inspection	A*

Sheet Metal Works.

Miscellaneous machines, ordinary bench work ..	20
Punches, presses, shears, stamps, spinning, medium bench work	C*
Tin plate inspection	B*

Industry.	Minimum Footcandles measured 30 inches from floor-level.		
<i>Shoe Manufacturing.</i>			
Cutting and Stitching	20
Making and finishing—			
Light materials	30
Dark materials	50
<i>Soap manufacturing.</i>			
Kettle houses, cutting, soap chip and powder	..		10
Stamping, wrapping and packing	20
Structural Steel Fabrication	10
Locker Rooms, Toilet and wash rooms	10
Stairways and passageways	5

* Groups A, B and C are recommendations for the more difficult task. Group A involves the discrimination of extremely fine detail under conditions of extremely poor contrast and/or for long periods of time. To meet these requirements illumination level above 100 footcandles are recommended. To obtain this a combination of at least 20 footcandles of general lighting plus specialised supplementary lighting is necessary. Group B involves the discrimination of fine details under conditions of fair degree of contrast for long periods of time. This is also obtained by the combination of 20 footcandles of general lighting plus specialised supplementary lighting. Group C requires the discrimination of fine detail by utilising the reflected image of luminous area or the transmitted light from a luminous area.

91. The draft Model Safety Code prepared by the International Labour Office (*vide* para. 63A) has suggested that with regard to natural lighting, skylights and windows should be provided with devices to avoid glare and that there should be a regular system of cleaning. We do not think that this question has been deliberately considered and provided for by many employers in this State. Undoubtedly there are windows and skylights in work-rooms. If, however, there are any provisions for avoiding glare, it is more or less dependent on the dust and other accumulations which have gathered there with the passage of time. There are various devices to avoid glare, one of which is the use of translucent materials. Government should give directions as to the manner in which skylights and windows should be constructed, the materials to be used and the minimum number to be provided according to the area of and number of workpeople in each workroom. In doing so expressions such as "suitable", "adequate" etc. should be avoided and employers must be told in exact terms what is expected to be maintained in their premises. The more vexed issue, however, is the standard of cleanliness prevailing in many establishments. It is necessary that occupiers be told that cleaning must be at least once every week and the onus of clean maintenance should be squarely placed on managements. Apart from keeping records—the day of the week on which cleaning is to be effected, etc.—any failure in the form

of badly maintained windows and skylights should be dealt with by adequate penalties. As regards artificial lighting, draft Regulation 18 (Appendix 'G') provides for this from the point of view of quality, quantity and emergency lighting. We have already referred to the question of quality while quantitative requirements in the Regulation are more or less on the same pattern as suggested in paras. 89 and 90 above.

92. We have given the above details of minimum light requirements in a few industries in order to indicate how short of minimum requirements the provisions for lighting in factories are. We would, however, endorse the recommendation of the Sub-Committee mentioned earlier (para. 89 above) that Government should arrange for an expert illumination engineer to study the subject and make suitable recommendations. Meanwhile, however, the minimum lighting prescribed in rule 30 must be raised immediately in accordance with the recommendations in paras. 89 and 90. We would further endorse this Committee's recommendation in its Interim Report concerning fluorescent lighting of the latest types. Installations, however, must be under the guidance of an illumination expert who will be able to advise on scientific lighting that takes into account questions not merely concerning the quantity of light but also quality.

93. Along with the question of lighting that of colour also needs careful consideration. In Western countries, particularly the United States, a system known as "three dimensional seeing" combined with a safety colour code is being put into effect. The former involves the interior painting of ceiling, walls and machinery while the latter assists in indicating danger points. Combination of colours have been found to ease the causes of undue fatigue, with the effect in work rooms satisfactory with regard to light and visibility, besides giving a pleasant clean and cool appearance. We would, therefore, reiterate this Committee's earlier recommendation concerning industrial colour schemes.

XII. SAFETY

94. The total number of accidents reported in Bombay State during 1948 was 25,097 as compared to 19,450 in 1946 and 20,561 in 1947. In 1942 there were 16,345 accidents. Fatal accidents number 68 in 1942; 51 in 1946, 61 in 1947 and 65 in 1948, while minor accidents came to 12,554 in 1942, 15,972 in 1946, 16,336 in 1947 and 20,379 in 1948. In the United Kingdom the accident rate per 1,000 workers has fallen from 40 in 1944 to 28 in 1948, as against 3.41 per 100 workers in Bombay State in 1948 and 3.17 in 1944. In 1946 the rate per 100 workers in Bombay was 2.85 and 250 in 1942. These statistics constitute an indication of the attitude towards safety in industry on the part of both employers and workers. The employers, on their part, argue that

they comply with all the precautions that are enjoined by the Factories Act. Very few have thought it necessary to go beyond the letter of the law and few seem to understand the spirit in which the law has to be followed. As for the workers, they just shrug their shoulders and say very little. According to the Factory Inspector's report for 1948 "some accidents occurred due to the bursting of closed vessels while being welded. The elementary and simple precaution of even washing the vessels with hot water or steam before undertaking welding operations is neglected". Two of three fatalities from electric shocks in 1948 were due to "psychological errors" while the third was due to a bad earth connection. Another notable accident in 1946 is described as follows: "A worker in a cotton mill fell from a second floor balcony. The injuries were fatal. The balcony had a parapet wall with a flat top which formed a very convenient but unsafe perch for workers wanting a bit of fresh air." A female pirn winder while trying to cross over the guarded shaft of the pirn winding machine got her sari entangled on about the 2" end bit of the shaft (which was not guarded) and was injured. The Factory Inspector's comment was "the accident emphasises the urgent need of securely fencing even the end bits of projecting shafts". Statistics under the Workmen's Compensation Act are also of interest. During 1948 there were 1,916 cases while the total compensation paid, excluding that paid for non-contested cases of temporary disablement, during 1948 amounted to Rs. 13,95,650. The corresponding figures for 1946 and 1947 were 1,744 and 1,716 and Rs. 11,02,709 and Rs. 11,03,808 respectively. The highest figures, however, were during 1945 when there were 2,020 cases and Rs. 14,59,445 were paid as compensation. In 1940 there were only 901 cases while the compensation paid came to Rs. 3,70,968 i.e. there has been an increase of over 1,000 cases in 1948 while compensation paid rose by over ten lakhs of rupees. These statistics are disquieting evidence of the absence of safety psychology, both among workers and managements and the need for positive steps towards a correct safety education in industry.

95. One of the questions asked of factories by the Committee was whether they had taken any special measures for the prevention of accidents. In the majority of cases the answers were in the negative or that provisions of the Factories Act are complied with. Only one concern stated that it had a "Safety First" Committee with representatives of management and labour. In one case the reply was "no accidents", while another replies "No. Machinery is not heavy". Another factory with over 100 workers replied "First aid cases as per Factory Act". One leading concern stated that they "keep ahead of the Factory Act as far as possible". An engineering factory with over 200 workers stated "our factory and nature of work done therein is such that so far no special measures were rendered necessary; we had no major accidents anytime before". Another engineering firm answered that the "nature of work in our factory is such that all these questions do not arise." An engineering concern in Ahmedabad replied: "electric power in all departments" while a concern in Bombay,

established over eight years ago replied that "in our new factory we are going to provide with all these facilities." In one case the factory replied that "if there are any special hazards they are properly explained to the workers. Records of accidents are maintained and causes investigated and measures adopted to prevent their recurrence." At another factory safety-first posters are put up and the special attention of departmental heads drawn from time to time to the necessity of complying with such safety precautions and to seeing that workers use fully the safety apparatus—eye shields, goggles, etc.—provided to them. It will be seen from these that very few concerns are conscious of their responsibilities in accident prevention and this was further borne out by what we have seen during our visits to a number of factories. Hazards are usually guarded only in so far as it was necessary to ensure that there was no breach of the letter of the law. The question of loss and pain to the worker was always a very secondary consideration, while few concerns must have calculated at all the loss—direct or indirect—incurred by them as a result of accidents.

96. Accidents have been defined as occurrences that interrupt or interfere with the orderly progress of the activity in question and do not necessarily involve human injury. Also, from the point of view of prevention, the causes of accidents—defects, action or lack of action—have to be corrected to prevent recurrence. For this purpose, available statistics provide important data about the sources or causes of occupational injuries. According to the Factories Report for 1948 for Bombay State, 1,506 serious and 4,644 minor injuries were caused by "working machinery", fatalities numbering six. Under the heading "persons falling" there were 12 fatal, 410 serious and 1,093 minor injuries while "falling objects" accounted for six deaths, 793 serious and 3,222 minor injuries. "Hand tools" caused 206 serious and 1,834 minor injuries. Fatalities were highest under the heading "transmission machinery", viz. 13, while the "miscellaneous" group covered 11 deaths, 1,200 serious and 7,711 minor injuries. An obvious feature revealed by these figures is that the great majority of all injuries coming from industry as a whole are results of hazards common to almost all industrial establishments. It would not be unsafe to conclude from this that the mere compliance with legal requirements of Chapter IV—Safety—of the Factories Act and rules thereunder will not result in any appreciable reduction in the accident rate. From this point of view there is much to commend the procedure reported by one Factory—"records of accidents are maintained and causes investigated and measures adopted to prevent their recurrence." It has been rightly stated that the best safety records are being maintained by those who use every effort to discover and correct all unsafe physical conditions and, in addition, painstakingly and continuously train and stimulate every worker to work safely. In recommending a positive move in this direction we would suggest that for purposes of classification and analysis

of accidents, all employers should be asked to investigate and study each accident under the following headings :

BASIC ACCIDENT CAUSES*.

A. Personal Faults.

- | | |
|------------------------------|---------------------------|
| 1. Faulty Instruction | 4. Lack of Concentration |
| (i) None. | (i) Attention distracted. |
| (ii) Incompleted. | (ii) Inattention. |
| (iii) Not enforced. | 5. Unsafe practice |
| (iv) Erroneous. | (i) Chance taking. |
| 2. Inability of worker | (ii) Short cuts. |
| (i) Inexperience. | (iii) Haste. |
| (ii) Unskilled. | 6. Mentally unfit |
| (iii) Ignorant. | (i) Sluggish or fatigued. |
| (iv) Poor Judgment. | (ii) Violent temper. |
| 3. Poor Discipline | (iii) Exciteability. |
| (i) Disobedience of rules. | 7. Physically unfit |
| (ii) Interference by others. | (i) Defective. |
| (iii) Fooling round. | (ii) Fatigued. |
| | (iii) Weak. |

B. Mechanical and Material Faults.

- | | |
|--|--|
| 1. Physical hazards | 4. Unsafe building conditions |
| (i) Mechanical, electrical, steam, chemical conditions etc. (a) ineffectively guarded, (b) unguarded, (c) unsafe design. | (i) Fire protection. |
| | (ii) Exits. |
| | (iii) Floors. |
| | (iv) Openings. |
| | (v) Miscellaneous. |
| 2. Poor Housekeeping | 5. Improper working conditions |
| (i) Improperly piled or stored material. | (i) Ventilation. |
| (ii) Congestion. | (ii) Sanitation. |
| 3. Defective equipment | 6. Improper planning |
| (i) Miscellaneous. | (i) Layout of operation. |
| (ii) Tools. | (ii) Layout of machinery. |
| (iii) Machines. | (iii) Unsafe processes. |
| | 7. Improper clothing |
| | (i) No goggles, gloves, masks, etc. |
| | (ii) Unsuitable clothing such as loose sleeves, dhoties, sarees etc. |

* INDUSTRIAL ACCIDENTS PREVENTION, H. W. Heinrich
(Item 7(ii) under mechanical and material faults altered).

All employers should be asked to report accidents, however trivial, on such forms to the Inspectorate and there should be a specialised staff set up to analyse, study and advise factories on the basis of these reports. Analysed in this manner, the problem can be tackled by the employer, in the first instance, combating the mechanical and material faults which are within his control. Personal faults have to be dealt with on a different plane.

97. While the Factories Act states minimum legal requirements necessary for health, safety etc., much more than the mere following of minimum requirements is necessary to ensure the required high standard and calls for a much greater voluntary effort on the part of all concerned than what actually exists in the State now. In Great Britain propaganda concerning the prevention of accidents is carried on by the Royal Society for the Prevention of Accidents. This Society, it is stated, works in close co-operation with the Factory department and publishes posters and bulletins which have been of great value to the Inspectorate and to the employers as regards "the advantages of self-inspection". An important feature of the work of the Society is the organisation of industrial groups throughout the country and in England and Wales, it is reported there are many such industrial groups in active operation. Membership of these groups is formed by representation of industrial undertakings in specified areas, with the object of (a) pooling and disseminating knowledge and experience, (b) studying of various types of accidents peculiar to industry, (c) giving of mutual assistance and advice, (d) arranging of meetings for the reading of papers by experts on various phases of work safety. It is reported that in 1944 about 6,800 firms were served by the scheme conducted jointly by the Society and the Factory Department in that country. This phase of activity in our opinion should prove to be of considerable benefit in this State and early steps should be taken to organise such a body which would work in close co-operation with the Factory department of this State. Essentially it would be a voluntary organisation.

98. We have suggested that the employer must first combat mechanical and material faults in his premises. This is because to attain really good safety practice, managements must accept squarely the responsibility in this regard. After all every kind of work that men perform involves some degree of danger and every uncontrolled hazard, in course of time, will produce its quota of injuries. This is where a complacent attitude—"nature of work in our factory is such that all these questions do not arise." "So far no special measures were rendered necessary". "No accidents."—has to be viewed with disfavour, if not alarm. Proper attention to safety will contribute greatly towards the elimination of injuries and since all authority,

determination of policy and executive action lie in the hands of employers, it is from them that the drive towards safety must come. Some of the things that management could do are : (1) Provide safe equipment and tools, (2) Safeguard all machines, (3) New machines and equipment should not be started until full attention has been paid to safety and the workers understand their safety requirements, (4) All operations and processes must be planned with an eye to safety, (5) Maintain safety-minded supervision and inspection of possible danger points, (6) Train, educate and stimulate employee interest in safety, (7) Investigate each accident from the point of preventing recurrences, (8) Form committees for safety, for the development and maintenance of safety teamwork among all workers and thus create a joint effort to eliminate injuries.

99. Personal faults listed above—para. 96—have to be dealt with, also by management, from the point of view of education, training, supervision and organisation. In these, however, the individual employer, particularly the small employer, is to some extent at a disadvantage. It is, therefore, necessary that the Government must come to the aid of employers and workers in taking the lead, giving advice etc. through the Factory Inspection Department. We do not mean that at present nothing is being done. We are only concerned at the alarming number of accidents in industry, and we feel that greater concentration in this respect is necessary both on the part of Governmental agencies and employers. Safety education should be aimed to develop an awareness of the importance of accidents and an alertness to recognise and correct unsafe conditions and practice. Safety training should aim at developing the worker's "skill in the use of safe work techniques and practices" while safety supervision means precept and example on the part of the supervisory staff towards safety. Safety Committees with worker representatives have been found to be very valuable, particularly in stimulating the workers' interest, in industrially advanced countries. These committees have been created under joint production activities. Provisions of the Bombay Industrial Relations Act and the Indian Industrial Disputes Act with regard to Joint and Works Committees, in our opinion, should be availed of for the setting up of safety organisations with in all factories.

100. Before concluding, it would be of interest to refer to a practice of colour schemes adopted in some textile mills—(*vide* Report of the Sub-Committee on "Minimum Standards for Buildings, Spacing of Machinery, lighting, humidification and other conditions affecting the Health and Comfort of Operatives" of the Post-War Planning Committee). These mills have adopted the following safety colour schemes: (a) RED : Painting of all sprinkler pipes, fire appliances and fire-proof doors. (b) BLUE : Humidifier and water pipes. (c) CHOCOLATE with WHITE and RED : Steam bare pipes (heating pipes in department). (d) BLACK with RED : Steam pipes lagged. (e) BLUE with WHITE, BLUE

and RED BANDS : Hot water pipes. (f) YELLOW: Acid pipes, gas pipes, (g) INDIVIDUAL COLOURS AND NUMBERS—All electrical motors, switchgear, etc. (h) SKULL AND CROSS BONES notices with WHITE letters and figures and RED ground in four languages : All electrical equipment. (i) RED TRIANGLE on WHITE ground : Machines (textile danger areas). We should suggest that this standard colour scheme for safety should be introduced in all mills and suitable adaptation made for other industries.

XIII. MEDICAL AID AND MEDICAL FACILITIES.

101. Existing arrangements for medical aid to industrial workers in the State are as follows: Almost all textile mills report that they maintain dispensaries where workers and, in many cases, their families are treated free of charge. Some mills give free of cost expensive drugs and injections but the normal practice is to give simple treatment. These dispensaries are within the mill premises and are open during working hours when compounders are in attendance. As regards medical officers, barring very few concerns with whole-time doctors, private practitioners attend the mill dispensaries for limited periods during working hours. This means that treatment, more often, is for mild ailments by the compounder who would direct any case that needs the medical officer's personal attention to come again when the latter attends. With regard to treatment of workers' families, we have found that hardly any avail of this advantage. In some mills, with wholetime medical officers, there are also arrangements with specialists to examine cases referred to them by the medical officers. The attendance at mill dispensaries is usually what might be termed "walking cases" and, it is presumed, those who are too ill to attend the dispensary depend on private practitioners in the vicinity of their residence.

102. As regards nontextile concerns, an analysis of replies from 136 engineering units reveal that 90 had no dispensaries at all while 10 did not reply to the question concerning dispensaries. In the remaining 36 concerns, one reported a full-time doctor, one a full time compounder and part-time doctor while another reported that the doctor attends twice a week. Yet another stated that the doctor attends "when necessary" while in three units patients—presumably accident cases—are sent to doctor "when necessary or in emergency". One concern in Bombay City, with first aid box on its premises depends on the K. E. M. Hospital—about four miles away—for medical attention—presumably for accidents. In chemical factories, 16 reported that they had no dispensary while 13 replied in the affirmative. Of these, one has a full time doctor and another, First Aid Box and first aid room. In one unit the hospital maintained by its management for a textile mill is available to its workers. All the 16 with no dispensaries, appear to have some sort of arrangements with nearby private

practitioners or hospitals. The employer's family doctor is reported to be available to workers in one concern while in another arrangements exist with a nearby hospital and dispensary. It would seem that in these cases the doctor's services are paid for by the management. Out of 16 glass factories contacted by the Committee, only seven reported that they had dispensaries, while one did not reply to this question. Of the eight without dispensaries, six have made arrangements with private practitioners while two depend entirely on the First Aid Box. In 24 factories under the food, drink and tobacco group, four did not reply to the questionnaire while 14 had no dispensaries. The majority of these have made arrangements with private practitioners. Only three of them depend on the First Aid Box alone while one has given a non-committal reply.

103. Medical Officers are reported to be paid between Rs. 75 and Rs. 450 per month while the expenditure on drugs etc. vary from about Rs. 30 to Rs. 500 and over per month. It must be mentioned here that quite a number of workers with faith in Ayurvedic and Unani medicine do not make use of the factory facilities while others, who may attend the dispensary in the initial stages, ultimately resort to Ayurvedic and Unani treatment. There would also be many who ultimately decide to return to the village home for treatment when they find that the City has not helped in their cure. There are, however, absolutely no statistics to check up on the workers who do not come within the ambit of the factory dispensary or doctor. In this connection, we would recall the high labour turnover among glass-blowers reported from a factory in Bombay. It seems that these workers rarely stay for more than two to three years and that in many cases before the end of this period they suffer from some form of chest or lung complaint. We were, however, unable to obtain any relevant details beyond vague probabilities from the factory in question.

104. As regards indoor treatment, no mill or factory, in Bombay City have any individual hospital or nursing homes of their own and workers depend on general public hospitals where no beds are reserved for them nor do they receive any priority—i.e. with the exception of the two chemical factories (para. 102). Public hospitals in the City, it is understood, admit about 6,000 and odd industrial workers every year. In view, however, of the known chronic overcrowding and understaffing in these hospitals, it is not difficult to appreciate the type of treatment available to workers for their more serious ailments. From the point of view of indoor medical treatment, it would seem that the Ahmedabad workers—particularly in textile mills—are better off than their counterparts in Bombay City. The Calico, Jubilee, Arvind, Arun, Ashok and Ambica mills maintain their own hospitals and these more or less provide sufficient accommodation along with other private and public institutions there. At Barsi and Sholapur all mills have dispensaries and some of them have spacious and well equipped premises while one mill has

special arrangements with a local hospital for the admission of its workers to a limited number of beds. For this, the management, it is understood, pays a fixed amount each month.

105. Admittedly, in regard to medical aid many concerns have gone beyond the minimum prescribed under the law. A number of dispensaries have infra-red and ultra-violet ray apparatus. Generally speaking, however, very much more needs to be done, particularly by a large number of industrial establishments, if medical care of industrial workers is to approach anywhere near the standards attained by industrially advanced countries. It is interesting to refer here to another case that came before the Commissioner for Workmen's Compensation from Ahmedabad. The deceased in this case met with an accident to his palm while he was actually on work. After the injury he continued to work in the mills after receiving first aid. Medical evidence before the Commissioner showed that the injury later on developed into Septicemia which in turn developed in Pneumonia from which death resulted. The Court remarked that it was unfortunate "that the treatment rendered at the mill dispensary does not appear to be quite satisfactory..... In the circumstances one is naturally inclined to infer that nothing must have been done after once the bandage was put on, on the day of the accident and that nothing seems to have been done after that. Anyhow, it is an undeniable fact that this injury to the palm for want of proper treatment and continued work which the deceased was doing after the injury developed into "Septicemia" which ultimately resulted in "Pneumonia" which proved fatal..... It is really very deplorable that the mill authorities have not taken proper care of the injured part soon after the accident..... if some preventive remedy such as tetanus injection had been resorted to, perhaps, the life of the poor man would have been saved." It is, therefore, necessary to clean up a number of factory dispensaries which are maintained in very poor condition and the employers induced to keep pace with those who are more progressive while in general certain minimum standards—higher than those existing now—should be laid down for the guidance of employers. Up till now, under the old Factories Act, there were only a few directives as to the contents and maintenance of first aid boxes—*vide* rules under Section 32(b) and (g). Section 45 of the new Act prescribes first aid boxes at the rate of at least one per 150 workers while Ambulance rooms are incumbent on those employing 500 or more. Rule 63 lays down the contents of first aid boxes and cupboards according to the number of workers employed, while Rule 65 provides for a qualified medical practitioner and at least one qualified nurse for ambulance room. Each ambulance room must have a floor area of at least 250 square feet and the minimum equipment necessary in each room is also prescribed. In our opinion, these provisions do not constitute much of an advance over existing conditions. In the first place most big units—with 500 or more—already have dispensaries that more than meet the requirements prescribed under Section 45 and Rule 65, and these have been set up

voluntarily. That is to say, the law merely attempts to state conditions existing and, perhaps, only in the case of a handful of establishments it may prove useful. Besides there are far too many establishments employing between 50 and 500 workers and it is these that are really in need of ambulance rooms. As regards medical practitioners in charge, it would appear that the rule permits part-time doctors who may attend in the manner described by several concerns—*vide* para. 102. As a matter of fact, all factories with 500 or more workers must have a full-time doctor and the equipment made available to him should be very much more than what is required under Rule 65 which does not really amount to anything better than a fairly equipped first-aid post. Such concerns do need a well-equipped and spacious dispensary—at least 1,000 square feet—and it should not be necessary for cases to be sent to a general hospital for indoor treatment. These dispensaries should be in addition to or inclusive of the ambulance room as described in Rule 65 and facilities available should not be restricted to ambulance needs. These dispensaries should form the nucleus for building up an adequate industrial medical service and around them should be built special hospitals where the industrial worker receives the best treatment from specialists in industrial medicine and surgery.

106. We are not satisfied with the mere provision of first aid boxes or cupboards for factories employing less than 500 workers. From our experience, the first aid box is a failure in a considerable number of small units. And, when the small unit includes those with upto 500 workers we feel that the worker is being offered a very nebulous shadow instead of the badly needed substance. It is time that the employer—small or big—realises that nothing whatever can be done for the injured worker if the employer is not prepared to go to some trouble about it. Proper and careful first aid assistance is not merely a matter of money. It is a challenge to humanitarianism. In our opinion, therefore, the ambulance room, with a medical officer and nurse or compounder should be available in all factories employing 150 or more, while in those with 50 to 150 workers there should be ambulance rooms with a compounder in attendance. Alternatively, a member of members of the staff could be induced to train himself or themselves in first aid and the ambulance room should be in their charge. In this respect, we feel that, given the effort and the initiative, much voluntary assistance and self-help will be forthcoming from the staff and workers. An ambulance room, in fact, does not involve a heavy call on the employer's purse. We would recommend that all factories with 50 to 150 workers could easily fit up an ambulance room as detailed in the accompanying layout (Appendix "H") which is essentially simple and modest, and we feel sure that hardly any employer would grudge the provision of such a facility for his workers.

107. We have referred to the inadequacy of first aid boxes in factories. We admit that anything beyond a few first aid boxes and modest central ambulance room would be beyond the reach of most small employers—

with workers up to 150. For these we would commend the following general rules in addition to Rules 63 and 65 under the Factories Act :—

1. The precise location of the first aid box or cupboard and ambulance room should be known to each and everyone in the factory.
 2. Every worker should know the type of medical services that would be available, down to the exact contents of the first-aid box and what each item in it is intended for.
 3. The name of the person in charge of rendering aid and looking after the box or cupboard should be conspicuously posted along with the name of his substitutes. If they are workers in the factory, their workroom should be indicated in the notice to avoid any loss of time in searching for them.
 4. No one, except those specifically designated, should be permitted to handle the first-aid box or give first aid unless under unusual circumstances.
 5. The first aid box should be immaculately clean and well-stocked. The employer should see that his first aid boxes do go beyond the minimum prescribed by the law.
 6. There should be reserve supplies in the office with an inventory that could be used for checking and replenishing supplies.
 7. The first aid box should not be locked. At the same time it should be beyond the reach of meddling hands.
 8. The name and telephone number of the doctor who is available on call for the factory should be prominently displayed near the first aid box and ambulance room. Further there should be also a panel of other doctors who can be reached without delay in case the regular cannot be reached.
 9. The name of the nearest hospital and its telephone number should also be prominently displayed near the first aid box and ambulance room.
 10. Records in detail should be made immediately and kept of each accident or treatment given.
 11. If no nurse or compounder is available, worker or workers to be given charge of the first aid box and ambulance room should be made to take a first-aid course and a small compensatory allowance given to them.
 12. Forms for reporting cases of accident should be kept readily available alongside of the first aid box and in the ambulance room so that proper reports can be filed out according to legal requirements.
108. These, however, only provide for aid in emergencies or for very minor ailments at best. It is necessary that units employing less than 500 workers must also have arrangements for medical assistance to their workers. A great deal could be accomplished by these concerns by

well-considered co-operative efforts, co-operation with one another under the active guidance and assistance of the State. In industrial centres like Bombay and Ahmedabad, it should not be difficult for small factories in close proximity to one another to investigate ways and means of co-operating with each other to establish and maintain a well-equipped dispensary or even a small hospital under a full time physician and nurse. The cost to each would be negligible while the boon to their workers would be great. Government should come to the assistance of such concerns by assisting them to obtain sites for the location of these dispensaries or hospitals. Government, with the aid of the bigger employers should coordinate these dispensaries with special workers' hospitals. These institutions may be under the control and management of a committee that would include the medical officer in charge and representatives of management and labour from concerns that have joined in each co-operative scheme. These committees could devise methods to improve standards of health and suggest subjects for research in industrial diseases. Government has already set in motion the machinery necessary under the State Insurance Scheme which would need many dispensaries and hospitals of this nature. In our opinion, it should not, therefore, be difficult to bring into effect a really co-ordinated and successful scheme of industrial medical service.

109. The discussions so far have not covered the question of women workers vis-a-vis medical facilities. Apart from general provisions for first aid, the law does not cover the special needs of women workers. It is necessary that in all factories where 150 or more women are employed, there should be a lady doctor preferably full-time, and a full-time nurse to look after the requirements of women and children. Factories employing between 50 and 150 women must employ a qualified nurse and there should be arrangements to have a lady doctor on call to attend to the women employed in these factories. Further, the co-operative dispensaries and hospitals, suggested in para. 108, should have lady doctors on their staff if the units concerned between them have more than 150 women workers on their strength.

XIV. AN INDUSTRIAL MEDICAL SERVICE.

110. Medicine in industry, according to Rutherford T. Johnstone ("Occupational Medicine and Industrial Hygiene") "is no longer limited to medicine PER SE—it is a varied and extensive service." The present-day concept of the duties of an industrial physician is in sharp contrast with the industrial surgeon who confined his interest to the traumas of industry, the "part-time" physician who spent an hour or two each day or specified days at a plant, and the "on-call" physician, who conducted a general practice in the neighbourhood of the factory and to whom were sent the emergency cases. This description of the past given by Johnstone concisely describes present-day practice in factories in Bombay State and is an indication of the leeway

that we have to make in the field of industrial medicine. Johnstone has further described the ideal industrial physician as one who has had undergraduate and post-graduate training in this type of medicine, has served an "in-plant" internship and/or a year or two of apprenticeship in industry. With such a background he should have fundamental knowledge of industrial hygiene and toxicology. In view, however, of the difficulty in obtaining such a paragon of industrial medicine Johnstone has made certain suggestions to meet the medical needs of factory workers. The responsibilities of the full-time industrial physician, he says, vary with the size of his organisation and the type of work in which the factory is engaged in. Subject to this, there should be one or more emergency units located in accessible places but not in the neighbourhood of excessive noise, vibration, odours or other annoying factors. While the majority of these units would function for the purpose of first aid only, the central unit should be equipped as an all purpose medical department.

111. As regards the function of an Industrial Physician, these should include (i) pre-employment examination, periodic re-examination, frequent factory survey and an educational programme. The pre-employment examination, in addition to a complete physical check examination, should include blood count, urine analysis, Wassermann test and chest X-ray. This examination should provide the basic information for the proper placement of all employees. In the prospective employee, it must consider age, sex, physical handicaps, previous general health, previous occupational disease, previous type of employment etc.; in placing the employee, job requirements such as climbing, lifting, temperature levels, toxic chemicals dusts etc., must be considered. In short, the physician conducting the examination must be a good clinician who knows his factory intimately and understands the hazards inherent in all the processes in the factory. The frequency of the periodic re-examination would depend on the occupation of the individual worker or group of workers. All employees should be examined annually or semi-annually, while certain employees will need more frequent re-examination, e.g. those exposed to lead and other substances. In some occupations the worker must also produce his protective equipment for careful periodic examination. These pre-employment and periodic examinations constitute a preventive bulwark against disease and will prove the best means of maintaining optimum adult health in industry. Factory survey is another part of the doctor's functions. A good medical officer will look upon his factory as a good housewife does upon her home and will do justice to the fact that it needs periodic cleaning from top to bottom: Factory house keeping calls for constant vigilance over the safety programme, the efficiency of protective procedures such as ventilation, illumination, exhausts etc. Many occupational diseases have been traced to negligence and a factory survey of this nature would help to obtain the worker's co-operation in eliminating the results of any negligence on his part.

112. With regard to the maintenance of records, these have been described as "the seeing eye of industrial medicine". One of the best contributions that a large dispensary of clinic can make to medical knowledge is a statistical one i.e. from observation, tabulation and comparison of data concerning a large group of people. Good records also have an economic value to industry. Other points emphasised by Johnstone are (1) co-operation with the community physician, (2) Connections with approved hospitals and (3) making the factory and its medical facilities available to medical schools and colleges for teaching purposes. We may also draw the attention of Government to a course for the teaching of industrial medicine, prepared by the Committee of Medical Education of the American Association of Industrial Physicians and Surgeons. (Appendix "I"). We would recommend that this should be examined carefully from the point of view of introducing a suitable course for medical practitioners.

113. From the foregoing, it will be seen that one of the important needs of the day is the establishment of an industrial medical service. An Act for this purpose has been passed in France (Act No. 46-2195, respecting the organisation of industrial medical service, dated 12th October 1946—*Journal Officiel de la Republique Francaise*—I. L. O. Legislative series—Appendix "J"). This Act directs the organising of an industrial medical service covering all employments in which wage-earning or salaried employees are employed. We would suggest that this should be examined from the point of view of introducing a similar service in this State.

XV. OCCUPATIONAL DISEASES.

114. In our questionnaires circulated to factories we had asked for occupational diseases particular to each concern and the measures introduced to safeguard against them. The replies to these questions constitute an indication of the utter lack of awareness of the importance of this industrial problem. Of 161 engineering concerns who were addressed, 109 stated that they had none, 16 did not reply to this question and 25 have not replied to the questionnaire at all. In two cases the answer was "malaria", another stated "malaria, typhoid and cholera" while one replied "according to Factory Act." Two establishments reported lead poisoning and one "rashes due to oil". In the glass industry, 13 factories reported none and one reported dysentery. Only one concern has guardedly admitted "nothing particular but silicosis." It was also strange to hear from a leading newspaper press in Bombay City that they had no occupational disease, though lead poisoning is a feature known to be peculiar to this industry. In the chemicals group, 25 out of 31 concerns addressed reported none and no replies were received from four. One concern said "none but chrome sores" while another stated "none except acid burns". And yet a publication of the United States Division of Labour Standards—

Occupational Hazards and Diagnostic Signs: Bulletin No. 41—lists 128 different poisons besides diseases due to dust, fungus and septic infection and anthrax.

115. Industrial poison has been defined by Sir Thomas Legge in his book "Industrial Maladies" as "One that is employed, produced, or somehow occasioned in an industrial occupation, the effect of which is brought about inadvertently against the will of the person poisoned, and, too often, in the absence of sufficient precautions." Bulletin No. 41 (*vide* para. 114) lists nine major hazards of employment namely (1) Abnormalities of air pressure, (2) Abnormalities of temperature, (3) Dampness, (4) Defective Illumination, (5) Dust, (6) Infections, (7) Radiant energy, (8) Repeated motion, pressure or shock, and (9) Poisons while in another section dermatitis is discussed. In our opinion, a number of these maladies must be occurring in many of our industrial establishments and, therefore, needs more positive action from the State. The new Factories Act, however, enjoins employers and medical practitioners to notify seventeen diseases that may occur among factory workers, while the rules concerning Hazardous Occupations cover a number of processes. We understand that workers in these are medically examined but during 1948, according to the Annual Report, only one person who was suspected of lead poisoning was asked to change work and to take treatment. We may here refer to the rules regarding the manufacture or recovery of the bichromates of sodium or of potassium. The occupier of every such factory has to appoint a competent factory supervisor who shall examine daily the hands, feet and legs of all persons employed on such operations. There are rules governing protective equipment. During our visit to one chromate factory we found that the use of protective equipment was kept to be the minimum and workers not using them or with damaged equipment were not being made to use their equipment properly. Melting and blowing glass and mixing, grinding and sieving glass making materials are among the processes classified as hazardous and from our visits we were able to understand the dangers involved in some of the tasks that the worker had to perform in these factories. On the question of occupational diseases, employers in these factories were hardly aware of these diseases or the extent to which they prevailed in their establishments. In fact only one concern has vaguely referred to the possible existence of silicosis. On the subject of industrial pulmonary

diseases due to dust, Sir Thomas Legge in "Industrial Maladies" has given the following figures of comparative mortality of males aged 20-65 from pulmonary diseases in certain dusty occupations compared with that of the standard taken as 1,000 for the years 1921-23 :—

		Respiratory Tuberculosis.	Bronchitis.	Pneumonia.
All occupied and retired males	..	1,000	1,000	1,000
Grain millers	..	714	847	978
Coal hewers and getters	..	686	1,425	978
Cotton spinners	..	1,072	1,431	1,180
Metal moulders	..	1,070	1,724	1,708
Coal boat loaders	..	1,018	1,982	1,959
Cotton strippers	..	796	5,579	1,593

Legge has pointed out that chest affections (best described as asthmatic and bronchitic) are produced by inhalation of large amounts of vegetable dusts in a fine state of division, especially in the early processes of flax, jute and cotton manufacture, and in the "stripping" and grinding of cotton cards.

According to the Medical Inspector of Factories, Manchester the cotton textile industry is responsible for two main industrial diseases. The first of these is Byssinosis otherwise known as Card room Asthma or strippers asthma. This disease is a chronic condition and is not officially admitted as such until the individual has worked for 20 years in the card room or blowing room. But the onset of the condition occurs sometime before. It is common for new employees on commencing work in a mill to get some rise in temperature and vague feeling of illness during the first few days. In most cases this passes off and is regarded by some as a baptism to the trade. In susceptible persons however after a variable period the typical chain of symptoms start. It begins with the symptoms called Monday feeling or Monday cough when the affected individual at sometime on a Monday feels a tightness in his chest. He has difficulty in drawing in his breath and gets an attack of coughing without much production of spit. He feels again quite normal throughout the rest of the week. As the conditions progress these symptoms become more pronounced and with longer duration and after about 20 years in the mill he is a true byssinotic. He has a barrel-like chest full of whistles and wheezes. He has to rest frequently on his way to and from work and gets more and more short of breath until he is unfit for any work involving effort. In England the disease was first made compensable under the Byssinosis (benefit) scheme of 1941. The cause of the disease resides in the dust but the exact nature of the irritant has not been determined. It is further stated that there has been considerable improvement in mills where oiling of cotton is installed.*

* From an article on industrial diseases in the cotton industry by Dr. R. Murray published in the Textile Weekly (March 31st, 1950).

Other diseases listed in the cotton textile industry are :—

(i) Mule Spinners' Cancer which starts off as a papilloma or wart on the skin, the cells of which, in the course of time, undergo malignant change. Extension of the disease from its initial site is very slow and in its early stages ready identification and removal of the small growth results in a complete cure. The disease is not entirely confined to mule spinners. A few are reported to have come from the Card room, others were maintenance men or cotton mill labourers while one or two cases have been reported from ring spinning rooms, weaving sheds, doubling rooms, blowing rooms and cotton waste trade according to Dr. Murray.

(ii) Carbon Monoxide Poisoning, which has been known to occur in gassing frames.

(iii) Weavers cough which is a condition arising from the inhalation of moulds and spores which grow in damp cloth. It is usually of short duration but is frequently unrecognised.

(iv) Twistors Cramp which is fundamentally a neurosis which came from tying of knots in yarn. With the new mechanical methods of knot tying this disease has almost completely disappeared.

(v) Dermatitis which according to Dr. Murray, is one of our biggest day-to-day problems.

116. We have quoted the above extracts and referred to the Publication of the Division of Labour Standards—Bulletin No. 41—in order to indicate the possibilities of occupational diseases that are left practically unexplored in the State. In our opinion, Government should immediately initiate measures to collect statistical and other data concerning industrial diseases. In the first instance, the Factory Inspectorate may be asked to list industries and occupations in which possibilities of diseases exist. All employers in these occupations should be asked to maintain well-equipped dispensaries with doctors in charge. There should be a pre-employment examination of all workers entering these occupations and also an examination of all those who are already engaged in these occupations. The results of all such examinations should be on prescribed forms, a copy of which must be made available to the appropriate Government authority whose duty it will be to collate and analyse the data thus received. This should be followed by periodic re-examination of all workers and their protective equipment and clothing. These reports must also be forwarded to the appropriate authority. Government should ensure that the inspection of these premises are made more strict and frequent than at present, preferably once a month. The inspection should be by the medical inspector of factories who should have sufficient qualified staff under him to carry out these duties efficiently. For this purpose, it may be necessary to

select doctors to undergo the necessary training abroad. The section under the medical inspector of factories should be developed on the lines followed in the United Kingdom and other countries and the State Government should have within about five years from now a full-fledged Industrial Medical Inspectorate. As regards reporting of occupational diseases, we would refer to Bulletin No. 114 of the Women's Bureau, United States Department of Labour, which contains a standardised form—Appendix “K”—used for this purpose. A suitable form on these lines should be drawn up for use in the State. Meanwhile, Government should initiate an industrial hygiene survey covering such items as existing health services in industrial establishments, exposures to hazards, conditions which influence industrial health and an inventory of control measures in use.

XVI. FACTORY PREMISES.

117. Factory legislation, including the latest—1948—does not appear to have as yet made any positive and effective provision with regard to factory premises and structures. Under the 1934 Act little beyond the nature and amount of power to be used and the nature of the processes to be carried on are called for under Rule 3 of Section 9 (1). Under Section 6 of the Act of 1948, however, plans and specifications of premises have to be submitted and certified by the Factory Inspectorate before any manufacturing process can start. Information called for include “a flow chart of the manufacturing process”, plans of the site and immediate surroundings with details of the position of plant, machinery, aisles, passageways etc. But these requirements need only be complied with in the case of ventures after the date of commencement of the Act, while there are already in existence over 5,000 establishments, the majority of which have grown haphazardly according to the conveniences and means of individual employers. There are far too many workplaces where constructions have not been planned scientifically from the point of view of minimum health, welfare and safety requirements. In the case of the proverbial “small beginnings” premises are little better than primitive ramshackle sheds. Little or no attention has been paid to factors of structural soundness or buildings, walls, roofs and floors. These apart, even the new rules and forms give no guidance to would-be employers in the construction of adequate premises. In the case of large-scale concerns, there would be little difficulty in this regard as they would have the best of modern advisers to assist them, even though some might stint expenditure as regards health and welfare needs and pay greater attention to equipment, plant and machinery. It is the small employer with 20 to 200 and odd workmen that have to grope in the dark in preparing plans etc. for this premises. In our opinion, it is, therefore, necessary that the States should prescribe the manner in which factory buildings have to be constructed and also how alterations should be effected in order to conform to minimum standards which also should be laid down.

118. The rules should prescribe what should be minimum standards for structural safety and soundness and the height from floor to ceiling. It is also necessary that the evenness of floors in work-rooms and other parts of the factory should be laid down. Usually, we have noticed, the construction of the floors is such that there is much unevenness besides holes and broken surfaces. As a result dust and dirt accumulate and it is difficult to effectively clean floor surfaces. Government should also direct proper spacing requirements between machines and process units to enable normal operation, adjustments and repairs. Here it would not be sufficient to merely state that there should be "adequate" or "suitable" spacing or that the floor shall not be "crowded" or "over-crowded". In each industry and process it should be possible for employers to be told what is expected to be effected by them in their work rooms according to the number of workers. Provision should also be made for the guarding of exposed sides of ladder or stair way openings on floors by means of railings, teeboards and barriers or gates and the manner in which these guards shall be constructed, i.e. materials to be used, dimensions etc., should be stated. As regards stairs, railings, platforms and landings, the minimum strength, i.e. weight per square foot, width, pitch, height between landings etc. should be defined. Minimum standards in this regard are given in regulations 11, 12 and 13 of the Draft Model Code for factories (Appendix "L") and it should be incumbent on all employers to ensure that these are complied with.

119. A significant omission in the rules under the new Factories Act is with regard to the maintenance of compounds in a sanitary and clean condition (Rule 12 under Factories Act, 1934). Our experience in a number of factories has been that compounds are left much to themselves barring occasional cleanings. It is necessary that employers should be asked to provide prescribed arrangements for safe access to building and handling of materials and equipment. The size and types of drain pools, catch basins etc. should be stated under the rules. As regards roadways within factories, we have seen that in many large concerns these are well constructed and laid out where they exist. In most cases these are, however, restricted to the portion of the compound from the entrance to the places where the management's offices are situated and at more than one place we were informed—albeit cynically—by workmen that these are necessary for the plutocratic limousines to roll in smoothly. Other parts of the compound have been usually found to be unkempt with potholes and other stumbling hazards besides overgrowth of grass and weeds in a few places. In mentioning this, we would like to add that in some concerns visited by us we have found compounds well laid out as regards roads and pathways and maintained in an admirable manner. These exceptions, however, cannot justify the elimination of the safeguards contained in the former Rule 12 (*vide* above). In our opinion this rule should be introduced with detailed directions as to how compounds of factories should be laid out and maintained.

120 While on the question of factory premises, it would be relevant to refer to certain sections and rules under the 1948 Act which, in our opinion, leave much to be desired. Among other things, an employer need only clean painted, varnished, or impervious surfaces once in 14 months and it is not stated how the cleaning should be effected. While white or colour washing may be every 14 months, we feel that cleaning should be at least once every four months. Besides the onus of cleanliness should be on the employer and if at the periodic inspection it is found that poor standards of cleanliness prevail penalties should be effected irrespective of the time when the last cleaning was carried out. With regard to repainting and re-varnishing every five years, we would suggest that such work should be first inspected and passed by the Factory Inspectorate before the employer is permitted to start manufacturing. We have more than once previously referred to the use of expressions such as "effective", "adequate", "suitable", "sufficient", etc. in the wording of these requirements. In our view, the rules should avoid using such expressions and employers should be definitely told in as exact terms as possible as to how these directions are to be carried out by them. For instance drainage of floors that are liable to become wet in the course of the manufacturing process. Instead of "effective means of drainage", it should be possible to state the slope of the floor, drainways, evenness of floor surfaces that should be maintained by the employer in such places. We are also of the opinion that the alternative given in clause 2 of section 11 should not be permitted and there should not be any loopholes of this nature that would enable an employer to avoid his obligations under section 11 (1). Similarly, instead of "Effective arrangements" for the disposal of wastes and effluents, the State Government should prescribe the manner and means by which such disposal should be effected.

XVII. AGENCIES AND ORGANISATIONS FOR INDUSTRIAL HEALTH HYGIENE AND WELFARE.

121. The work of official departments in the field of industrial conditions is largely the result of responsibilities that have been assumed under different industrial legislation passed from time to time, more important of which are the series of Factories Acts. Under the Labour Department of the Government of Bombay, the Office of the Chief Inspector of Factories is the main, if not the only, agency through which the statutory requirements under the Factories Act are enforced. At present the entire administration of the Factories Act in the States is carried out by a staff consisting of one Chief Inspector, four Senior Inspectors, 17 Junior Inspectors, seven Notified Inspectors, two Technical Inspectors, two Certifying Surgeons, one Medical Inspector and one Lady Inspector. They are mainly responsible for the administration and enforcement of the Act with regard to more than 5,200 factories with an average daily employment of nearly 7,40,000 workers, spread over an area of 74,443 square miles (excluding the area of the merged States). In addition there is also a Labour Welfare Department whose

activities include entertainment, health activities and education and general educational activities carried out through welfare centres located in industrial areas of the State. Starting with an expenditure of Rs. 1,00,000 in 1939, this department now spends over Rs. 2,50,000 per year in welfare activities of the type mentioned above, besides which a total of 29 welfare schemes have been blue-printed for the first five years. One such scheme sanctioned for execution during the year 1948-49 is "Supervision of welfare work in factories", while another scheme in the "immediate offing" is with regard to periodic medical examination of workers. The allotment for these schemes for the first five-year period was rupees three crores, since reduced to two crores. The list of 29 Schemes and the chart of activities of the Welfare department are reproduced in Appendix "M".

122. Within factories, the practice in most large establishments is to have Labour Officers to look after personnel problems. The majority of textile mills in the State have Labour Officers while in engineering concerns, only 24 out of 161 stated that they had Labour Officers. One of these—employing over 500 workers—stated that the factory doctor also functions as Labour Officer. In the glass industry only two out of 16 units reported that they had Labour Officers, while one out of 51 printing presses employed a Labour Officer. Only four out of 31 chemical establishments had Labour Officers while one out of 24 food, drink and tobacco concerns reported a Labour Officer on its staff. Apart from personnel problem—mainly recruitment, leave, pay and allowances, etc.—in the vast majority of concerns, the Labour Officers have little other duties and none at all as regards working conditions, while few have the necessary authority to give effect to any changes. Their main duties relate to the various laws—Industrial Relations and Industrial Disputes Acts—and deal with the workers on questions that might arise under these laws. They also appear on behalf of the employers concerned before conciliators, Labour Court, Industrial Court and Tribunals. The Factories Act, 1948—Section 49—however directs that in establishments employing 500 or more workers, the managements should appoint Welfare Officers. The State Government is empowered to prescribe the duties, qualifications and conditions of service of such officers. No rules have been prescribed under the draft presently published. We, however, find that in other States draft rules have been drawn up in which the duties, qualifications, conditions of service and appointment and pay scales as regard Welfare Officers have been laid down. Appendix 'N' gives the draft rules prepared in Bihar State and we hope that the Government of Bombay will also take early steps to draw up adequate rules for this purpose.

123. In our opinion the existing machinery for the enforcement of the law regarding welfare and hygienic conditions appear to be very inadequate for more than 5,000 factories scattered about the State. We have in this connection seen some figures concerning breaches of the Act relating to maintenance of standards of hygiene during the

year 1949. During this year 734 cases were detected of which eight were prosecuted and convictions obtained. In 32 cases warnings were given while "compromise" was effected in 140 cases. Five hundred and fifty-four cases are being followed up by correspondence or visits. In addition to these the Inspectorate took up 63 cases against 23 factories for breaches of the Act relating to hours of work for women and children during 1949. Warnings were given in two instances and prosecutions were launched in 59 cases against 21 factories. Convictions were obtained in 43 cases against 16 factories while 16 cases against five factories are pending. These are facts which speak volumes for the present standards of hygienic conditions in many industrial establishments. In this connection, we would recall that this Committee visited a large establishment only a few minutes after the Factory Inspector had completed his none too frequent inspection. We found conditions that were a challenge to the authority of any Factory Inspector. Apart from the deplorable conditions of the premises, tea-shops, lavatories and other facilities, conditions within the workrooms were also indifferent, to say the least. Oppressive atmospheric conditions prevailed in departments where artificial humidification was necessary while in one or two places the appropriate guards were missing from machinery. In addition, the Inspector had also noted in the register for his remarks maintained by the concern that certain directions that had been given by him during previous inspections had not been complied with. Further enquiries on this question elicited the indifferent reply that these would be carried out some day. This incident, in our opinion, pin points the real weakness of the situation. The Factory Inspector, with heavy responsibilities, is given such circumscribed powers that he is more or less helpless in the face of deliberate flouting of his orders and suggestions by the managements. So long as such a situation prevails, we are afraid, beneficent legislation will be of little benefit to those whom they are intended to benefit. The fact that over 700 breaches were detected does show that the Inspectorate is not indifferent to its responsibilities but that only eight prosecutions were possible while 554 had to be followed up by correspondence or visits constitutes significant evidence of the ineffectiveness of factory inspection under the circumstances. And, for every detected breach, we are sure, there must be two or three that go undetected because the Inspector is able to visit an establishment hardly twice in a year. Consequently unscrupulous attempts at evasion can succeed with impunity. Besides conditions within factories fall under more than one category—medical, engineering, safety, welfare, women workers' requirements—and it is difficult to combine the minimum qualifications and experience under all these in one individual. Within each of these groups there are branches of activities such as detection of breaches, advice, enforcement, prosecutions etc. Where the Inspector is hardly able to visit a factory more than twice a year it is but natural that most of his functions must suffer by default. From this point of view, we are glad to find that steps in the right

direction are being taken by Government, for instance, by the appointment of a Lady Inspector and a Medical Inspector. These, however, are not sufficient. With nearly 1,600 factories employing over 85,000 women workers throughout the State little justice, it is felt, can be done to the duties and responsibilities which the Lady Inspector has to shoulder. Similarly, one Medical Inspector would not be able to deal adequately with all the aspects of medical activities in industries. While the proposed arrangements under the State Insurance Act should help to improve matters in this regard, it must be remembered that these arrangements are from a different point of view and for a different purpose. Consequently it would not be sufficient to rely on these arrangements when they come into effect.

124. Industrial hygiene in the United States forms the interest of three Bureaus—Children's, Women's and Labour Statistics—and the Division of Labour Standards under the Department of Labour in addition to the Industrial Hygiene and Sanitation unit—the Division of Industrial Hygiene—under the Public Health Services. The Division of Industrial Hygiene consists primarily of three sections—States Relation, Research and Dermatoses—and three units—Medical, Engineering and Statistical. The research section is concerned with studies of a laboratory type into industrial hygiene problems including chemical biological and physical health hazards. The Dermatoses section studies the occurrence and prevention of occupational skin diseases while the States Relations Section promotes activities designed to put into practical application in industry the knowledge obtained through research. The official agency, therefore, serves industry by helping to evaluate its problems, recommending methods for the control of these problems, developing standards of good practice and furnishing technical guidance and advice. The types of services which the official agency renders in the United States has been summarised in the "Manual of Industrial Hygiene and Medical Service in War Industries" by Mr. W. M. Gafafer as (1) Evaluation of the industrial environment and recommendations regarding needed correction of those conditions found to be detrimental to health, (2) advice to management and medical supervisors as to the relative toxicity of materials or processes, and especially new materials prior to their introduction into industry, (3) Consultant services, (4) Provision of necessary laboratory services of both a clinical and physical nature, (5) Assistance in developing, maintaining and analysing absenteeism records and health education programme and (6) promotion of adult hygiene programmes in industry. The engineering functions include preliminary surveys to determine existing "health hazards" followed up by detailed studies on problems such as exposures to dusts, fumes, gases etc., studies of ventilation, illumination, noise, etc. Factory Inspection staff in the United Kingdom functions under a number of branches such as Medical, Engineering and Chemical, Electrical and Textile Particulars Branches besides advisers under the Canteen Advisory Branch. Other bodies assisting include the Factory and Welfare Advisory Board, the Industrial Health Advisory Committee.

The Industrial Dust Hazard Panel, The Advisory Panel on dermatitis, the Advisory Panel on Ophthalmology and the Advisory Panel on Radiology. A brief note on the working of the Inspectorate in the United Kingdom in this regard is given in Appendix 'O'. Industrial Hygiene and Safety in Belgium is dealt with under the Superior Industrial Safety and Hygiene Council with the Director General of Labour Technical Protection Department as Chairman. District Committees under the Council promote "emulation between undertakings in respect of their action in favour of the safety and health of their employees and the beautifying of the workplaces", recommend "for adoption by all undertakings or by groups of undertakings common or identical measures of safety, disease prevention or beautification the efficacy of which have been established", assume "the functions of safety and hygiene committees in undertakings which, on the ground that they employ fewer than 50 persons, have not instituted such committees" and encourage "the taking of steps tending to render workplaces more attractive." For these purposes the district committees are formable into sections for specific industries or categories of undertakings and regional sections with regard to undertakings with more than 50 workers. All undertakings with more than 50 workers have to set up Safety and Hygiene Committees consisting of (a) the head of the undertaking or his authorised representative, head of the safety and hygiene service, one or more representatives of the charge hands and foremen, the medical practitioner and social welfare worker if medical and social welfare services have been organised in the undertaking and appropriate technicians and (b) representatives of the wage-earning and salaried employees selected by the whole body of such employees in the undertaking. The Committees assist in "establishing the causes of lack of safety among the employees or of unhealthy conditions at the workplaces and devote itself to the study of preventive measures" and are concerned with "all problems relating to the safety and health of the employees." Undertakings with 50 or more employees must also organise a Safety and Hygiene Service to (i) carry out frequent and systematic inspection of workplaces in the undertaking to satisfy themselves that the provisions respecting safety, health and hygiene are being complied with, (ii) institute or recommend to the head of the undertaking measures deemed necessary for elimination of any dangerous or noxious elements, (iii) verify the "appropriateness and supervise the efficacious working" of measures thus instituted, (iv) issue advice instructions to heads of departments, foremen and employees for the enforcement of such measures, (v) exploit all appropriate measures of propaganda for the purpose of inculcating in the employees the ideas of safety and hygiene and of promoting a proper observance of preventive measures, and (vi) draw up at regular intervals reports dealing with safety and hygiene conditions in the undertaking, including accidents. A comprehensive annual report on the activities of the service has to be sent to the Inspection Services within two months of the close of the financial year to which the report applies.

125. We have referred to the manner in which health, welfare and safety in industry are being dealt with in these countries in order to indicate possible methods that could be adopted in this State to meet similar problems, subject to adjustments necessary to meet factors peculiar to this State. On the basis of these, we would recommend to Government a complete re-organization of the Factory Inspectorate and Welfare Department as at present constituted. In this we recognise the difficulties arising from inadequacy of available staff in the Inspectorate. In the first place there should be a unified Government organisation under the Chief Inspector of Factories to deal with the various questions. This organisation should be divided into at least five sections or divisions viz. Medical, Engineering and Chemical, Safety (Accident control), Welfare and Women's Divisions. Each of these Divisions should be under a technically and otherwise qualified Senior Inspector and should have specialised units dealing with Inspection, Enforcement and Prosecution, Research, Information including statistics, technical and other advice and guidance. These are only suggested divisions which may be adjusted to cover suitably all fields of activities discussed in the preceding sections. There should also be offices in Mofussil centres to cover areas such as Gujarat, Khandesh, Deccan and Karnatak. We are of opinion that these changes could be effected with more or less the same allotments made to the existing factory inspectorate and welfare department, including part of the allotment for the first five-year plan (*vide* para. 121). Items 2 and 3 from the chart of activities of the welfare department—activities for health improvement, health education, accident prevention, first aid, hygiene, medical aid and medical inspection, production and publication of health literature etc. should come under the reorganised Inspectorate, while items 1 and 4—entertainment and educational activities—may remain in the welfare department. Correspondingly, some of the Post-war Reconstruction Schemes—supervision of welfare work in factories, periodic medical examination etc.—should be transferred to the Inspectorate. Government should also set up advisory boards and panels, in which employers and workers will have suitable representation along with specialists, to advise on subjects such as welfare, nutrition, health, occupational diseases, etc. Government should also constitute committees similar to the district units in Belgium with suitable modifications. Those committees or bodies should, among other things assist the Inspectorate vis-a-vis small individual employers in matters pertaining to hygiene, health, canteens and food services, medical aid etc. Such committees should include representatives of employers and labour besides local medical practitioners and social workers. Around these committees should also be built up co-operative efforts among employers—particularly in small units with less than 100 workers—as regards canteen service, common dispensaries, creches and other facilities for the benefit of their workers.

126. Coming to individual establishments, a reference has already been made to Section 49 of the Factories Act, 1948, providing for welfare

officers in factories with 500 or more workers. In our opinion, the limit should be reduced to 250 or more workers and, as suggested in para. 77, where there are 50 or more women workers it should be incumbent on the employer to appoint a properly qualified lady welfare officer. The State should also draft rules prescribing the duties and qualifications of these officers. The qualifications should include knowledge of the Factories Act, Industrial Relations Act, Trade Unions Act, etc. experience of recruitment of labour, and training and experience in labour welfare. In this connection we would invite attention to a chart of the functions of a centralised personnel department drawn up by a concern in England (Appendix "P"). The details in these may be suitably amended and adapted by factories to meet individual requirements. As regards units with less than 250 workers and less than 50 women workers, the State should encourage them to co-operate and appoint one or more such officers to serve two or more employers. Branch offices of the Factory Inspectorate and the committees suggested in para. 125 should freely assist these small units in this regard. Large concerns, employing over 500 workers each should be encouraged to build up personnel departments which would work in close co-operation with Governmental and non-official agencies. We would also recommend that all factories with 50 or more workers should be encouraged to develop health, hygiene and safety committees and services under the guidance of the agencies mentioned above. These could be in the form of sub-committees of Joint and Works Committees under the Bombay Industrial Relations Act and the Industrial Disputes Act. For this purpose, it would be necessary to amend the rules under the latter Act so as to make it compulsory on all employers of 50 or more workers to set up works committees. There may be some reluctance on the part of employers to set up such committees and consequent efforts to follow the law to the letter but to ignore the spirit. The Inspectorate and other agencies should actively assist in making such employers realise the value of such committees in their own interests while there should be active efforts to educate the workers towards their responsibilities in this regard.

127. So far we have only considered the potentialities of official and semi-official agencies in the co-ordinated efforts towards improved industrial welfare and consequently better industrial relations. Experience in other countries shows that much more could be achieved if organisations of employers and workers also develop their activities to include personnel and welfare problems. We may here draw attention to the Royal Society for the Prevention of Accidents which has a large number of Industrial Groups in active operation in England and Wales. Other societies include the Industrial Welfare Society, the Institute of Personnel Management, the National Institute of Industrial Psychology and the British Standards Institution. There are leading industrialists in the State whose humanity and regard for the welfare of their workers are exemplary, who could help in the setting up of non-official

organisations such as Institutes of Industrial Welfare, Personnel Management, etc. Such organisations can, if founded and built on constructive lines, contribute greatly towards better industrial welfare and relations. Similarly, trade unions too can and should branch out into these activities. Already there are organisations like the Textile Labour Association, Ahmedabad, who have embarked on such activities. These should be developed and every trade union worth its name should contribute towards the welfare of their members in great measure within the next few years.

128. Before concluding, it would be opportune to refer to the Main Report of the Labour Investigation Committee as regards birth and death rates, infant mortality and expectation of life in various countries. That Committee had made out that from the demographic point of view, the Indian population is a C-3 population. The position to-day is hardly any better as would be seen from the following comparative statistics for seven countries :

Country.	Birth and deaths per 1,000*		Infant Mortality under 1 year per 1,000†	Expectation of life at birth. (years)	
	Births.	Deaths.		Male.	Female.
Australia ..	24.1	9.2	29.4	63.48	67.14
Canada ..	28.6	9.4	51.3	62.96	66.30
Germany —					
British Zone ..	15.7	11.3	82.6	59.86	62.81
French Zone ..	15.3	12.9	142.3	59.86	62.81
U. S. Zone ..	18.5	11.9	165.9	59.86	62.81
Japan ..	34.8	14.8	87.0	46.92	49.63
U. K. ..	20.8	12.1	48.8	58.74	62.88
U. S. A. ..	25.8	10.1	38.3	61.60	65.89
India ..	26.6	19.7	150.9	26.91	26.56

* Figures for year ending 1947.

† Figures for year ending 1945, except Japan which is for 1943 and the British Zone in Germany where it is the year ending 1947.

This Committee would like to underscore the views that the labour force in this country is derived from a C-3 population and add that with such a labour force it is but natural that productivity has been singled out as one of the poorest among the nations of the world. The problem, in our opinion, is national and it is urgently necessary that efforts be made to tackle it at as many points as possible and without delay. One of the important points at which something can be done is the workplace where working conditions and amenities compare unfavourably with those prevailing amongst the industrial leaders of the world. It is with this important purpose in mind that this Committee has approached the problem of working conditions in industrial establishments in this State and commend the suggestions made in this Report.

PURUSHOTTAM KANJI,
Chairman.

P. V. GILLESPIE,
Member.

C. THOMAS,
Member

Bombay, 10th August 1950.

Deputy Commissioner of Labour
(Information).



APPENDIX "A"

FINAL QUESTIONNAIRE

*1. Please state the number of days, month by month, for each shift, on which your Concern worked during the period 1st January 1936 to 30th November 1946.

*2. Please give your production figures, month by month, for the period 1st January 1936 to 30th November 1946.

3. If the figures of production for the last six months show a fall as compared with (a) the pre-war period or (b) the peak-war year, how far would you attribute this fall to --

- (i) Reduction of hours of work resulting from the recent amendment of the Factories Act,
- (ii) Stoppages of work due to strikes, lockouts, hartals, etc.,
- (iii) Stoppages of work due to other causes (e.g. mechanical breakdown or shortage of fuel),
- (iv) Increase in absenteeism, loitering, go-slow tactics, etc.,
- (v) Shortage of labour, or infiltration of unskilled labour,
- (vi) Discontinuance of shifts, voluntary closing down of machines, etc.,
- (vii) Reduction in orders from Government (War departments or Civil departments),
- (viii) Decline in nutritional standards of the workers,
- (ix) Deterioration in or diminution of any amenities already supplied,
- (x) Any change in internal working conditions,
- (xi) Any change in the nature of production,
- (xii) Shortage of or decline in quality of materials,
- (xiii) Mechanical deterioration,
- (xiv) Any fall in the efficiency of the individual worker,
- (xv) Any change in the attitude of Management to Labour or *vice versa*,
- (xvi) Any other cause ?

4. What are your suggestions for arresting the fall (if any) in production and for increasing production ?

*5. Please show, for the first working day of each month of the period 1st January 1936 to 30th November 1946, (a) the number of permanent workers on your register and (b) the number of man-days lost through absenteeism of such workers.

Note.—For the purposes of Question 5, “permanent workers” should include such temporary workers as were employed for not less than 6 months continuously.

6. How far would you consider such absenteeism to be in excess of “normal absenteeism”?

Note.—For the purposes of Questions 5 and 6, “absenteeism” refers only to unauthorised absence, and does not include sanctioned leave of any description.

7. What activities would you include in the expression “indiscipline” as applied to industrial workers?

8. What complaints have you to make on the score of “indiscipline” or violent behaviour during each month of the period 1st January 1936 to 30th November 1946?

9. Do you consider that the above “indiscipline” or violent behaviour (if any) was at any time in excess of the normal?

10. What are your suggestions for decreasing absenteeism, indiscipline and violent behaviour, and for eliminating their causes?

11. Have there been any manifestations of labour unrest in your Concern during the period 1st December 1945 to 30th November 1946?

12. If so, to what extent would you attribute them to —

- (a) Lack of minimum wage,
- (b) decreased earnings,
- (c) Insufficiency of wages to meet current cost of living,
- (d) Reduction of rations,
- (e) Increased hours of work,
- (f) Failure to provide such amenities as living quarters, water-supply, sanitary arrangements, canteens, cheap shops, medical attendance, etc., to an adequate extent,
- (g) Obnoxious, fatiguing or unsuitable conditions of work (e.g. poor ventilation, over-crowding of machines, excessive running speed, failure to engage sufficient hands and so on),

(h) Favouritism in the Management's treatment of workers,

(i) Victimization, petty persecution, etc., ..

(j) Insecurity of service, ..

(k) Difficulty of securing leave, ..

(l) Over-harsh application of Standing Orders,

(m) Bribery and corruption, ..

(n) Exaction of overtime or work beyond regular hours of work without proper remuneration, refusal to grant bonuses, refusal to assign to the workers the share demanded by them of increased profits due to improved methods of production, neglect to compensate for involuntary unemployment, etc.,

(o) Anti-Union bias on the part of Management, or differential treatment of Unions,

(p) Management's unsympathetic attitude towards workers' requests and grievances.

(q) Irresponsible advice of Union leaders.

(r) Demands of workers, regardless of the Concern's capacity to meet them.

(s) Importation of extra-industrial considerations (e.g. politics).

(t) Any other causes ?

†13. Have the employers or their agents made any attempts to " break " strikes by any undesirable means, or used violence against persons on strike ?

14. What are your suggestions for terminating the present labour unrest and for establishing harmonious relations between Management and Labour ?

15. Specifically, are you in favour of setting up Consultative Committees, with representatives of Management and Labour, to decide questions of discipline and the day-to-day working of the Concern ?

* For Management only.

† For workers only.

APPENDIX "B"

SUPPLEMENTARY SPECIAL QUESTIONNAIRE

(For Textile Mills only)

Part I.

(For Management only)

NOTE.—Please complete this and return it *in original*. A second copy is provided which may be retained for your own record.

1. When was the Mill built ? ..
2. What is the area of the compound ? ..
3. What proportion of the above area is—
 (a) not built upon,
 (b) occupied by 'amenities' (dispensary, canteen, wash-places, etc.) ?
4. How many shifts ? ..
5. What are the hours of the shifts and the recesses ?
6. How many workers in each shift ? ..
7. How many spindles have you ? ..
8. How many spinning frames have you—
 (a) more than 8 years,
 (b) between 1 year and 8 years old,
 (c) less than 1 year old ?
9. How many looms have you—
 (a) more than 8 years old,
 (b) between 1 year and 8 years old,
 (c) less than 1 year old ?
10. How many of your looms are —
 (a) plain,
 (b) drop-box,
 (c) dobby,
 (d) jacquard ?
11. How many of your frames and looms are powered by individual engines ?
12. How many looms per weaver ?
13. How many sides per sider ?

14. What is the running speed of your—
 - (a) cards,
 - (b) ring frames ?
15. What are —
 - (a) the finest,
 - (b) the coarsest counts spun, warp and weft ?
16. How many varieties of cloth do you weave ?
17. Do you keep a special cleaning staff for your machines ?
18. If not, why not ? ..
19. How many experienced weavers have left you during the last 3 years ?
20. How many spinners/weavers have you today who were with you in 1941 ?
21. What efficiency measures or rationalisation have you carried out during the last 12 months ?
22. What other improvements (e.g. by way of amenities) have you carried during the last 12 months ?
23. Is reeling done on piece-rates or time-rates ?
24. What is the amount of fines realised during each of the last 3 complete calendar years ?
25. How many chawls have you, if any ? ..
26. How many of them are 2-room tenements ?
27. What rent do you charge, per single room or pair of rooms ?
28. How many of the chawls are occupied by persons not working in the Mill ?
29. Have you — ..
 - (a) a school, either for children or adults,
 - (b) a weaving learners' class,
 - (c) a library,
 - (d) a Co-operative Credit Society,
 - (e) a gymnasium,
 - (f) a sports ground,
 - (g) dining sheds,
 - (h) any other "amenities" ?

30. How many latrine seats ? ..

This is equivalent to one seat per how many workers ?

31. How many washing taps ? ..

32. How many drinking taps ? ..

33. Is your canteen or tea-shop run by the Management or by a contractor?

34. If run by the Management, what is your average monthly profit/loss ?

35. What is the average daily attendance at your dispensary ?

36. Is your doctor whole-time or part-time ?

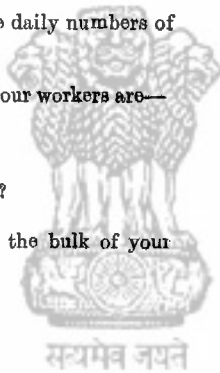
37. What are his regular hours of attendance ?

38. What are the average daily numbers of children in your Creche ?

39. What proportion of your workers are—

- (a) Hindus,
- (b) Muslims,
- (c) Other Communities ?

40. From what areas do the bulk of your workers come ?



APPENDIX "C"

SUPPLEMENTARY SPECIAL QUESTIONNAIRE

(For Textile Mills only)

Part II.

(For Managements and Unions).

1. At what time should the day/first shift commence ?

Please state why you select this time in preference to an earlier or later hour.

2. What should be the length of the recess ?

Please give your reasons for disapproving a longer or shorter period than you have selected.

3. At what time should the night/second shift end ?

Please state why you select this time in preference to an earlier or later hour.

4. Do you consider a "break" necessary between the shifts ? Please state the reasons why you do or do not consider it necessary.

5. What are your views on the running of a third shift ? If a third shift is introduced, what should be the hours of all three shifts ?

6. Are you in favour of "mutual relieving" (i.e. one weaver, for example, minding his neighbour's looms for a certain time, and then being similarly relieved by the neighbour) so as to eliminate the recess ? Please state why you are or are not in favour of such an arrangement.

7. Are you in favour of compulsory break of a few minutes at certain fixed intervals, coupled with strict prohibition of absence at any other times ? If so, what should be the intervals ?

8. Has loitering (a) increased, (b) decreased, or (c) remained the same as before, since the reduction of the factory hours ?

9. How many looms can be efficiently managed by a single weaver ?

10. Do you consider a period of annual leave essential for the workers ? If so, how much should it be ?

11. Do you think that earnings should depend on production and efficiency in the case of spinning, just as they do in the case of weaving ?

12. Should dearness allowance be made dependent on production, efficiency and regular attendance ? What is your experience of the effects of a flat rate of dearness allowance ?

13. Should canteens be run by the Management or by a Contractor ? Please give your reasons for whichever view you hold.

14. Do you consider that housing accommodation should be provided by the Management ? Please give reasons for your view.

*15. What proportion of your workers, so far as you can tell, belong to (a) no Union, (b) the Rashtriya Mill Mazdoor Sangh, (c) the Bombay Girni Kamgar Union, (d) any other Union ?

†16. Do you recognize any Union ? If none, why not ?



* Unions are requested to state their membership in each mill separately.

† To be answered by Management only.

APPENDIX "D"

SUPPLEMENTARY SPECIAL QUESTIONNAIRE

(For Textile Mills only)

Part III.

(For Managements and Unions)

*1. On how many occasions has your mill appeared before the Industrial Court, during the last 12 months ?

†2. To what extent does the Management consult the workers (including jobbers), or ascertain their probable reactions, before introducing any change in working conditions or in any other matters which affect the workers ?

†3. Has the Mill Labour Officer sufficient contacts with the workers, and does he enjoy the confidence of the principal jobbers in the various departments ?

4. Is any prior notification given now-a-days, before hartals and brief stoppages are declared ?

5. If not, how long is it since such notification used to be given ?

6. What suggestions have you for the prevention of stoppage of work for flimsy and frivolous reasons ?

†7. Please give, in the attached Form, information regarding strikes, hartals and all other disputes involving stoppage of work, which occurred in your Mill during the last 12 months.

* For Management only.

† Unions are requested to answer these questions, as far as possible, for each mill separately ; however, if this is not possible, a general reply will not be valueless.

PART III

Dates of beginning and ending.	Approximate number of workers involved.	Cause (a) alleged (b) true cause if different from alleged cause.	Violent conduct, if any.	How settled or ended.	Remarks. (Evidence of outside interference, general attitude of strikers and non-strikers, etc.).



APPENDIX " E "

QUESTIONNAIRE

Please supply the following information :—

1. Name of concern
2. Name of proprietor or management ..
3. Date of Establishment
4. Location and address

Employment—

- | | 1944 | 1945 | 1946 | 1947 |
|--|------|------|------|------|
| 5. (a) Average daily number of workers .. | | | | |
| (b) Total number of workers on the rolls .. | | | | |
| (c) Number of piece-rate workers .. | | | | |
| (d) Number of salaried workers .. | | | | |
| (e) Number of temporary workers. .. | | | | |
| 6. (a) How many skilled workers department-wise left you during the last three years ? | | | | |
| (b) How many unskilled workers department-wise left you during the last three years ? | | | | |
| (c) How many semi-skilled workers department-wise left you during the last three years ? | | | | |
| (d) How do you distinguish between these three categories ? | | | | |
| 7. Please give length of service of operatives under the following headings : | | | | |
| (1) Those between 0 and 1 year of service | | | | |
| (2) Those between 1 and 5 years of service | | | | |
| (3) Those between 5 and 10 years of service | | | | |
| (4) Those over 10 years of service. | | | | |
| 8. Is there any system of graded or time-scale promotion ? If so, give details. | | | | |
| 9. Do you keep a special cleaning and oiling staff for your machines ? | | | | |
| Give reasons, if none. | | | | |
| 10. Are there any Standing Orders, Rules or agreements prevalent in your concern, governing the day-to-day relationship between employer and worker ? If so, please supply a copy. | | | | |
| 11. Do you maintain service or registration cards for all or some of your workers ? If so, please send a specimen copy. | | | | |

12. Have you any provision for the training of apprentices? What are the minimum educational qualifications insisted upon? Please supply a copy of the rules, if any, and state the following particulars :—

- (a) Total number of apprentices engaged during the period 1944-47 ..
- (b) Total number of those who qualified and are now working in your establishment ..
- (c) Total number of those who left after qualifying themselves ..
- (d) Total number of those who could not or did not qualify ..

13. Are weekly holidays with pay allowed to —

- (a) Piece-workers ? ..
- (b) Time-workers ? ..

Please supply details.

14. Have you any system of leave with or without pay for your workers? What is the proportion of workers who are entitled to such leave during the last two years? If you have any leave rules, please supply a copy.

- 15. Have you a Labour Officer ? ..
- (a) If so, what are his functions ? ..
- (b) If not, what other machinery have you set up for this purpose ?
- (c) Has he sufficient contacts with and does he enjoy the confidence of labour ?

Wages—

16. Please state the minimum and maximum basic wage exclusive of allowances per day/per week/per month in your concern in each department.

17. Please describe the principles underlying the fixation of basic wages of the workers in your establishment or industry.

18. What attempts by way of efficiency schemes have been made in your industry? Please give details.

19. What are the effects of such schemes on :—

- (i) Total employment in the concern, ..
- (ii) Employment in particular occupation, ..
- (iii) Earnings, ..
- (iv) Production, ..
- (v) Working conditions, especially strain and fatigue, ..
- (vi) In what proportion are the workers compensated by the introduction of these schemes,

20. Do you pay any dearness allowance? If so on what basis? Please give details.

21. Have you a bonus system in operation? Please give details.

22. Have you a provident fund or gratuity scheme or sickness benefit fund? Please give details.

23. What is your system of overtime payment?

24. Is overtime compulsory? If so, in what departments?

25. Is your overtime register accessible to the workers or their representatives?

26. Have you a Fines Fund, if so, please give total collection for each of the last 3 years.

(a) What is the outstanding amount on 1st January 1948?

(b) Who controls the Fines Fund and how is it utilised?

27. What are the deductions, if any, made from wages (apart from fines)?

Working Conditions—

28. How many shifts? ..

29. What are the hours of shifts? ..

30. What are the recess periods? ..

31. Do you consider the recess period sufficient?

32. What is the area of the Compound ..

33. What proportion of the above area is —

(a) not built upon?

(b) Occupied by "amenities" (dispensary, canteen, wash-places, etc.)?

34. State the number of departments in your factory?

35. What is the arch of each department?

36. How many workers are employed in a particular department at a time?

37. Describe details of ventilation and lighting in each department.

38. Have you taken any special measures for prevention of accidents, or for protecting the workers from dust, heat, glare, fumes etc., apart from those prescribed by the Factories Act?

39. How many latrine seats? ..

This is equivalent to one seat per how many workers?

40. How many washing taps? ..

41. How many drinking water taps? ..

42. Have you a canteen or a tea shop ? ..
43. Is it run by you or a contractor ? ..
44. What is the average monthly profit or loss ?

45. Average daily number of workers attending your canteen or tea shop ?

46. Have you a dining shed ? Please give details of arrangements therein, if any.

47. Have you a dispensary ? ..

48. If not, what alternative arrangement have you provided for medical attention and first-aid ?

49. (1) What procedure is followed by you for :—

(a) reporting accidents occurring in your concern ?

(b) payment of compensation when it is due ?

(2) Are there any complaints on the part of operatives regarding delays in payment of compensation ?

50. To what extent do you insure against accidents with insurance companies ? Does your insurance cover the worker for the full period of his absence due to the accident ?

51. What are the occupational diseases particular to your concern ?

What measures have you introduced to safeguard the workers against them ?

Disputes.—

52. On how many occasions has your concern appeared before the Industrial Court, during the last 12 months ?

53. To what extent does the Management consult the workers or ascertain their probable reactions before introducing any change in working condition or in any other matters which affect the workers ?

54. Is any prior notification given now-a-days, before hartals and brief stoppages are declared ?

55. If not, how long is it since such notification used to be given ?

56. What suggestions have you for the prevention of stoppage of work for flimsy and frivolous reasons ?

57. What are your views on Works, Consultative and Production Committees ?

Have you any of these Committees ? If so, what are their functions ?

APPENDIX "F"

SECTION 3—GENERAL VENTILATION.

Regulation 19. General Provisions.

Suitable atmospheric conditions shall be maintained in workrooms, by natural or artificial means, to avoid insufficient air supply, stagnant or vitiated air, harmful draughts, excessive heat or cold, sudden variations in temperature, and where practicable, having regard to the nature of the processes carried on, to avoid excessive humidity or dryness, and objectionable odours.

Regulation 20. Air Supply.

1. Clean fresh air shall be supplied to enclosed workplaces at an average rate of not less than 30 to 50 m³ (1,000 to 1,750 cubic feet) an hour per worker, or at such a rate as to effect a complete change of air a number of times per hour varying from six for sedentary workers to ten for active workers.

2. Where an adequate supply of fresh air cannot be obtained by natural ventilation, or where it is difficult to get the desired amount of air to the centre of the workrooms without creating uncomfortable draughts near the inlets, mechanical ventilation shall be provided.

Regulation 21. Air Cleanliness.

1. All dust, fumes, gases, vapours or mists generated and released in industrial processes shall be removed at their point of origin, so far as possible, and not permitted to permeate the atmosphere of the workrooms.

2. Local heating apparatus, installed in workrooms, shall be so constructed that combustion gases are prevented from entering the atmosphere of the room. The use of open braziers or salamanders shall be prohibited.

Regulation 22. Air Movement.

The air movement in enclosed workplaces shall be so arranged that the workers are not subjected to objectionable draughts, and the air velocity should not exceed 15m. (50 feet) a minute during the heating season or 45 m. (150 feet) a minute during warm sunny weather.

Regulation 23. Temperature and Humidity.

1. A temperature suitable for the type of work performed shall be maintained in enclosed workplaces during the cold season by heating.

2. Approximately 20° C. (68° F.) is considered suitable for sedentary work, 18° C. (64·4° F.) for light manual work, and 15° C. (59° F.) for heavy manual work, with the relative humidity between 40 and 60 per cent. in each case.

3. During warm summer months the optimum temperatures are considered to range approximately 5° C. (9° F.) higher than those for the heating season, but where they can be controlled by the use of air-conditioning systems, it is preferable to keep them not more than 8° C. (15° F.) below the outside temperature and reduce the relative humidity.

4. In localities subject to high or low seasonal temperatures, the effects of the variations in temperature should be minimised by insulation of roofs, walls, and floors.

5. All employees shall be protected, either by insulation of the equipment or by other suitable means, against radiation and excessive temperature due to steam and hot-water pipes or other heated machines or equipment.

6. Stationary or movable screens, preferably of fireproof material, should be provided where necessary, to shield workers from intense heat radiation.

7. Where central heating systems are used, radiators and heating pipes shall be so installed that the workers are not inconvenienced by radiation of heat or by the circulation of hot air.

8. In industries involving exposure of workers to unduly high or unduly low temperatures, passage rooms should be provided so that the workers can gradually cool themselves off to or warm themselves up to the prevailing seasonal temperature before passing into it.

APPENDIX "G"

*Regulation 18. Artificial Lighting.**Quality—*

1. Artificial lighting shall be provided when daylight fails or for areas where the day-light illumination is insufficient.
2. The general lighting should be of a uniform level, widely distributed to avoid harsh shadows or strong contrasts, and free from direct or reflected glare.
3. Where intense local lighting is necessary, it may be obtained by a combination of general lighting and supplementary lighting at the point of work.
4. Supplementary lighting should be specifically designed for the particular visual tasks and so arranged, or provided with shading or diffusing devices, that glare is prevented.

Quantity—

5. Artificial lighting shall be adequate at the place of work for the operation performed.
6. A minimum of 20 lux (2 feet candles) should be provided for yard roadways and outside thoroughfares.
7. A minimum of 50 lux (5 feet candles) should be provided—
 - (a) where discrimination of detail is not essential, such as for handling materials of a coarse nature, handling coal or ashes, rough sorting, or grinding of clay products;
 - (b) for passageways, corridors and stairways, warehouses, storerooms and stockrooms for rough and bulky materials.
8. A minimum of 100 lux (10 feet candles) should be provided—
 - (a) where slight discrimination of detail is essential, such as for the production of semi-finished iron and steel products; rough assembling; milling of grains; opening, picking, and carding of cotton; or other primary operations in most of the industrial processes; and
 - (b) for engine and boiler rooms, passenger and freight elevators, crating and boxing departments, receiving and shipping rooms, storerooms and stockrooms for medium and fine materials, locker rooms, toilets and washrooms.
9. A minimum of 200 lux (20 feet candles) should be provided where moderate discrimination of detail is essential, such as for medium assembling, rough bench and machine work, rough inspection or testing of products, sewing light-coloured textile or leather products, canning and preserving, meat packing, planning of lumber, veneering and cooperage.
10. A minimum of 300 lux (30 feet candles) should be provided where close discrimination of detail is essential, such as for medium bench and machine work, medium inspection, fine testing, flour grading, leather finishing and weaving cotton goods or light-coloured woollen goods, or for office desk work with intermittent reading and writing, for filing, and for mail sorting.
11. A minimum of from 500 to 1,000 lux (50 to 100 feet candles) should be provided where discrimination of fine detail is involved under conditions of a fair degree of contrast for long periods of time, such as for fine assembling, fine bench and machine work, fine inspection, fine polishing and bevelling of glass, fine woodworking, and weaving dark-coloured woollen goods, or for accounting, book-keeping, drafting, stenographic work, typing, or other prolonged close office desk work.
12. A minimum exceeding 1,000 lux (100 feet candles) should be provided where discrimination of extremely fine detail is involved under conditions of extremely poor contrast for long periods of time, such as for extra-fine assembling, extra-fine inspection,

testing of extra-fine instruments, jewellery and watch manufacturing, grading and sorting tobacco products, make-up and proof-reading in printing plants, and inspecting or sewing dark coloured cloth products.

13. The provisions of paragraphs 6 to 12 apply to lighting equipments under average operating conditions, not simply when new and clean as first installed. Where conditions are favourable it may be necessary to provide initially at least 25 per cent. more light; in locations where dirt will collect rapidly the initial level should be at least 50 per cent. above the recommended minimum standards.

14. Any windowless room should be provided with general lighting sufficient in intensity for the most exacting operations carried on therein.

Emergency Lighting—

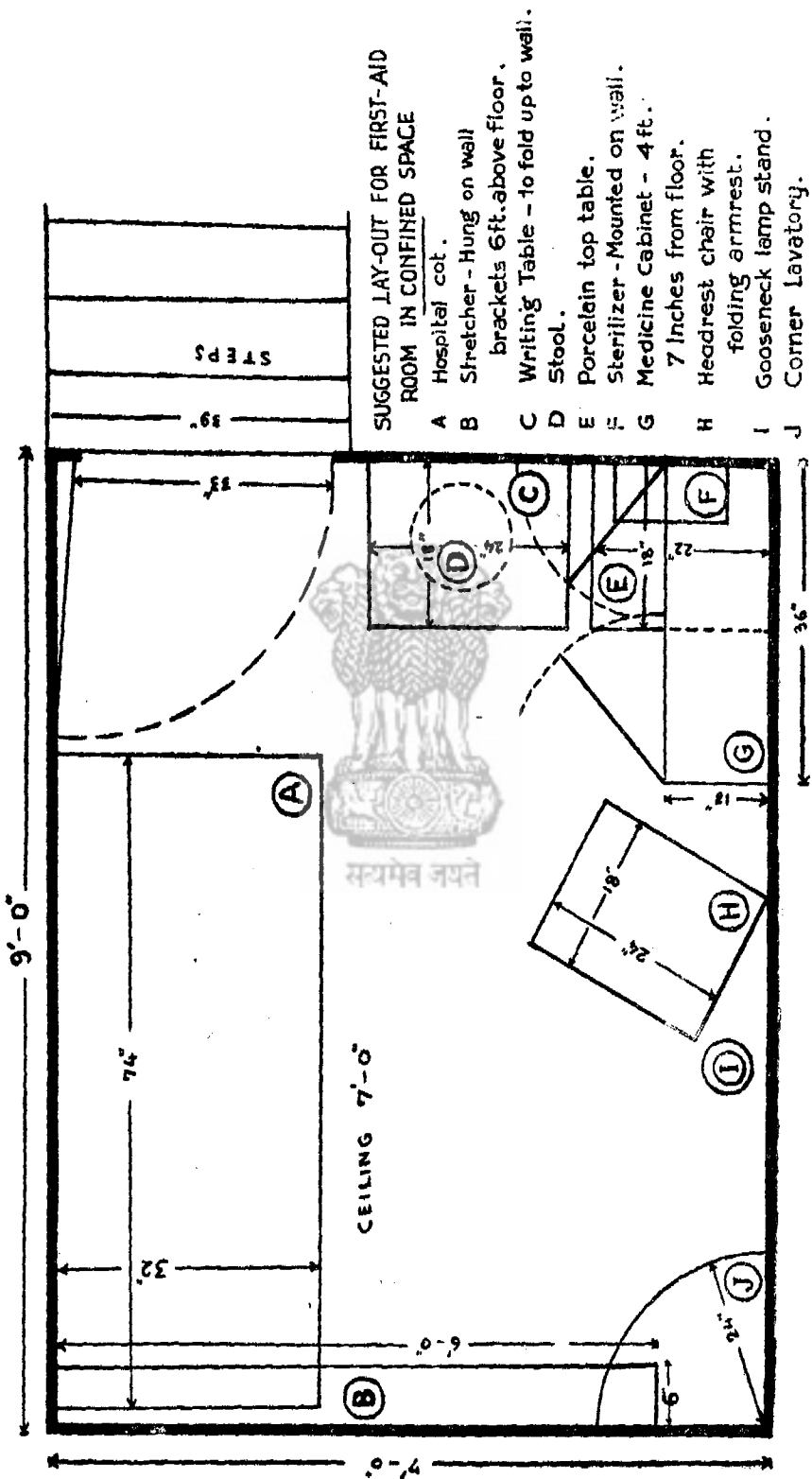
15. Where large numbers of persons are employed in buildings more than one storey in height, emergency lighting systems should be provided in all important stairways, exits from workplaces, and passages to these.

16. All windowless buildings shall be provided with emergency lighting.

17. Emergency systems should be capable of producing and maintaining for at least one hour a minimum intensity of 5 lux (0.5 feet candle) and should have energy sources independent of the installations for the general lighting systems.

18. Provision shall be made for the automatic lighting of the emergency system upon failure of the general system.





APPENDIX "I"

THE TEACHING OF INDUSTRIAL MEDICINE

The following is the outline of a course prepared by the Committee of Medical Education of the American Association of Industrial Physicians and Surgeons—

Content and Organization of Teaching.—Experienced physicians in industry have testified that industrial health activity falls into three principal categories :—

- (1) Industrial medical administration.
- (2) Industrial hygiene and toxicology.
- (3) Industrial medicine and traumatic surgery.

I. Industrial health administration—

1. Origin and later development of industrial health
 - (a) Clinical interest in occupation and health.
 - (b) Legislative background.
 - (1) Factory acts.
 - (2) Workmen's compensation.
 - (3) Social security.
2. Occupational morbidity and mortality.
 - (a) Causes and duration of lost time in industry.
 - (1) General experience.
 - (2) Experience in specific industries.
 - (b) Reportability of industrial accidents and diseases.
3. Distribution of industrial health service.
 - (a) Scope and objectives of industrial health.
 - (b) Population groups involved.
 - (1) According to plant size.
 - (2) According to type of industry.
 - (c) Costs of medical service in industry.
 - (d) Economic and other benefits.
4. Classification of industrial physicians.
 - (a) On-call and part-time (detached).
 - (b) Full-time (attached).
 - (c) Consulting services.
 - (1) Industrial hygiene.
 - (2) Clinical specialties.
 - (d) Qualifications for industrial medical service.
5. The industrial medical department.
 - (a) Organization.
 - (1) Personnel.
 - (2) Plant and professional relations
 - (b) Quarters and equipment.
 - (c) Specific functions.
 - (1) Treatment and hospitalization.
 - (2) Prevention and sanitation.
 - (3) Health conservation.
 - (a) Physical examinations.
 - (b) Health education.
 - (4) Rehabilitation.
 - (d) Special medical problems of small plants.

II. *Industrial hygiene and toxicology—*

Course Content.

1. Industrial health exposures.
 - (a) Classification.
 - (b) Essential toxicology.
 - (c) Safe concentration codes.
2. The plant survey.
 - (a) Identification of exposures.
 - (1) Medical procedure.
 - (2) Engineering procedure.
 - (b) Control of exposures.
 - (1) Medical.
 - (2) Engineering.
 - (c) Maintenance of control.
 - (d) Records.
3. Plant sanitation and hygiene.
 - (a) Water supply.
 - (b) Waste disposal.
 - (c) General housekeeping.
 - (d) Illumination.
 - (e) Ventilation and air conditioning.
 - (f) Noise and vibration control.
4. Personal hygiene for workers.
 - (a) Toilets and washrooms.
 - (b) Fatigue control.
 - (c) Nutrition.
 - (d) Housing.
 - (e) Recreation.
5. Coordination of industrial and community health service.
 - (a) Communicable disease control.
 - (b) Industrial waste control.
 - (c) Vital statistics.
 - (d) Safety codes and regulations.
 - (e) Factory inspection and regulation.

III. *Industrial medicine and traumatic surgery.*

Course Content.

1. The worker and the job.
 - (a) The worker.
 - (1) Physical and mental fitness.
 - (2) Aptitude test.
 - (3) Medicine and personnel relations.
 - (b) The job.
 - (1) Physical and mental requirements..
 - (2) Duration—hours and wages, day, night, peak loads.
 - (3) Special processes, equipment, and working conditions.
 - (4) Environmental factors.

2. Industrial accidents.

- (a) Incidence and costs.
- (b) Classified causes.
- (c) Emergency care and transportation
- (d) Surgical management.
- (e) Prevention.
- (f) Estimation of disability.
- (g) Records.

3. Occupational diseases.

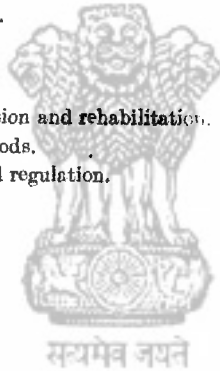
- (a) Etiologic classification.
- (b) Pathology and toxicology.
- (c) Medical management.
- (d) Prevention.
- (e) Disability evaluation.
- (f) Records.

4. Nonoccupational disability.

- (a) Incidence and costs.
- (b) Classified causes.
- (c) Medical management.
- (d) Follow-up service.
- (e) Records.

5. Workmen's compensation and rehabilitation.

- (a) Administrative methods.
- (b) Medical relations and regulation.
- (c) Insurance practice.



APPENDIX "J"

International
Labour Office.

Legislative Series
1946—Fr. 11.

FRANCE 11.

ACT : INDUSTRIAL MEDICAL SERVICES.

Act No. 46-2195, respecting the organisation of Industrial medical services. Dated 11th October 1946. (Journal officiel de la République française, 12th October 1946, No. 239, p. 8,638).

1. Every establishment listed in section 65 of Book II of the Labour Code, and every public law office, establishment appertaining to the learned professions, non-commercial company, occupational association and association of any kind in which wage-earning or salaried employees are employed shall be required to organise industrial medical service.

One or more medical practitioners known as "industrial medical officers" shall be charged with the said service in each case; their task shall be limited to prophylaxis and shall be the prevention of any deterioration in the health of the workers as a result of their work by means of, inter alia, supervision of industrial hygiene conditions, risks of contagion and the workers' state of health.

2. An industrial medical service may be limited to one single undertaking or may be, a common service for two or more undertakings, according to the size of the undertakings concerned.

The cost of the industrial medical services shall be defrayed by the employers; in the case of a common service for two or more undertakings the cost shall be apportioned according to the number of employees in each undertaking.

Decrees shall be issued in accordance with the recommendations of the Minister of Labour and Social Security and the Minister of Health to prescribe the conditions governing the organisation and functioning of the industrial medical services.

3. As from a date to be fixed by a Decree issued in accordance with the recommendations of the Minister of Labour and Social Security and the Minister of Health, no medical practitioner shall exercise the functions of an industrial medical officer unless he is in possession of a certificate of competence in industrial hygiene.

A Decree shall be issued in like manner to prescribe the conditions under which the functions of an industrial medical officer may be declared to be incompatible with the practice of certain other medical duties.

Whenever possible, an industrial medical officer, shall be a full-time specialist without a day-to-day medical practice.

4. The procedure for formal summons mentioned in section 68 of Book II of the Labour Code shall apply to such provisions of this Act and of the Decrees referred to in sections 2 and 3 above as relate to heads of establishment.

The minimum time limit for such summons shall be one month.

5. Contraventions of this Act and of the Decree issued in pursuance thereof shall be investigated by the labour inspectors.

Such contraventions shall render the offender liable to the penalties referred to in sections 173 and 176 of Book II of the Labour Code.

6. The provisions contained in sections 1—8 inclusive of the so-called Act of 28th July 1942, respecting the organisation of industrial medical and social services, are hereby declared to be null and void.

The above declaration shall not however affect anything resulting from the operation of the so-called Act prior to the commencement of this Act.

APPENDIX "K"

*United States Department of Labour Bulletin of the Women's Bureau
No. 114.*

STATE REPORTING OF OCCUPATIONAL DISEASE

Including A Survey of Legislation Applying to Women.
1934

P. 10

Standard report forms.—The first step towards adequate reporting is the adoption of convenient, complete, and standardized forms. Six State health departments or industrial hygiene divisions (those of Connecticut, Maine, New York, New Hampshire, Maryland, and Ohio) and the Massachusetts Department of Labour and Industries have adopted a standard form*. This was drawn up by the American Association for Labour Legislation and adopted by the Ohio Department of Health as early as 1913. It calls for all the information essential in connection with occupational diseases, separated conveniently into personal and industrial data and a medical report.



* attached.

CERTIFICATE OF INDUSTRIAL OR OCCUPATIONAL DISEASE 13

(Write plainly with ink—this is a permanent record. Every item of information should be carefully supplied. The exact statement of OCCUPATION is very important. Physicians should state DIAGNOSIS in plain terms. See instructions on back of certificate).

Name of patient

Address: Street and No..... City or Village

Personal and Statistical Particulars.				Medical Certificate of Disease.
Sex.	Age	Color	Country of birth.	Diagnosis of present illness
				Chief symptoms and conditions
			
Single, married, widowed, or divorced (write the word) .....				.....
Occupation				Date first symptoms appeared.....
(a) Present trade, profession, or work				Complicating diseases (such as alcoholism, syphilis, tuberculosis, etc.)
.....				
Particular kind of work in such trade, etc. ....				.....
.....			
Date of entering present occupation				What in your opinion caused this affliction?
.....				
Employer's name .....				.....
Address .....				.....
Business (kind of goods made or work done)				Duration (actual, estimated)
.....				(check which)
(b) Previous occupations:				Additional facts.....
Name of occupations.	Entered (year).	Left (year).	.....
.....	
.....	
.....	
Previous illness, if any, due to occupation				Date of diagnosis.....193..
Disease or illness.	Year.			(Signed).....M.D.
.....	.....			.....193....(Address) ..
.....
.....

13. This form with slight variation is used in the States of Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New York, and Ohio. In each case (except Maryland and Massachusetts) the reverse side of the report carries the law of the State on the subject and instructions for reporting.

APPENDIX "L"

*Regulation 11. Floor and Wall Openings.**Ladderway Openings.*

1. Ladderway floor openings shall be guarded on all exposed sides, except at the entrance to the opening, by permanent railings and toeboards; the passage through the railings shall be provided with a barrier or gate so arranged that a person cannot walk directly into the opening.

Stairway Openings.

2. Stairway floor openings shall be guarded on all exposed sides, except at the entrance to the stairway, by permanent railings and toeboards.

3. For infrequently used stairways where traffic across the opening prevents the use of permanent railings, the guard shall consist of a flush-hinged floor-opening cover of adequate strength, equipped with railings attached thereto so as to leave only one side exposed when the cover is open. When the opening is not in use the cover shall be closed or the exposed side guarded.

Hatchway Openings.

4. Hatchway, chute, pit, and trap-door floor openings shall be guarded by—

- (a) removable railings with toeboards on not more than two sides and permanent railings with toeboards on all other exposed sides; or
- (b) a flush-hinged cover as specified for stairway floor openings.

Manholes and Other Openings.

5. Manhole floor openings shall be guarded by manhole covers of adequate strength, which need not be hinged.

6. Other floor openings into which persons can accidentally walk shall be guarded either by permanent railings and toeboards on all exposed sides or by hinged floor-opening covers of adequate strength.

7. When covers for either type are not in place the openings shall be constantly attended by someone or protected by portable enclosing railings.

8. Floor openings into which persons cannot accidentally walk on account of fixed machinery, equipment or walls shall be guarded by covers securely held in place and leaving no openings more than 2.5 cm. (1 inch) in width, or by toeboards on all exposed sides.

Wall Openings.

9. All wall openings less than 1 m (40 inches) from the floor, having both a height of at least 75 cm (30 inches) and a width of at least 45 cm (18 inches) from which there is a drop of more than 2 m (6 feet 6 inches) shall be solidly enclosed or guarded by fixed or rolling barrier rails, picket fences, half doors, or equivalent barriers, capable of withstanding a load of at least 100 kg (220 lb.) applied, in any direction except vertically upward, at any point on the top rail or corresponding member.

10. All other wall openings, irrespective of their width, shall, if their lower edge is either 8 cm (3 inches) or less above floor level on the near side or 2.0 m (6 feet 6 inches) (or more above ground or floor level on the far side, be guarded by—

- (a) a toeboard across the bottom of the opening; or
- (b) an enclosing screen, either solid or of grille or slat work with openings not more than 2.5 cm (1 inch) in width, capable of withstanding a load of at least 50 kg (110 lb.) applied horizontally at any point.

Construction of Railings.

11. All railings shall be constructed in a permanent and substantial manner of wood, pipe, structural metal or other material of sufficient strength.

12. Standard railings shall be at least 1 m (40 inches) from the upper surface of the top rail to floor level.

13. Standard railings shall have posts not more than 2.0 m (6 feet 6 inches) apart and an intermediate rail half-way between the top rail and the floor.

14. The dimensions of railings and posts and the anchoring and framing of members shall be such that the completed structure shall be capable of withstanding a load of at least 100 kg (220 lb.) applied in any direction at any point of the top rail.

15. Railings of the following types of construction shall be deemed to satisfy the test requirements laid down in paragraph 14—

(a) for *wood railings*: Top rails and posts of at least 5 by 10 cm (2 by 4 inches) stock, and intermediate rails of at least 5 by 5 cm (2 by 2 inches) or 2 by 10 cm (1 by 4 inches) stock: all such railings shall be smooth and free from large or loose knots, protruding nails or bolts, splinters, fins, splivers, or cracks;

(b) for *pipe railings*: Top rails and posts of metal pipe of at least 30 mm ($1\frac{1}{4}$ inches) diameter and intermediate rails of metal pipe of at least 25 mm (1 inch) diameter;

(c) for *structural metal railings*: Top rails and posts of angle iron of at least 38 by 38 by 5 mm ($1\frac{1}{2}$ by $1\frac{1}{2}$ by $\frac{3}{16}$ inches) and intermediate rails of angle iron of at least 32 by 32 by 3 mm ($1\frac{1}{4}$ by $1\frac{1}{4}$ by $\frac{1}{8}$ inches).

16. All railings shall be of sound material free from defects and all sharp corners shall be rounded and smoothed.

Construction of Toeboards.

17. Toeboards shall be at least 15 cm (6 inches) in height.

18. Toeboards may be made of wood, iron, steel or other substantial material.

19. Toeboards shall be securely fastened in place, with not more than 6 mm ($\frac{1}{4}$ in) clearance above floor level.

*Regulation 12. Stairs.**Strength.*

1. All stairs, platforms, and landings shall be of sufficient strength to sustain safely a live load of not less than 500 kg/m² (100 lb. per square feet) with a factor of safety of four.

Width.

2. Stairs, except service stairs, i.e., stairs giving access to oiling platforms, etc., should be not less than 1.12 m (44 inches) in width, clear of all obstructions except handrails, and shall in no case be less than 90 cm (36 inches).

Pitch.

3. Except for service stairs, the pitch of stairways should be between 30° and 38° from the horizontal, and shall not be less than 20° or more than 45°.

4. Where the slope would be less than 20° a ramp should be installed, and where the slope is more than 45° a fixed ladder should be provided.

Height.

5. No stairway shall have a height of more than 3.7 m (12 feet) between landings and intermediate landings shall have a dimension of not less than 1.12 m (44 inches, measured in the direction of the run).

Headroom.

6. Headroom shall be provided at all points in the stair well. The vertical clearance shall be not less than 2.2 m (7 feet 6 inches) from the top of the tread on a line with the face of the riser.

Treads and Risers.

7. Except for service stairs, the treads, exclusive of nosings or projections, shall be not less than 23 cm (9 inches) in width, and the risers shall be not more than 20 cm (7½ inches) not less than 13 cm (5 inches) in height.

8. There shall be no variation in the width of the treads and the height of the risers in any flight; the top and bottom treads of any flight should be clearly distinguishable.

Railings.

9. All stairways having four or more risers shall be equipped with stair railings on any open side.

10. Enclosed stairways less than 1.12 m (44 inches) in width shall be equipped with at least one handrail, preferably on the right side descending.

11. Stairways 1.12 m (44 inches) or more in width shall be equipped with one stair railing on each open side and one handrail on each enclosed side.

12. Stairways 2.25 m (88 inches) or more in width shall be equipped in addition with an intermediate hand rail, located approximately midway of the width.

13. Stair railings shall be constructed in a permanent and substantial manner of wood, pipe, structural metal or other material of sufficient strength.

14. The height of stair railings, from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread, shall be not more than 86 cm (34 inches) or less than 76 cm (30 inches).

15. Handrails shall be continuous throughout a flight of stairs and at landings and without obstructions (other than those intended to prevent persons from sliding).

16. If of wood, handrails shall be at least 5 by 5 cm (2 by 2 inches) in cross section and, if of metal pipe, at least 4 cm (1½ inches) in diameter.

17. Handrails mounted directly on walls or partitions shall be fixed by means of brackets attached to the lower side of the rails so as not to interfere with the smoothness of the top and side surfaces of the rails.

18. Brackets shall be spaced not more than 2.0 m (6 feet 6 inches) apart and shall be of sufficient length to provide a clearance of at least 4 cm (1½ inches) between the rails and the walls or any obstructions on the walls.

19. The height from the upper surface of the handrail to the surface of the tread in line with the face of the riser shall be not more than 86 cm (34 inches) or less than 76 cm (30 inches).

20. The completed structure shall be capable of withstanding a load of at least 100 kg (220 lb.) applied in any direction at any point of the rail.

Service Stairs.

21. The clear width of service stairs, such as stairs in engine and boiler rooms, or stairs leading to service platforms around machinery, shall be at least 56 cm (22 inches).

22. The pitch of service stairs shall be not more than 60° and the width of the treads shall be not less than 15 cm (6 inches).

23. Winding or spiral service stairs should be prohibited.

Window Openings.

24. Window openings at stair landings, where the opening is more than 30 cm (12 inches) in width and the sill is less than 90 cm (3 feet) above the landing, shall be guarded securely by bars, slats, or grille work to prevent persons falling through.

Ramps.

25. Ramps used by persons for ascent or descent from one level to another shall be limited to a slope of not more than 1 in 10, and shall conform to all relevant requirements for construction, width, enclosures and railings applying to stairways.

26. Where railings for ramps may be subjected to heavy stresses from trucking or handling materials, additional strength shall be provided by use of heavier stock, closer spacing of posts, bracing or otherwise.

*Regulation 13. Fixed Ladders, Overhead Walks, Runways and Platforms.**Fixed Ladders.*

1. All metal parts or fittings of ladders shall be made of steel, wrought iron, malleable cast iron or other equivalent material.

2. Fixed ladders shall be so installed that—

(a) the distance from the front of the rungs to the nearest fixed object on the climbing side of the ladder is at least 75 cm (30 inches);

(b) the distance from the back of the rungs to the nearest fixed object is at least 16.25 cm (6½ inches); and

(c) except in the case of ladders equipped with cages, baskets or equivalent devices, there is a clearance of at least 37.5 cm (15 inches) from the centre line of the ladder on either side across the front of the ladder.

3. If fixed ladders are used to ascent to heights exceeding 9 m (30 feet):—

(a) landing platforms should be provided for each 9 m (30 feet) or fraction thereof and

(b) the sections of the ladder should be staggered.

Overhead Walks, Runways and Platforms.

4. Walks, runways, working platforms, or open-sided floors 2.0 m (6 feet 6 inches) or more above floor or ground level, except platforms used for loading and unloading of freight, and small platforms used for motors or similar equipment which do not afford standing space for persons, shall be guarded on all open sides by standard railings and toeboards, complying with the provisions of paragraphs 11 to 19 of Regulation 11.

5. Runways used for filling of tank cars or for oiling may have the railing on one side omitted, if necessary, subject to the hazard of falling being reduced by the use of runways not less than 56 cm (22 inches) in width.

6. All runways or platforms constructed over conveyors or machinery shall be guarded on all open sides by standard railings and toeboards.

APPENDIX "M"

THE CHART OF ACTIVITIES OF THE DIRECTORATE OF LABOUR WELFARE.

1. Entertainment by visual aids such as cinema, epidiascope and magic lantern; exhibitions with pictures, posters and charts; drama and music; etc.
2. Activities for health improvement and physical education by means of outdoor games and sports, gymnasium activities and children's playgrounds.
3. Health education in the form of instructions in accident prevention, first aid, hygiene etc. health advice and medical aid; medical inspection; production and publication of health literature; organisation of scouting, clubs and health restaurants.
4. Educational activities that provide reading rooms and libraries; facilities for adult education; special instruction in labour legislation and labour movements; employment aids by training in alternative occupations both mechanical and handicraft—and technical training for adults and children, welfare and anti-drink propaganda by organising meetings and study groups; establishing welfare committees; helping to organise co-operative credit societies, stores and canteens; organising nursery schools, sewing classes and women's clubs; and preparing films, photographs, slides, pictures, posters and charts.

Schemes for Labour Welfare in the first five years Programme of Post War Reconstruction :—

1. Completion of the "A" Type Labour Welfare Centre at Sholapur,
2. Additions to and alterations in the Recreation Centre at Ahmedabad,
3. Establishment of "B" Type Centres, one each at Broach, Barsi, Amalner, Virangaum, Surat, Jalgaon, Dhulia, Nadiad and Hubli and three in Bombay,
4. Opening of two additional "A" Type Centres, one at Ahmedabad and the other at Sholapur,
5. Expansion of Cinema activities of the Labour Welfare Department,
6. Establishment of additional "C" Type Centres,
7. Construction of Swimming pool at Worli,
8. Universal Literacy among workers,
9. Anti-Tuberculosis Sanatoria for Industrial workers,
10. Periodic Medical Examination of workers,
11. Post employment Training,
12. Government Industrial Training Workshops at Bombay, Ahmedabad, Sholapur and in Karnatak,
13. Adult Education (General),
14. Adult Education (Technical),
15. Co-operative Credit Homes and Centres,
16. Scholarships for higher studies for children for Industrial workers,
17. Pre-Employment Training,
18. Charkha Classes,
19. Holiday Homes for workers,
20. Convalescent Homes for workers,
21. Grants-in-aid to social Institutions including Wrestling Pits,
22. Opening of reading rooms and circulating library posts,
23. Production of films,
24. Supervision of welfare work in factories,
25. Construction of workers Recreation Pavilion at Sayani Road, Play Ground in Bombay,
26. Establishment of "B" Type Centres one each at Poona, Gadag, Gokak and Chalisgaon,
27. Construction of a Creche Building attached to the "A" type Centre at Sholapur,
28. School for training of Labour Welfare Workers,
29. Workers' School for Citizenship and Trade Unionism,

APPENDIX " N "

DRAFT BIHAR FACTORIES WELFARE OFFICERS' RULES.

No. FI-14L-3587.—The following draft of the Bihar Factories Welfare Officers Rules which the Governor of Bihar proposes to make in exercise of the powers conferred by section 49 of the Factories Act, 1948 (XLIII of 1948), is hereby published as required by section 115 of the said Act for the information of all persons likely to be affected thereby and a notice is hereby given that the draft will be taken into consideration on or after the 17th August 1950.

Any objections or suggestions which may be received from any person in respect of the said draft before the date specified will be duly considered.

DRAFT RULES.

1. *Short Title and Commencement.*—(i) These rules may be called "The Bihar Factories Welfare Officers Rules, 1950".

(ii) They shall come into force on such date as the State Government may, by notification in the official Gazette, appoint.

2. *Employment of Welfare Officers.*—In every factory wherein five hundred or more workers are ordinarily employed per day, the occupier shall employ a welfare officer.

Provided that in every factory where two thousand or more workers are ordinarily employed, the occupier shall also employ an additional welfare officer of any grade specified in rule 6.

3. *Duties of Welfare Officers.*—The duties of Welfare officers shall be—

(i) to establish contact and consultations and to maintain harmonious relations between occupiers of factory and workers ;

(ii) to take up with the occupiers of factory the grievances of workers individual as well as collective, with a view to securing their expeditious redress and to act as negotiating officer with trade unions ;

(iii) to help the occupiers of factory to shape and formulate labour policies of the factory and to interpret these policies to the workers in a language they can understand ;

(iv) to watch industrial relations with a view to use his influence in the event of dispute arising between the occupiers of factory and workers to effect to settlement by conciliation and arbitration ;

(v) to deal with wage and employment matters in collaboration with the occupiers of factory ;

(vi) to ensure fulfilment on the part of the occupiers of factory of obligations, statutory or otherwise concerning applications of the provisions of the Factories Act, 1948, and the rules made thereunder and to establish liaison with Factory Inspector and Medical Services concerning medical examinations of employees, health records, supervision of hazardous jobs, sick visiting and convalescence, accident prevention and supervision of safety committees, investigation of accidents and administration of workmen's compensation ;

(vii) to promote relations between the occupiers of factory and workers which will ensure productive efficiency as well as amelioration in the working conditions and to help workers to adjust and adapt themselves to their working environments ;

(viii) to encourage the formation of joint production committees, Works Committees, Co-operatives, Safety First and Welfare committees and to supervise, their work ;

(ix) to secure provision of amenities, such as canteens, shelters for rest, creches, adequate latrine facilities, drinking water, sickness and benevolent scheme payments, pension and superannuation funds, gratuity payments, granting of loans, leave and legal advice to workers ;

(x) to secure welfare provisions, such as housing facilities, food stuffs, social and recreational facilities, sanitation advice, on individual personnel problems and education of children ;

(xi) to advise the occupiers of factory on questions relating to training of new starters, apprentices, workers on transfer and promotion, instructors and supervisors, supervision and control of notice board and information bulletins, to further education of workers and to encourage their attendance at Technical Institutes;

(xii) to take measures which will serve to raise the standard of living of workers and in general promote their well-being;

(xiii) to maintain a neutral attitude during legal strikes or lockouts;

(xiv) to exercise a restraining influence over workers in going on illegal strikes and over the occupiers of factory in declaring illegal lockouts; to help in preventing sabotage and other illegal activities;

(xv) to detect and check bribery and corruption and to bring such cases to the notice of the manager of the factory;

(xvi) to submit such reports, and supply such information with regard to management-labour relations as may be called for by the Labour Commissioner, Bihar, from time to time.

4. *Qualifications.*—A person shall not be eligible for appointment as Welfare Officer unless :—

(a) he possess a University degree;

(b) he has thorough knowledge of Hindi;

(c) he has obtained a degree or diploma in social science course from any institution recognised by Government;

or

he has the practical experience of handling labour problems for at least five years; and

(d) he is above the age of 25 and below the age of 40;

Provided that in case of persons already in service as Welfare Officers in industrial undertakings, the prescribed qualifications may be relaxed subject to such conditions as the State Government may specify :

Provided further that the existing Labour Welfare Officers in factories registered under the Factories Act, 1948, shall be eligible to apply provided they fulfil the prescribed qualifications :

Provided also that the State Government may exempt from all or any of the prescribed qualifications any person who had been on the 1st April, 1949, in employment for a year or more in any factory as a Welfare or Labour Officer, and who in the opinion of the State Government, possesses the practical experience to serve as a Welfare Officer.

5. *Conditions of Service and appointment.*—(1) The Labour Commissioner shall invite applications for appointment to each grade of Welfare Officers in factories registered under the Factories Act, 1948, in Bihar once every year. Candidates will be selected by the State Government on the recommendation of a Board consisting of—

(i) the Secretary to Government, Labour Department, as the Chairman,

(ii) The Labour Commissioner as an ex-officio member and Secretary,

(iii) The Chief Inspector of Factories as an ex-officio Member, and

(iv) one representative of the occupiers of factories, and

(v) one representative of the workers.

The last two to be nominated by the State Government. The list of candidates, selected for appointment to each grade shall be arranged in order of merit and shall be published by the Labour Commissioner as soon as it is ready.

(2) The list for each grade of Welfare Officers shall be revised and published every year.

(3) A Welfare Officer appointed in lower grades shall be eligible for promotion to a higher grade.

(4) Soon after the list of approved candidates is published the factories registered under the Factories Act, 1948, of the category specified in rule 2 shall proceed to make appointment of Welfare Officers from among the list of these candidates after obtaining the approval of the Labour Commissioner. The appointment must be completed within two months of the publication of the list unless an extension of time has been obtained from the Labour Commissioner for reason to be recorded in writing.

(5) On the occurrence of a vacancy in the post of a Welfare Officer in any factory, the occupier shall forthwith send a requisition to the Labour Commissioner, who will send the first ten names of candidates of the required category available in the list, and the occupier shall within one month of receipt of these names select and appoint a candidate from amongst them and intimate to the Labour Commissioner the name of the person so appointed.

(6) All appointments shall be on a permanent basis; but candidates will initially be placed on one year's probation.

(7) A Welfare Officer whose work is found unsatisfactory during the period of probation shall be liable to be discharged after one month's notice by the occupier of the factory with the approval of the Labour Commissioner.

(8) No Welfare Officer shall be discharged, dismissed or otherwise punished except with the previous approval of the Labour Commissioner obtained on a proceedings drawn up against the officer :

Provided that the occupier of factory may impose any one or more of the following punishments upon a Welfare Officer without the previous approval of the Labour Commissioner —

- (i) Warning ;
- (ii) Censure ;
- (iii) Withholding of increments, including stoppage at an efficiency bar :

Provided further that no punishment of any kind shall be inflicted unless the officer has first been informed in writing of the grounds on which it is proposed to take action and has been afforded an adequate opportunity of defending himself :

Provided also that every Welfare Officer who is subject to punishment under sub-rule (8) shall be entitled to appeal to the Labour Commissioner against the order of punishment inflicted by the management within 30 days of the communication of the order to him. The decision of the Labour Commissioner on such an appeal shall be final and binding on the parties.

6. *Grade of Officers.*—There shall be the following three grades of Welfare Officers :—

Grade I.—For factories ordinarily employing 2,000 or more workers per day.
Rs. 500—50—1,000—E.B.—50—1,200.

Grade II.—For factories ordinarily employing from 1,000 to 1,999 workers per day.
Rs. 250—25—400—E.B.—30—700—E.B.—50—850 per mensem.

Grade III.—For factories ordinarily employing from 500 to 999 workers per day.
Rs. 200—10—250—E.B.—15—400 per mensem.

By order of the Governor of Bihar,

R. S. PANDE,
Secretary.

APPENDIX "O"

THE FACTORY DEPARTMENT OF THE MINISTRY OF
LABOUR AND NATIONAL SERVICE

The Chief Inspector of Factories, aided by the central office staff and his technical experts, is in constant touch with representatives of various industrial organisations, both employers and workers, and advances are made by getting together committees of these representatives to advise on difficult problems. The technical staffs are in close touch with their respective professional bodies and the Factory Department, as a whole, is advised by a Factory and Welfare Advisory Board and by an Industrial Health Advisory Committee.

Medical Inspectors :

The Medical Inspectorate is advised by three Advisory Panels or Committees of Experts on Dermatitis, Ophthalmology, and Radiology.

The Dermatitis Panel has considered oil dermatitis and research into this subject; industrial dermatological clinics; and dermatitis due to heat radiations. In this work the panel was greatly assisted by the Association of Certifying Factory Surgeons, and by Medical Referees (Dermatological) under the Workmen's Compensation Act, who were invited to co-operate.

Amongst the matters considered by the Ophthalmological Panel (of which the Chief Medical Inspector is Chairman), the most important are the degrees of eye protection from infra-red radiation required by welders (referred by the British Standards Institution); first-aid treatment of eye injuries; the maintenance of visual health in industry, and infra-red drying processes.

The Radiological Panel has surveyed the measures in force for the protection of luminisers of instrument dials with radio-active materials and of workers with x-rays in industry, and the light of the results of inspection of the factories, and the results of tests made by the National Physical Laboratory.

The Industrial Health Advisory Committee has discussed the efficacy of various antiseptics in the first-aid treatment of industrial injuries in the light of recent advances in this field, and recommendations were made. This Committee also continues to be keenly interested in the development of Industrial Health Services.

The training of First-Aid Personnel in Industry has received much attention from the voluntary societies and the Factory Department during the past few years, and active progress has been made by the St. John Ambulance Association, the British Red Cross Society and the St. Andrew's Ambulance Association, in carrying out new ideas in training and instruction, and raising the standard of knowledge and practice of first-aid in industry.

Large industrial concerns are interesting themselves in research into problems of industrial health, contributing their own valuable applied professional and technical resources and collaborating with the basic facilities for research afforded by the Universities, Medical Schools, the Medical Research Council and the Departments of Technical Colleges and Societies associated with research on industrial processes of various industries. The subjects of these research cover a wide field and include asbestosis, silicosis and fluorosis, and other hazards referable to the chemical industries.

These examples suffice to indicate the widespread public interest in Industrial Health and further proof is supplied by the volume of enquiries reaching this Department and the continued popularity of the instructional courses provided or sponsored by the Ministry, such as those for safety officers arranged by the Royal Society for the Prevention of Accidents. Health is closely allied to safety, and most industries can be improved greatly in these two subjects. The aid of all bodies concerned with education and the diffusion of information is therefore essential if occupational accidents, diseases and poisonings are to be adequately controlled.

Electrical Inspectors.

The Electrical Branch maintains contact with all the electrical manufacturing associations with the object of securing safety in connection with apparatus sold to the public. Efforts are not restricted to apparatus solely manufactured for industrial purposes. Results achieved by contact with the manufacturing associations tend

towards uniformity in all their products but of necessity such a method of approach, takes time in producing results. More speedy action can be obtained, where necessary, by making an approach to individual manufacturers, and this is often done, both from the point of view of design of articles commonly sold to the public and with regards to special devices which are considered useful in securing safety. As an example of this one can mention special devices for testing the efficiency of earth connections on electrical installations and special instruments and protective devices for portable apparatus. In these contacts with manufacturers, and also with users, no opportunity is lost by the Electrical Branch of the Factory Department in indicating the safety to be obtained by the use of as low a voltage as may be practicable for the purpose. This is particularly important in connection with portable electric tools.

The Institution of Electrical Engineers has a Codes of Practice Committee which with various Sub-Committees is preparing a number of Codes of Practice for almost every particular application of electricity, both in industrial and private premises. The object of the Codes of Practice is to secure safety and an efficient and proper use of electric current. To some extent the British standards Institution also issue Codes of Practice with the same object in view, although the tendency will be for the Institution of Electrical Engineers Codes ultimately to take preference. The British Standards Institution also issue specifications covering design of apparatus in which precautions necessary for safety are incorporated. The Electrical Branch of the Factory Department is represented on most of the Committees and Sub-Committees to which Reference has been made and a senior member of the Electrical Branch is Chairman of a number of Codes of Practice Committees.

Many lectures are given by members of the Electrical Branch to R. O. S. P. A. groups, including the R. O. S. P. A. training courses for safety officers. Lectures and talks are given to many engineering and safety associations, all with the object of making the people safety-minded in electrical matters. Recently it has been felt that safety as a general subject should occupy some part in the training of all electrical engineers and some lectures have already been given to third year students in Electrical Engineering at the Universities and Colleges. It is proposed that these lectures shall continue and possibly be extended.

The Electrical Branch also maintains contact with the Fire Brigade Section of the Home Office, for the purpose of advising, wherever possible, on the prevention of fires and also for securing the safety of firemen from the electrical point of view when dealing with fires.

Engineering Inspectors.

This Branch advises on engineering and mechanical questions affecting safety and health, and, when certain means have to be taken to bring in adequate safeguards, Inspectors give freely of their knowledge. They keep in close touch with the Engineering Institutions and such research bodies as the National Physical Research Laboratory, and other Scientific Associations engaged on projects covering a wide field. A great deal of time is spent on the preparation of pamphlets concerning the safety precautions necessary on a variety of machine tools and the like, and articles on many aspects of safety appear in the technical press. As in other departments they give lectures to a number of technical schools, universities and associations, and are in great demand for such affairs as the R. O. S. P. A. courses and conferences.

Examples of work carried out, to a great extent voluntarily, are as follows:—

Discussions have been held and a large measure of agreement reached with manufacturers of cable making machinery in order to secure a higher standard of safety on these machines.

The Bakery Equipment Manufacturers Association Ltd. requested suggestions for the improvement of the guarding of bakery machinery. A sub-committee of this Association has studied the recommendations made by Inspectors, and one firm has already commenced putting them into effect.

Agreement on guarding has been reached with makers of bread and confectionery machinery, abrasive wheels, grinding machinery, machine tools, foundry machinery, wire and fibre rope making machines, and mixers of various types.

A committee to study the safety of flat-bed printing machines is meeting monthly, and substantial alterations in design have already been agreed with some member firms. Agreement on many points of detail relating to safety by construction, or by

guarding, have been reached with makers of printing machinery of various types, such as rotary printing machines, platen machines, guillotines and envelope making machines, varnishing, die-stamping, and stereo shaving machines.

Inspectors dealing with the construction and repair of buildings have obtained considerable progress in such matters as the designing of an effective interlock for the luffing mechanism for Scotch derrick cranes, the provision of standard fencing for old cranes, and warning methods as to the stability and safe working load of mobile cranes, when used on soft ground. Where regulations do not apply at present, for example, in demolition work, safe methods of working have been discussed with the demolition Contractors' Association, and many proposals have been adopted.

The Shipbuilding Employers' Federation co-operated with other federations, trade unions, and the Factory Department, with the result that a voluntary Boiler Scaling Agreement came into being. There were also meetings with the Federation of Wire Rope Makers of Great Britain, and agreements were reached with reference to the testing and rating (S. W. L.) of wire rope slings, while the Chain Testers' Association made similar agreements with regard to chain slings.

Voluntary Agreements exist in regard to:—fencing and cleaning of machinery, weight lifting, shuttle and machinery accidents, dust removal and first-aid in the cotton industry; scalding accidents in textile printing, bleaching and dyeing works; fencing of machinery, and weight lifting in the woollen trade; standardization of guards in jute and flax mills. Voluntary Agreements have also been reached regarding the institution of Safety Organisations in steel-making and sheet-rolling mills, iron and steel rolling mills, blast furnaces and iron foundries, and in the tinplate industry. Further, such Agreements cover:— Safety conditions for Bessemer converters, crane accidents, accident prevention in the boot and shoe industry, automatic guarding of hydro-extractors in laundries; accidents and safety conditions at docks, accidents from falls through asbestos roofs, and safeguards in civil engineering operations. These Agreements are the result of much voluntary labour on the part of Engineering and other Inspectors in the Factory Department, and the good work continues in the form of Standing Committees, which have come into being in several instances to ensure the constant supervision and revision of the Agreements.

Other Committee work by Engineering Inspectors includes a Committee on the general conditions in iron foundries with a view to their improvement; a standing Committee on power presses; a committee on the fencing and general conditions in the jute industry in Scotland, and several committees of the British Standards Institution on boilers, receivers and other pressure vessels; cranes, hoists and lifting tackle; dust filters hydro extractors, etc.

Chemical Inspectors :—

The work of the Chemical Branch, in the main, centres around the administration of those sections of the Factories Acts that aim at the protection of the workers against poisonous gases and vapours and explosion. Considerable voluntary effort is entailed in obtaining the adoption of safe methods in co-operating with various bodies, in furthering research, and in lecturing to such bodies as Safety Organisations, Universities, Technical Colleges, the Royal Institute of Chemistry, the Institute of Chemical Engineers, the Society of Chemists and the Association of Scientific Workers.

The co-operation with the British Gas Council and individual manufacturers is leading to the improvement of gas heating appliances, such as ovens and furnaces; while the Provender and Compound Food Manufacturers' Federation have subscribed a considerable sum towards original large scale research to be carried out by the Factory Department on dust explosions. Discussions with the Federation of Dyers and Cleaners have ended in agreement to abandon the use of all solvents below a flash point of 95° F; and talks with Cellulose Solution Manufacturers have resulted in the removal of benzene as a diluent from most dopes and paints.

Some fatal accidents have been caused by minor explosions during the use of molten cyanide, and talks with the manufacturers aim at the complete enclosure of the baths concerned; explosions and gassing at blast furnaces are controlled in a great measure by the adoption of voluntary rules, and similar matters concerning waterless gasholders and gas works purifiers have been the subject of discussion and agreement with the Factory Department.

During the war, the manufacture of metal powders entailed an enormous number of special precautions of a structural nature to combat risks of fire and explosion, and these were based on voluntary agreement. Another Technical Committee on which the Factory Department is represented, considers methods of testing atmospheric pollution, and the instruments concerned. The lack of smell in the gases butane and propane is a grave danger, as no warning is given of any leakage, and the first indication of any trouble is an explosion. The Chemical Inspectors have taken up this matter with the manufacturers, with the result that "stenching" agents will be added to these gases in future.

To conclude this short account of the co-operative activities of the Engineering and Chemical Branches of the Factory Department it is interesting to note that these Inspectors are connected with approximately 55 Committees and Councils.

Co-operation between Factory Inspectors and outside Bodies and Groups :—

The duties of Inspectors on the prevention side of their work continue to increase with the growing interest of all concerned, an interest which has been more than ever noticeable during the war years. Safety and Health Weeks continue to be held by some of the large firms, and, during these Weeks the staff has opportunities of contact and discussion with various groups of workers. Many talks have been given to those firms which are setting up Safety and Health Committees, and there is quite a move in this direction. The growth of interest is shown by the fact that Inspectors have been asked to speak to the Red Cross Societies, Works' Club Committees, and Factory Training Schools, and to attend District and Joint Production Committees in any advisory capacity. Discussions with Trade Union groups are on the increase and the results of those which have taken place are excellent. In addition, lecture on a variety of subjects bearing in, some degree on safety are given to Safety Councils, various technical societies, and technical schools and this voluntary help is much appreciated by those with greater safety at heart.

A series of pamphlets is published by the Factory Department dealing with various problems of safety and health. Of special importance are those relating to transmission machinery, hoists, cotton spinning and weaving machinery, bakehouse machinery, belt mounting, derrick cranes, lifting tackle and many others. These booklets are accepted by employers, factory safety officers and workers who thus have brought together for convenient use, the latest information on special hazards and the best method of avoiding them.

There is also a series of welfare booklets dealing with such matters as ventilation, seating, lighting, washrooms and first-aid equipment. In these, also, the best known methods in use are brought together with suggestions for equipment and layout that may go even further than the strict letter of the law requires.

The Industrial Museum :

Opened in 1927 by the Home Office and now sponsored by the Ministry of Labour, the Museum is a permanent exhibition of methods, arrangements and appliances for promoting safety, health and welfare of the industrial workers in the manufacturing industries and other activities which come within the sphere of Factory Department administration.

The Museum is open to the general public but it is mainly intended for those who are directly concerned with the problems of safety, health and welfare in industry. For employers and workers and their organisations it is an active agent in education and propaganda, and it acts as a clearing house for ideas on the infinite variety of problems which arise in industry.

The exhibits are arranged in sections which comprise transmission machinery which, in the Museum, is used for running the machines exhibited and illustrates various ways of safeguarding transmission machinery. The machinery section includes examples of machine tools as lathes, drilling and milling machines, power presses of different types illustrating guards of various designs; cotton textile machinery is shown not only with safety guards but also with devices for dust suppression in carding, and, in the wool and hair section, sorting screens to remove dust are shown; manufacture of pottery includes methods of dust removal in various processes to combat the silica

and lead risks; india-rubber rolls; bakehouse mixing machinery and dough brakes; laundry equipment including washing, wringing, hydro-extracting, calendering, pressing, and other machines are shown with appropriate guards together with safety devices on mechanical and hand irons. A full-size model of a frontplate of a Lancashire type boiler serves to illustrate the danger points and safety devices, including gauge testers and safety valves, while the electric service lift affords the occasion for illustrating hoist dangers and their prevention, and floor surfaces and stair treads are instructively disposed. The wood-working exhibit includes several types of power-driven saws, planing, moulding and mortising machines with appropriate guards. The metal grinding machines with guards and dust removal appliances, are an important feature, and ladders, scaffolding and cradles for building operations displayed. Lifting gear, as used in many industrial processes, is shown. To illustrate the various stresses developed in the different parts of a ship's derrick during the hoisting or lowering of a load, a suitably rigged model, with load indicators, is available. The section of electrical equipment illustrates types of apparatus for use at ordinary voltages commonly met with in factory installations and methods of complying with Regulations. It also includes an instructive collection of samples of apparatus, not complying with Regulations, which have caused fatal accidents. A special section is devoted to precautions against fire and explosion (including an exhibit dealing with the use of cellulose solutions) intended for instruction in dealing with outbreaks of fire at factories pending the arrival of the fire brigade.

Health sections include exhibits on Industrial Diseases, Ventilation, Heating, Lighting and suppression of Noise, and there are specimens of respirators and of rescue and breathing apparatus for use in dusty and dangerous atmospheres. Under welfare, various methods are illustrated for securing good conditions in such matters as First Aid, Washing and Clothing accommodation, Sanitary Accommodation, Drinking Water Fountains, Canteens and Mess-rooms, Protective Clothing, Seats and Vocational Training.

Numerous manufacturers and others have rendered great assistance in giving or lending most of the exhibits.



APPENDIX "P"

THE FUNCTIONS OF A CENTRALISED PERSONNEL
(LABOUR) DEPARTMENT

The following chart prepared by a well-known textile firm in England covers some possible functions of a Personnel Department. Probably no firm includes them all, but each one is carried out somewhere.

Employment.

1. Knowledge of Law Relating to :—
 - (a) Contract of Service.
 - (b) Factories' Act.
 - (c) Health and Unemployment Insurance Acts.
 - (d) Truck Act.
2. Knowledge of :—
 - (a) Sources of Labour Supply.
 - (b) Workroom Jobs.
 - (c) Wages Rates (Employers, Trade Union, Trade Board).
 - (d) Hours of work and other Terms of Employment.
3. Selection :—
 - (a) Preliminary Interview.
 - (b) Final Interview.
 - (c) Dexterity, Intelligence, Trade Tests.
 - (d) Physical Examination.
 - (e) Engaging :— Kind of work, Rates, Conditions.
 - (f) Follow-up of References.
4. Reception of New Employees :—
 - (a) General Information and Instructions on Firms' Regulations i.e. Rules, Annual Holiday Scheme, etc.
 - (b) Introduction to Supervisors and Workroom conditions and procedure.
5. Follow-up of New Employees :—
 - (a) Contact within first 10 days by Member of Personnel Department.
 - (b) Issue of Progress Reports at Regular Intervals.
6. Recommendations for Promotion, Arrangements for Transfer, Suspensions, Short time Working, etc.
7. Interviewing all Leaving Employees :—
 - (a) To Discover the Real Reason for Leaving.
 - (b) To ensure Fair Treatment.
 - (c) To get Accurate Analysis for Labour Turnover Statistics.
8. Compilation and Maintenance of Records, e.g. :—
 - (a) Applicants.
 - (b) Employees' Service Cards.
 - (c) Birthday File for Insurance and Age Scale Alterations, etc.
 - (d) Apprentices Record Cards.
 - (e) Disabled Persons (Employment) Act Records.
9. Fair Wage Clause.

10. Co-operation with Government Departments and Local Authorities :—

Ministry of Labour and National service, e.g.

- (a) Employment Exchange.
- (b) Ministry of Labour Committees.
- (c) Education Authorities.

Health and Safety.

1. Knowledge of Law Relating to :—

- (a) Factories Act, etc.
- (b) Workmen's Compensation Act.
- (c) Public Health Act.

2. Co-operation with Medical Departments :—

- (a) Submission of Applicants for Employment for Medical Examination.
- (b) Submission of Employees for subsequent Examination as may be necessary in connection with Sickness, Accidents and Retirements.
- (c) Special Oversight of Employees on Hazardous Jobs.
- (d) Study of Fatigue and Mental Strain, Rest Periods, Problems of Women's and Juveniles' Work, Absence.
- (e) Sanitation, Ventilation, Lighting, Heating.

3. Medical Department, Surgery or First-aid Room, Supervision of arrangements for :—

- (a) Treatment of Surgical, Medical, Accident, Dental and Ocular cases.
- (b) Individual Medical Advice and Home Service.
- (c) Prevention and Elimination of Communicable Diseases, Epidemics, Industrial Diseases Hazards.

4. Systematic Check-up of Amenities :—

- (a) Sanitation.
- (b) Cleaning.
- (c) Ventilation and Humidity.
- (d) Lighting.
- (e) Heating.
- (f) Washing and Bathing Facilities.
- (g) Toilet Equipment.
- (h) Cloak-Rooms and Lockers.
- (i) Drinking Water.
- (j) Seating.
- (k) Rest Rooms.

5. Accident Prevention and Supervision of :—

- (a) Safety Officer and Safety Committee in Systematic Plant Inspection.
- (b) Adoption of Best Accident and Prevention Measures.
- (c) Accident Prevention Propaganda.
- (d) Investigation of Accidents, etc.

6. Reporting Accidents to Factory Inspector.

7. Co-operation in Connection with Workmen's Compensation.

8. Co-operation in Connection with :—

- (a) Formation and Running of St. John Ambulance Brigade.

9. Compilation and Maintenance of Adequate Records and Statistics Relating to Health and Accident Prevention.

Training and Education.

1. Training of :—
 - (a) Executives.
 - (b) Supervisors.
 - (c) Employees for Transfers and Promotions.
 - (d) Instructors.
2. Training of New Employees through Instructors, Initiation Schools, etc. in :—
 - (a) Company's policy.
 - (b) Knowledge of Company's Product.
 - (c) Correct Method of Working.
 - (d) Accident Prevention.
 - (e) Personnel Hygiene.
3. Apprenticeship Schemes.
4. Part-Time Continuation Schools.
5. Additional Education Through :—
 - (a) Works Magazine.
 - (b) Bulletins and Notice Boards.
 - (c) Circulation of Technical Magazines.
 - (d) Library of Educational Books.
 - (e) Organisation of Educational Clubs.
 - (f) Co-operation with Educational Authorities.

Research.

1. Advising Management on effect of Factories Act and other industrial Legislation.
2. Knowledge of :—
 - (a) Job Analysis.
 - (b) Job Specifications.
 - (c) Time and Motion Studies.
 - (d) Fatigue Studies.
3. Study of Statistical and other Data and Advising Management of Results, Relating to, e.g. —
 - (a) Number of Personnel in Various Grades.
 - (b) Absenteeism.
 - (c) Health.
 - (d) Accident Prevention.
 - (e) Wage Rates.
 - (f) Shift Work, Part-time Working, etc.
 - (g) Timekeeping.
 - (h) Holidays.
 - (i) Labour Turnover.
 - (j) Cost of Living.
 - (k) Purchase of National Savings Certificates.
 - (l) Music in Work Rooms.

Industrial Relations.

1. Supervision of Service to Works Council and Sub-Committees dealing with, for example :—
 - (a) Suggestions.
 - (b) Accident Prevention.
 - (c) Works Rules.
 - (d) Appeal Against Dismissal.
2. Regular Contact with Individual Works Council Employee Representatives.

3. Supervision of and Service to :—
Foremen and Forewomen's Committees.
4. Conducting Negotiations with Trade Unions.
5. Conferring with Shop Stewards.
6. Acting for Firm in Conciliation and Arbitration Proceedings.
7. Maintaining Appropriate External Contacts (e.g.) :—
 - (a) Ministry of Labour Industrial Relations Department.
 - (b) Employers' Associations.
 - (c) Institute of Labour Management.
 - (d) Industrial Welfare Society.

Employee Services (Welfare).

1. Maintaining "Open Door" to Employees so that they can bring their Personal Problems and Enquiries.
2. Supervision of and Services to Works Council and Sub-Committees dealing with for example :—
 - (a) Company's Benevolent Fund.
 - (b) National Savings.
 - (c) Hospitals Contributor Scheme.
3. Supervision of and Services to Committees dealing with, for example :—
 - (a) Sickness Benefits.
 - (b) Sports.
 - (c) Social Events (Dancing etc.).
 - (d) Dramatics.
 - (e) Musical Clubs.
4. Pension Funds.
5. Legal Aid.
6. Loans.
7. Profit Sharing Schemes.
8. Supervision of Canteen Arrangements and Refreshments in Workrooms.
9. Transport Facilities.
10. Company Housing, Billeting and Hostels.
11. Nurseries—Child Minding.
12. Shopping Facilities.
13. Visiting Absent Employees.
14. Hospital Facilities.



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