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ADDENDUM

HOME ACCIDENTS IN CEYLON

(Item proposed by the Government of Ceylon)

1. A study of the morbidity and mortality figures for the island by ten-year periods was made, according to which it was observed that since 1950 accidents have been an important cause of death. In fact, in 1950, they were the fifth cause of death and from 1953 onwards continue to be the fourth cause of death. Apart from this there are no accurate data yet available of the overall death and injury tally resulting from home accidents in Ceylon. This is largely due to the fact that it has still not been possible to organize an island-wide survey of the entire problem. However, indications are available with regard to the pattern that this type of accident takes in the country and also relating to the general causes of such accidents.

2. Statistics of home accidents compiled in two of the largest hospitals in the country last year and a statistical analysis of all accidents in the country over a five-year period from 1953 to 1957 provide some general idea of the home-accident trend in Ceylon. Before detailing the statistical information available, some account must be given of the background and environment in the country, which breed, or rather help to breed, such "mistakes".

3. In Ceylon, as perhaps in most of the South East Asian countries overcrowded homes of the economically handicapped families provide the most vulnerable venue for home accidents. Out-of-date and dilapidated buildings, combined with the fact that the mother in the home has very little time to devote to looking after the safety of the children while at the same time conducting domestic operations such as cooking and washing, would seem to be the foremost causative factor. Moreover, these domestic operations are often carried out with crude, ill-designed equipment under crowded conditions, both of which point heavily towards accidents.

4. Thus the danger is always present in the home, where saucepans and kettles containing hot fluids have to be placed on the floor for lack of table space, and crudely got-up bottle-lamps, too, are placed on the floor for want of table space.
5. There is also no cupboard for medicines and dangerous substances to be stacked away. Also, in such homes there is always an open fire-place, which occupies a prominent position in a small room, usually on a low-level, if not on the floor itself. Then again, in poverty-ridden households, the mother has to be away from the home doing a job to square up the family budget. Young children are therefore often left at home for long periods under inexperienced care or no care at all.
6. Explosives also take a big hand in this type of accident. Crackers, home-made handbombs, fireworks, acids, spirits and petrol directly caused 32 burning injuries treated at the General Hospital last year, out of which 5 deaths were recorded.
7. There is also another menace in this category, and this is in relation to the illicit handbomb-making industry in the country. Of late, frequent reports have appeared in the daily newspapers pin-pointing instances where people engaged in making these handbombs in secret hide-outs had sustained injury or had met with death while in the course of these hazardous operations. This illicit industry has been growing in strength in recent times and specially in urban areas, where there appears to be a demand for lethal explosives.
8. The latest published report relates to deaths registered during 1957, and what follows deals for the most part with the five-year period 1953-57. Over this period the number of deaths registered due to accidental causes has fluctuated very little, and these causes have accounted regularly for approximately 4 percent of male and 2 percent of female deaths. Five main groups of causes account for approximately 70 percent of the accidental deaths in Ceylon, and it is clear that any programme for accident prevention must be directed mainly against these major causes. The number of deaths resulting from these causes is shown in Table I. There is no accidental cause other than the causes shown which accounts for over 100 deaths per year.
9. Of the five major causes "falls from trees" uniquely affects males. It is an occupational risk of toddy tappers, though domestic picking of coconuts and jak fruit is also involved. Further enquiries into the relative contributions of these different sources might enable safety measures to be devised, at least in so far as the hazard is an industrial one. "Bites and stings of venomous animals and insects" records mainly the toll taken by snake bite. Unfortunately, since this last does not constitute a separate heading in the A List, more detailed information concerning incidence by age-groups or in particular localities is not available. "Motor-vehicle accidents" are best studied as a whole and not through

figures deriving from death certification. It should be mentioned at this point that there is a discrepancy between the figures obtained by the Registrar-General from death certification and figures of deaths due to road accidents prepared by the police. The latter source consistently records a higher number of deaths; in 1957, for example, the police recorded 364 deaths due to road accidents as against the Registrar-General's figure of 261 due to motor-vehicle accidents. An explanation of this is at present being sought by the statisticians of the two departments.

10. The hazards of fire and water merit more detailed examination. A local sub-division of the International Classification divides each of these causes into two. Consequent on the publicity which has been given to the danger of the bottle lamp, "deaths from fire are sub-divided into those arising from this cause and to those from other sources. Similarly "deaths from drowning" are separated into those taking place in wells and pits, and to those in other places. Table II shows the relative contributions to the number of deaths made by these sub-divisions. With regard to "deaths by fire" it will be seen that the excess of female deaths relates not only to the bottle lamp but also to fires from other sources, a fact which may well be referable to the more highly combustible character of female clothing.

11. Accidents resulting in drowning have received less public attention than those due to fire, and it must be stressed that this is the major cause of accidental deaths in Ceylon. Drowning in wells and pits is a hazard shared almost equally by males and females, though drowning in other places kills about three males for every female. Virtually all deaths due to bottle lamps or to drowning in wells and pits are preventable. Many of the other hazards of fire and of drowning in other places could also probably be avoided.

12. Table III shows the age-specific death rates for males and females over the period 1953-57 from fire and drowning respectively. The rates used are based on the average annual number of deaths over the period, related to the estimated population for mid-year 1955 for each age and sex sub-group. They are expressed as rates per 100 000 population.

13. The special vulnerability of childhood and old age to both these hazards is immediately apparent. Statements of age of persons over 60 are frequently inaccurate, nor are the population estimates above suspicion. Nevertheless, the rapidly increasing rates among persons over 60 serve to draw attention to the importance of accidents as a hazard of old age. It must, however, be borne in mind that any death rate reflects the combined effects of the frequency of a condition and of its lethality. To what extent the higher death-rates among children and the aged reflect a greater liability to suffer accident or a lesser ability to extricate themselves from dangerous situations and to what extent they reflect a greater likelihood of their dying from the injuries received must remain an open question.

14. With trival exceptions, the death rate from accidents involving fire and the explosion of combustible material is higher at all ages among females than among males. This, however, is most marked between the ages of 5 and 19, and preventive measures should take into account this special susceptibility of young and adolescent girls.

15. Below the age of 15, mortality due to drowning is slightly but not markedly higher among males. Over that age it falls sharply among females but hardly at all among males. It would seem likely that this phenomenon arises from the fact that a number of different hazards are sub-summed under the heading of "accidental drowning". Unfortunately more detailed figures are not available, but it would seem probably that the high death-rate in childhood is largely accounted for by the dangers of unfaced wells and pits. The higher death-rate among older males probably reflects, among other things, a greater adventurousness in bathing habits, the dangers of every-day activities in the vicinity of tanks and rivers and, to a small extent, the occupational risk of fishing.

16. Separate figures are also available for the individual provinces in Ceylon, and these again are shown in Table IV as average annual death-rates over the five years 1953-57. No breakdown by age-group is available for separate provinces, and some variation between them may be due to differences in the age composition of their populations. Such differences, however, are not likely to be very great. Certainly they do not account for the dramatically high female death-rates from fire in the Central and Uva Provinces. Nor are these figures accounted for by any special risk associated with estates. Separate figures are available for the estate populations of the island (though not in any detail), and the overall death-rate due to fire among them for the five years in question was 3.3 per 100 000. The high death-rate in these two provinces would therefore appear to merit further study.

17. It is noteworthy that higher death-rates from drowning occurred particularly in the dry zone, where they are presumably associated with deeper wells and irrigation tanks.

18. As is common with statistical studies of this kind, examination of death rates due to accidents in Ceylon gives us no final answer to the problems raised. It does, however, indicate clearly the priorities and suggests further areas for detailed study. Among the points brought out, the following seem worth further examination:

- (i) Accidental drowning is the leading cause of accidental death in Ceylon. Nearly half these drownings take place in wells and pits.
- (ii) Falls from trees, as might be expected, affect men alone. Among them it is the second highest cause.

- (iii) Accidents involving fires and the explosion of combustible material cause a far higher death-rate from this cause is far higher in the Central and Uva Provinces than in the rest of the island. This higher death-rate is not accounted for by deaths on estates.
- (iv) The hazard from fire and drowning alike is far greater among children and old persons than among adults in the wage-earning age-groups.

19. It would seem that the pattern of home accidents in Ceylon is not unfamiliar to the general trend in other South East Asian countries, most of which are commonly beset by similar problems, the root causes of which emanate from the economic difficulties that surround the average home and its immediate environment.

20. In Ceylon the following steps have so far been taken to control the mortality due to accidents:

- (a) Since January 1959, home-accident prevention has been brought under the environmental sanitation activities. It is now one of the regular activities of the public health inspectors.
- (b) A safety type of lamp has been evolved to replace the unsatisfactory bottle lamp in common use in rural parts of Ceylon.
- (c) An inter-departmental committee, consisting of representatives of the Department of Health, Police, Rural Development, Motor Transport and Transport Board, and from voluntary agencies such as the Ceylon Association for the Prevention of Accidents and the Red Cross, has been appointed to study the problem as well as to suggest remedial measures.

TABLE I. DEATHS DUE TO ACCIDENTS IN CEYLON  
1953-57 - BY SEX

Cause of accident	Males					Females				
	1953	1954	1955	1956	1957	1953	1954	1955	1956	1957
Drowning and submersion (E929)	366	425	463	390	442	246	256	243	205	222
Falls from trees (E902 part)	333	363	370	379	349	9	5	9	4	5
Bites and stings of venomous animals and insects (927)	236	219	227	183	186	112	127	99	103	87
Fire and explosion of combustible material (E916)	101	100	121	129	117	204	214	224	313	309
Motor vehicles (E810-E835)	200	208	183	178	222	55	54	51	44	39
Other causes (remainder of E800-E965)	566	601	536	581	592	173	214	179	226	230
All accidental causes	1802	1916	1900	1840	1907	799	870	805	895	892

TABLE II. DEATHS FROM FIRE AND DROWNING, 1953-57  
SUB-DIVIDED BY MAJOR CAUSE

Cause of accident		Males					Females				
		1953	1954	1955	1956	1957	1953	1954	1955	1956	1957
Fire	{ Bottle lamps	28	44	31	46	3	66	93	93	125	114
	{ Other sources	73	56	90	83	81	138	121	131	188	195
Drowning	{ Wells and pits	152	167	167	131	161	149	164	142	120	139
	{ Other places	214	258	296	259	281	97	92	101	85	83

TABLE III. DEATHS FROM FIRE AND DROWNING - AVERAGE RATES  
1953-57 PER 100 000\* BY SEX AND AGE

Age-group	Fire		Drowning	
	Male	Female	Male	Female
0-4	4.9	9.9	12.9	10.0
5-9	3.0	14.1	11.0	9.6
10-14	2.2	7.3	7.4	6.5
15-19	1.1	3.9	8.5	3.2
20-29	1.4	2.4	8.3	3.5
30-39	1.0	1.5	6.8	1.9
40-49	1.2	0.7	5.0	1.6
50-59	1.3	2.3	6.5	2.4
60-69	4.8	5.4	13.9	7.2
70-79	25.2	11.6	37.8	13.0
80 & over	124.0	212.0	288.0	164.0
All ages	2.5	6.1	9.1	5.7

\*The average number of deaths registered 1953-1957  
relates to estimated mid-year population 1955



TABLE IV. DEATHS FROM FIRE AND DROWNING - AVERAGE RATES 1953-57  
PER 100 000 POPULATION\* BY PROVINCE

Province	Fire		Drowning	
	Male	Female	Male	Female
Western	2.2	4.1	10.7	4.0
Central	3.2	12.8	5.0	3.5
Southern	2.2	4.4	10.6	7.4
Northern	1.9	3.4	15.9	10.9
Eastern	2.5	4.9	15.2	8.1
North western	1.9	4.4	11.0	7.4
North central	2.9	4.3	11.8	9.1
Uva	2.9	10.8	4.3	4.1
Sabragamuwa	3.0	5.3	6.2	5.0
All Ceylon	2.5	6.1	9.1	5.7

\*The average number of deaths registered 1953-1957  
relates to estimated mid-year population 1955