

**PREVENTIVE AND PREPAREDNESS PLAN
AGAINST DISEASES WHICH CAN ASSUME
EPIDEMIC PROPORTIONS**

16

PREVENTIVE AND PREPAREDNESS PLAN AGAINST
DISEASES WHICH CAN ASSUME EPIDEMIC PROPORTIONS

CENTRAL ENVIRONMENTAL AUTHORITY
Maligawatte New Town
Colombo 10.

SEPTEMBER, 1987

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SCOPE OF REPORT

Taking into consideration the wide spectrum of diseases that can assume epidemic proportions the Members of the Committee decided to limit the scope of this Report to environmentally transmitted infectious diseases that can reach epidemic proportions.

As these diseases are spread by contaminated water and food, as a result of poor environmental conditions the major areas of concern were identified as ;

- a. Safety of drinking water supply ;
- b. Food hygiene ;
- c. Sewage and solid waste disposal system ; and
- d. Environmental health education, public awareness and community participation.

Action to be taken in each of the above area for the surveillance and prevention of infectious diseases is discussed under Section C of the Report.

A. BASIC ENVIRONMENTAL HEALTH & SANITATION NEEDS & PRIORITIES

Good health has been defined by the World Health Organization (WHO) as "the state of physical, mental and social well being of a person and not merely the absence of disease or infirmity.". Good health demands high priority for environmental health and sanitation.

The estimated hospital mortality due to infectious and parasitic diseases for the year 1984 was 23.6 per 100,000 population (Office of Medical Statistics). The environmental factor which is most responsible for the transmission of intestinal diseases such as diarrhoea, cholera and infectious hepatitis is contaminated water.

A supply of safe drinking water is therefore an essential need for good health. Food hygiene is equally important. Strict controls of sewage disposal and solid waste management therefore play a vital role in any preventive health programme, since they are the primary microbiological means of transmitting pathogens. These micro-organisms constitute a far more serious and immediate threat to the population than any other cause such as toxic chemicals. Some common infectious diseases and actions needed for their prevention are listed in the following table.

**Environmental Action to Control or Prevent
Water and Food Borne Diseases**

Infectious Disease	Action needed for prevention			
	Sewage Disposal	Water Purification	Food Sanitation	Personal Hygiene
Typhoid fever	X	X	X	X
Hookwork & Round Worm & Pin Worm				X
Cholera	X	X		X
Viral Gastroenteritis	X	X		X
Bacillary & Amoebic Dysentery	X	X	X	X
Hepatitis	X	X	X	X
Microbial Food Poisoning	X	X	X	X

Adapted from Environmental Sanitation and Integrated Health Delivery Programmes by Charles S Pieo, David W Schnare and G Wa-e Miller.

The above table clearly shows the importance of proper excreta disposal methods and the use of clean water in the control of infectious diseases. Identification of obstacles to the provision of clean water and excreta disposal methods must therefore be considered as an essential component in the preparation of a Preventive and Preparedness Plan. For this purpose a questionnaire was designed to obtain the information needed on Environmental Health and Sanitation Related Problems from all Local Authorities, in order to prepare an inventory. This is given in Appendix (1).

B. EXISTING LEGISLATION PERTAINING TO ENVIRONMENTAL
HEALTH AND SANITATION ;

Legal Powers of Local Authorities ;

The Urban Councils Ordinance ; No. 61 of 1939

Vests Urban Councils inter alia, with the following responsibilities ;

SECTION 4

The regulation, control and administration of all matters relating to the Public Health.....

SECTION 35

Generally to promote public health, welfare and convenience and the development, sanitation and amenities of the town.

PART IV AND PART V

The Urban Council of each town to be the general administrative authority for the

- a. purpose of promoting and securing the public health ; and
- b. establishment and maintenance of public utility services.

PART VI SECTION 157

Vests any Urban Council with power to make by-laws for it with respect to public health and amenities. Some of the relevant areas include ;

- a. drainage ;
- b. the inspection regulation, maintenance and cleansing all drains, privies, cesspits
- c. the regulation, supervision, inspection and control of the sale of articles of food or drink including the sale of such articles by itinerant venders and at hotels, shops and places other than markets.
- d. the regulation, supervision, inspection and control of hotels, bakeries, eating houses, restaurants and tea and coffee boutiques.
- e. the prevention or mitigation of epidemic, endemic or contagious diseases and the speedy interment of the dead during the prevalence of such diseases.

Municipal Councils Ordinance No. 29 of 1947

SECTION 4

The Municipal Council instituted for each Municipality shall be charged with the regulation control and administration of all matters relating to the public health, public utility services and public.....

PART VI

The Municipal Council of each Municipality shall be the general administrative authority for the purpose of promoting and securing the public health. Amongst other activities it includes ;

- a. Construction and maintenance of public drains ;
- b. Inspection of houses or buildings in the Municipality for their sanitary conditions ;
- c. Issuing of a certificate of conformity with building by-laws ;
- d. Making necessary measures in every part of the Municipality for collection and disposal of refuse ;
- e. Inspection of nuisances including the inspection of public bathing places and pollution of streams which flow into reservoirs or water works ;
- f. Reporting of infectious diseases, proclaimed under the regulation framed under the Quarantine and Prevention of Diseases Ordinance by every medical practitioner or person professing to treat disease who attends to any person suffering from such disease ; and
- g. Promulgation of by-laws to enable it to perform its statutory functions and duties within its area of authority ;

Town Councils Ordinance No. 03 of 1946

PART IV SECTION 102

- a. Empowers the Town Council to be the general administrative authority for the purpose of promoting and securing public health within the town ;
- b. The Town Council shall in the exercise, discharge and performance of the powers, functions and duties vested in it in matters relating to public health act in consultation with the Medical Officer of Health of the area and for this purpose he shall be deemed to be an executive officer of the Council.

In all other respects he shall be under the supervision and control of the Director of Health Services.

Under this Section some of the areas of public health for which the Town Council is responsible for are ;

- a. Drainage ;
- b. Latrines ;
- c. Conservancy and Scavenging ;
- d. Insanitary buildings ; and
- e. Nuisances.

Village Councils Ordinance No. 9 of 1924

PART III SECTION 42

Vests every Village Council with powers to make by-laws as may be necessary for the exercise of its powers or the performance of its duties under this Ordinance in the areas of ;

- a. Drainage ;
- b. Public Health and Amenities ;
- c. Itinerant Venders ;
- d. Markets and Fairs ; and
- e. Water Supply.

Nuisance Ordinance No. 15 of 1962

SECTION 12

Vests powers to the Board of Health, Urban Council, Town Council or Magistrate to abate nuisances. It provides for the better preservation of public health and the suppression of nuisances.

National Water Supply & Drainage Board - Law No.2 of 1974

The Board is required to;

- a. Develop, provide, operate and control an efficient co-ordinated water supply and to distribute water for public, domestic or industrial purposes ;
- b. Establish, develop, operate and control an efficient co-ordinated sewerage system ;

- c. Take over and carry on any water supply and sewage undertaking of any local authority transferred to the Board;
- d. Provide a supply of water and distribute it or sell water in bulk or otherwise to any local authority, any Government Department, any other institution or organisation or any individual. and
- e. To do all other acts and things as may be necessary for the aforesaid purposes.

Legal Powers of the Ministry of Health;

Health Services Act No. 12 of 1952

The Department of Health shall be responsible for ;

- a. the provision of establishments and services (including training) necessary for the prevention and treatment of disease and generally for the preservation and promotion of health of the people.
- b. the encouragement of study and research in public health, and
- c. the taking, development or encouragement of measures for the investigation or prevention of disease and for the improvement of the public health including research and epidemiological investigation and the dissemination of information.

Quarantine & Prevention of Diseases Ordinance No.3 of 1897

This Ordinance provides for the prevention of introduction and spread of all contagious and infectious diseases. Execution of regulations may be delegated to Local Authorities. The Minister may delegate the enforcement and execution of any regulation made under the Ordinance to the Municipal or Local Authority subject to such restrictions as the Minister may from time to time think fit to impose.

The regulations made under Section 2 of this Ordinance among other things provide for ;

- a. isolating all cases of disease and diseased person ;
- b. closing wells, pits, cesspits and cesspools;
- d. regulating the number of persons to be allowed to inhabit any dwelling place ;

- d. removal from infected localities to places of observation or other places ;
- e. removal of diseased persons to hospitals or other places for medical treatment and for their detention until they can be safely discharged ; and
- f. cleansing and disinfecting of drains, sewers, cesspits and of houses, buildings and other places which have been occupied by any diseased person or otherwise in an insanitary condition.

Food Act No. 26 of 1980;

The Director of Health Services shall be the Chief Food Authority for the purpose of this Act and shall supervise, guide and co-ordinate the work of all Food Authorities. The Food Authority for the administrative area of a Municipality shall be the Municipal Council. Any other Local Authority may be appointed by the Minister as the Food Authority on the recommendation of the Minister in charge of the subject of Local Government.

Institutional and Administrative Machinery

The main institutions that have responsibility over the implementation and administration of existing policies, strategies, projects and programmes in the field of Environmental Health and Sanitation are the Ministry of Local Government, and the Ministry of Health.

Ministry of Local Government ;

The role of Municipalities, Urban, Town and Village Councils in the environmental health and sanitation activities is clearly shown in the legal powers vested in them by respective Ordinances. It is necessary that the Ministry of Local Government, recognises this role and support the strengthening of Local Authorities for carrying out their duties and functions and duties efficiently and effectively.

In the event a particular Council is not capable or defaults in the performance of its statutory functions and duties the Minister of Local Government has the power to ;

- a. dissolve such a Council and replace it by another elected Council or by a specially appointed officer ;
- b. order such a Council to carry out such work within a specified period of time ;or
- c. order the Mayor to appoint a suitable person to fulfill such duties and functions.

Ministry of Health

It is necessary that the Ministry of Health recognises the role of Local Authorities in the environmental health and sanitation activities and extend required assistance to enable the Local Authorities to perform their duties efficiently and effectively. The Health Act provides for supervisory powers over Local Authorities in the public health related work. If any Local Authority fail to perform such statutory functions the Ministry of Health can take over such functions but levy the charges to the respective Local Authority.

C. FORMULATION OF A PROGRAMME OF ACTION

The Committee noted that an Action Plan for the prevention and management of epidemics of water and food-borne infectious diseases should provide for ;

1. the surveillance and prevention of such diseases ; and
2. the management of an epidemic.

C.1 Action to be taken to prevent epidemics of food and water borne diseases;

The present situation with respect to supply of safe drinking water, controls over food hygienic conditions, excreta and solid waste disposal systems together with action to be taken to improve the present conditions are dealt in this section.

Safety of Drinking Water Supplies

The results of 1981 census on main sources of drinking water available to occupied housing units (Department of Census and Statistics) indicate that only 17.3% of the total population of Sri Lanka is served with pipe-born water.

Another 52.3% of the population use water from protected wells. 20.8% from unprotected wells and another 7% from rivers, tanks or other sources. The source of water used by 2.7% of the population is not determined. According to this survey in the districts of Galle, Amparai, Puttalam, Anuradhapura, Mullaitivu, Vavunia, Moneragala and Kalutara, less than 10% of the population is served with pipe-borne water.

The establishment of water supply schemes is carried out by the National Water Supply and Drainage Board (NWS&DB) of the Ministry of Local Government, Housing and Construction. However, the operation and maintenance of these schemes except for a few larger schemes, are carried out by the Local Authorities. The Mahaweli Authority and the Estate Sector too operate and maintain water supply schemes.

Only a few water supply schemes, mainly the larger schemes maintained by the National Water Supply and Drainage Board, produce treated water of potable water quality. Lack of trained staff and of funds for purchase of equipment and chemicals and for operational and maintenance work at the Local Authority Level are responsible for distributed of untreated or inadequately treated water by almost all of the water supply schemes.

Routine monitoring of water quality which is essential for the detection of malfunctioning of water supply scheme is presently being carried out only in a few of the larger water supply schemes maintained by the NWS & DB. This hampers the adoption of any corrective measures in time to prevent spread of any water-borne disease.

It is therefore, suggested that all Local Authorities be provided with sufficient funds by the Central Government or raise such funds for the supply of safe drinking water through ;

- a. effective operations and maintenance of the water supply schemes ;
- b. training of adequate technical staff ;
- c. purchase of equipment and chemicals for water treatment ;
- d. continuous monitoring of water quality ; and

- e. implementation of any recommended measures to mitigate any undesirable conditions within their areas.

The NWS & DB should ensure that all water supply schemes maintained by them supply safe drinking water by ;

- a. inplant water quality monitoring ;
- b. working in close co-operation with the independent water quality monitoring and review organisation ; and
- c. assisting other agencies such as Local Authorities responsible for water supply schemes in the proper operation and maintenance of such schemes.

The Ministry of Health should work in close collaboration with the Local Authorities through PHII and MOHH to ensure the supply of safe water by ;

- a. providing facilities and equipment required for water quality testing ;
- b. carrying out continuous water quality monitoring ;
- c. preparing water quality test reports and submitting them to an independent water quality monitoring authority for review ;
- d. implementing the recommendations made by the independent water quality monitoring authority to remedy any unfavourable conditions.

Food Hygiene

There are no ready statistics available on the number of eating houses in each district or their sanitary conditions. There is however, general agreement that sub-standard hygienic conditions prevail in most eating houses. Lack of proper toilet facilities of adequate water supplies and of solid waste disposal systems are responsible for the poor sanitation.

Inspection of food samples on any scale is presently carried out area by the Medical Research Institute (MRI) and the Government Analyst's Department. Lack of laboratory facilities for the testing of food samples restricts the number of samples that can be analysed even within the Colombo Municipal Council area.

The Food Act NO. 26 of 1980 designates the Director of Health Services as the Food Authority. The Ministry of Health should therefore, take immediate action to ;

- a. train all PHII in close co-operation with the Local Authorities in food hygiene and quality control activities ;
- b. establish regional laboratories for testing of food samples for compliance with basic food hygienic standards ; and
- c. review, update and establish where necessary hygienic standards for food items.

Sewage and Solid Waste Disposal Systems

Bowel diseases and other water-borne diseases are more effectively controlled by the installation of sewage and sullage disposal and storm-water drainage systems. Sullage and pools of undrained water provide favourable breeding conditions for pathogens and vectors of many diseases. A wide range of sewage disposal systems are available today. However, the success of any system will depend on the selection of an appropriate system. Some of the basic sanitation alternatives available are pit latrines, water seal latrines, compost latrines, septic tanks and sewerage systems.

The 1981 Census of Population and Housing revealed that 30.9% of the total population of Sri Lanka lack any type of toilet facility. The corresponding figures for the districts of Vavunia, Mullaitivu, Puttalam and Anuradhapura are ; 74.9% , 81.4% , 50.7% and 57.4% respectively.

The Local Authorities are responsible for the provision and/or adoption of proper sewage and solid waste disposal systems. In spite of the initiation of a number of sanitation programmes, lack of toilet facilities and proper solid waste disposal methods still remain major problems. It is therefore, suggested that the Local Authorities take steps to ;

- a. provide adequate toilet facilities and low cost technology for handling sewage such as stabilization ponds, or through the application of alternative non-water borne means of excreta disposal such as composting and biogas production ;

- b. provide proper methods of solid waste disposal such as land fills and incineration or put into alternative use such as composting ; and
- c. launch campaigns to promote public awareness on health aspects of proper use of latrines and proper disposal of solid wastes.

Environmental Health Education, Public Awareness and Community Participation ;

For any project or a programme to be successful the public must be educated of the need, objectives and benefits of such activities. It has been shown (Environmental Sanitation Profiles 1986) that construction of latrines and/or providing subalidity have not always helped in building a cleaner or healthier environment. The lack of education of proper use of toilets and how it can help prevent the occurrence of infectious diseases have often resulted either in the misuse or complete absence of use of latrines in many parts of the country. Therefore, the health education at different levels of the society and the community participation in the activities of environmental health and sanitation programmes demand high priority. Presently, the environmental health education is mainly carried out by the Health Education Bureau of the Ministry of Health. However, it is important that such education programmes are launched through Local Authorities for greater community participation. The Local Authorities do not have the infrastructure to carry out such programmes but they are the people at grass root level who will be able to work in close cooperation with the community. Therefore, it is recommended that the Health Education Bureau of the Ministry of Health should work in close collaboration with the Central Environmental Authority for the promotion of environmental health education programmes through Local Authorities.

C.2 The Management of an Epidemic ;

An epidemic is described as the occurrence of an unusual number of cases suffering from a disease during a given period. The responsibility of identifying and treating the cases is mainly with

the Ministry of Health, particularly with the Epidemiology Unit, Hospital and OPD facilities.

Monitoring of Epidemiological Data ;

Surveillance of communicable diseases except the diseases covered by the special campaigns is carried out by the Epidemiological Unit of the Ministry of Health. It is a requirement that every medical practitioner or person professing to treat diseases who attends to any person suffering from an infectious disease report to the Medical Officer of Health. Special surveillance mechanisms are also in operation for Cholera, Poliomyelitis, Tetanus and Human Rabies.

It is necessary that existing reporting systems be streamlined and appropriate procedures be developed for the collection and collation of data so that these could function as early warning systems.

Supplies of drugs and other requirements;

Drugs and other items that may be required by the hospitals in the event of an epidemic must be assessed according to the number of hospitals available, the population, staff and other resources available for each MOH area or for each district. List of these should be prepared and at least one months buffer stocks should be kept available for emergency situations. Such contingency plan would prevent delays in providing treatment to cases suffering from infectious diseases and help prevent unnecessary spread of the disease.

A copy of a report titled "Suggested Action Plan in the Event of Diarrhoea and other Communicable Diseases" prepared by the Ministry of Health is given in Appendix 2.

D. FINANCIAL AND MANPOWER REQUIREMENTS

Although the Local Authorities have statutory functions they are unable to recruit adequate staff and purchase necessary equipment because of financial constraints.

Local Authority's revenue is dependent mainly on monies collected from property rates and taxes and therefore, only the capital cities or major industrial towns find adequate revenue to employ necessary staff to carry out such statutory functions. Therefore, the need to ;

- a. allocate adequate finances by the Central Government to those Local Authorities identified as requiring financial support ;
- b. explore the possibilities of exploring international and bilateral aid ; and
- c. develop suitable schemes to increase the revenue of such Local Authorities.

is very clear for effective performance of statutory functions by Local Authorities.

Assessment of additional financial and manpower requirements will be carried out on the information obtained from Local Authorities in the given format in Appendix (1).

E. RECOMMENDATIONS

- a. To recognise the role of the Local Authority as the General Authority for public health within its area of jurisdiction ;
- b. To strengthen the infrastructure of the Local Authority to enable it to effectively perform its statutory functions ;
- c. The Central Government to provide grants to enable the Local Authority to carry out its statutory functions in public health and in the prevention of diseases ;
- d. The Ministry of Health to prepare a Contingency Plan to meet the requirements of identifying and treating the cases during an epidemic ;
- e. The Health Education Bureau to undertake the health education and public awareness programmes on Environmental Health and Sanitation in close collaboration with the Central Environmental Authority. These programmes to be implemented through Local Authorities to ensure active community participation ;
- f. The Epidemiology Unit of the Ministry of Health to co-ordinate the collection of epidemiological information from all Local Authorities ;

- g. The Epidemiology Unit of the Ministry of Health to look into the problems of existing procedure for notification of diseases and to make recommendations to ensure its proper implementation ;
- h. The Ministry of Health to ensure the proper implementation of the provisions of the Food Act ;
- i. The National Water Supply & Drainage Board to provide safe drinking water through all public water supply schemes. The quality of water should conform to the Sri Lankan Standards for Potable Water ;
- j. To establish a system of independent water quality monitoring with powers to regulate the production and distribution of drinking water ;
- k. To establish Regional Public Health Laboratories with capabilities for analysis of water quality and quality of food to strengthen the implementation of the Food Act through out the Island ;
- l. To make mandatory that the Head of a Local Authority delegates all relevant powers to the Medical Officer of the Area to carry out the statutory functions towards environmental sanitation and public health until such time the capabilities of Local Authorities are strengthened ;
- m. To initiate a survey of Local Authorities to identify the present status of implementation of statutory powers towards public health and to evaluate the future requirements together with manpower and financial resources ;
- n. To develop and make mandatory regulations for establishment, operation and maintenance of water schemes ;
- o. The Ministry of Local Government and the Ministry of Health to exercise the Central Control over Local Authorities as provided under various Ordinances and Acts.

CONCLUSIONS

In considering the statutory functions and powers of Local Authorities as provided under the various Laws it is obvious that it is the Local Authority that has the primary responsibility in preventing environmentally transmitted diseases.

In addition to the statutory functions, it is necessary to carry labour force required for the discharge and performance of functions and duties in public health and environmental sanitation.

However, it has been shown that many Local Authorities are unable to support the infrastructure due to lack of finances. In any event, this Committee feels that the Ministry of Health is not geared to carry out this work. The Ministry of Health has supervisory powers and can delegate most of its powers on public health and environmental sanitation to Local Authorities.

The basic requirements for monitoring food and water quality are lacking in most parts of the Island, which results in very little information being available as to the safety of food and water which are the main vehicles of diarrhoeal diseases.

ENVIRONMENTAL HEALTH AND SANITATION
INFORMATION TO BE OBTAINED FROM
LOCAL AUTHORITIES

- 1. Name of Local Authority :
- 2. Administrative Area : Land area :
- 3. Population :
- 4. No. of house-holds :

Health personnel attached to Local Authority -

Category	Number	Responsibility

6. Water Supply Schemes

6.1 Source/s of drinking water supply -

Location of the Scheme	Name	Maintained by	Capacity

6.2 Is the present water supply adequate to serve the population in your area ?

Yes No

6.3 If not how inadequate ?

6.4 Type of water treatment at your scheme

6.5 Who is responsible for monitoring the quality of drinking water ?

6.5.1 Name :

6.5.2 Designation :

6.5.3 Facilities available for monitoring :

6.5.4 Frequency of monitoring :

6.5.5 Parameters analysed.

- | | |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

6.6 Where or to whom are those water quality monitoring reports submitted for follow up action ?

Name and address of place :

6.7 How much money is allocated for monitoring ?

7. Night Soil Disposal

7.1 % of population served by a sewerage system ?

7.2 No. of toilets with septic tanks systems ?

7.3. No. of bucket latrines -

Method of collection :

Method of disposal :

11. Environmental Health Education, Public Awareness
and Community Participation :

List environmental health education and public awareness programmes that have been launched to educate the public in your area on environmental health and sanitation.

11.1 Responsible organisation/s for such activities :

11.2 What areas in your opinion most require public education in your area :

11.3 Has any such programmes enhanced the community participation in environmental health and sanitation activities ?

12. Please complete the attached checklist on "Environmental health problems" in order to identify the significant environmental health problems in your area.

Date

Name of contact person :

Signature :

Telephone number :

A CHECKLIST TO IDENTIFY ENVIRONMENTAL
HEALTH PROBLEMS

DDC MC Local Authority	Water Supply	Excreta disposal	Waste water disposal	Waste water treatment and water pollution control	Solid waste management	Drainage	Food hygiene	Housing sanitation

Note : * Please give the following weightages to indicate the nature of problem

- 1 = negligible
- 2 = considerable
- 3 = significant

If necessary provide details of problems considered on significant in separate attachments.

**SUGGESTED ACTION PLAN IN THE EVENT OF
EPIDEMICS OF DIARRHOEA AND OTHER COMMUNICABLE DISEASES**

1. **GENERAL**

The occurrence of an unusual number of cases suffering from a disease during a defined period is referred to as an epidemic. The detection of the occurrence of an epidemic, therefore, relies largely on epidemiological information made available to the Ministry of Health. This depends on the receipt of notification by the epidemiologist. This action plan is prepared to cover diarrhoea as well as other communicable diseases such as Japanese Encephalitis, Dengue Haemorrhagic Fever which may occur in epidemic form from time to time.

2. **MONITORING EPIDEMIOLOGICAL DATA**

Monitoring of epidemiological data is the most important aspect for detecting the occurrence of an epidemic. For this purpose the Epidemiological Unit will assign an officer who will be responsible for the collection and collation of information from routine weekly returns sent by Medical Officers of Health, information from Specialised Campaigns, Newspaper reports and special studies conducted in known vulnerable areas such as regular sampling of water for faecal contamination.

This information will be regularly submitted to the DDG (PHG) by personal and written communications depending on the nature and urgency of the epidemiological information flowing in.

Details of collecting and collating information will be worked out by the Epidemiological Unit.

At the peripheral level all Medical Officers of Health will study the notifications and information from Medical Institutions and members of the public pertaining to the above diseases.

3. **ACTION AT DIVISIONAL LEVEL**

When a Medical Officer of Health/DHO finds that any disease is occurring in epidemic proportions in his areas he should mobilise his field staff and take remedial measures. When assistance is required from other agencies he will contact the relevant authorities such as the Member of Parliament, Government Agent, Local Authority, the National Water Supply & Drainage Board and ensure that cooperative action is taken to control the epidemic with the least possible delay.

The Regional Director of Health Services and the Epidemiologist will be informed and additional staff will be deployed as required.

During the period of the epidemic the Medical Officer of Health/DHO will provide daily statistics to the Epidemiologist by telephone with confirmation in writing.

The Medical Officer of Health will continuously monitor the data available to him and institute appropriate action to arrest the epidemic.

4. **ACTION AT CENTRAL LEVEL**

4.1 Supplies and Drugs

Drugs and other items that are required in the event of an epidemic will be listed out and the Director, State Medical Stores will be responsible for maintaining at least a one month buffer stock.

4.2 Health Education Activities

The Director (Health Education and Publicity) will nominate a person from the Health Education Bureau to be in-charge of Health Educational and community based activities in the event of an epidemic. He will prepare the logistion of the programme including the budget. Officers, equipment and vehicles required both at the Ministry and Sub-offices will be listed out and plans drawn up for quick deployment.

The Health Education Bureau will also plan and prepare for intersectoral assistance from Government and Non-government Organizations.

The Health Education Bureau will also be responsible for giving adequate publicity through the mass media to keep the public informed about the epidemic and the preventive actions that are indicated. It will be useful if handbills are prepared in advance of these epidemic diseases.

5. ROUTINE PREVENTIVE ACTIVITIES

Strengthening of the ongoing programmes aimed at the prevention of Communicable Diseases is an essential prerequisite to the prevention of epidemics.

The provision of safe and adequate water, wholesome food, excreta disposal facilities and efficient refuse disposal systems are four areas which require strengthening particularly in respect of diarrhoeal disease control.

5.1 Water Supplies

Action will be taken to ensure adequate chlorination of all community water supplies and individual water sources. Regular water quality monitoring of all community water supplies will be carried out. In addition, to water quality monitoring conducted by the National Water Supply and Drainage Board, the Department of Health will carry out independent water quality monitoring activities of community water supplies. Medical Officers of Health/DHO will be trained to undertake this activity after training. It is proposed to issue them with portable testing equipment for this purpose.

5.2 Food Sanitation

Action is being taken to train all Public Health Inspectors (PHII) to undertake food control activities in order to enforce the provisions of the Food Act. Already nearly 800 PHII out of a cadre of 750 field PHII are trained in this activity. The appointment of a Food and Drugs Inspector to each of the 20 R/DHS Divisions is envisaged. At present the cadre stands at 14.

Analysis of food samples are done by the Government Analyst Department in respect of samples sent from all parts of the island except the Colombo and Kandy Municipalities, which have their own laboratories. It is proposed to strengthen this activity by establishing more regional laboratories. The first of these will be located at the National Institute of Health Sciences at Kalutara. Action will be taken in collaboration with the Local Authorities to ensure compliance with basic food hygiene standards of all food handling establishments in their respective areas.

5.3 Excreta Disposal Facilities

The subsidy given under the Aided Scheme of Latrine Construction has recently been increased up to Rs.700/=. Action will be taken to have the financial allocation increased for 1987 in order to provide more latrines.

Health Educational Activities in respect of this activity will be strengthened.

5.4 Refuse Disposal

The improper disposal of refuse is one of the chief causes of fly and mosquito breeding. Disposal of refuse is the responsibility of the respective Local Authorities, especially in Urban Areas. In general, methods of refuse disposal adopted by most local authorities is unsatisfactory.

5.5 Action During Flood and Natural Disasters

All peripheral public health officers have been given adequate instructions on measures to be adopted in the event of floods and other natural disasters particularly in regard to prevention of spread of Communicable Diseases.

5.6 Seasonal Festivals

People attending seasonal festivals in various parts of the island are at great risk from contracting infectious diseases, mainly diarrhoeal diseases

of temporary sanitary latrines, safe water and the disposal of refuse are usually provided in collaboration with the Local Authorities. These activities have very often been properly supervised. All Medical Officers of Health/DHOs and other public health staff will be instructed to ensure the provision of these facilities and supervise their maintenance during the period of the festival. Exposed and unwholesome food will not be permitted to be offered for sale.