

REGIONAL STRATEGY FOR HEALTH AND ENVIRONMENT



WORLD HEALTH ORGANIZATION
Regional Office for the Eastern Mediterranean
1993

**REGIONAL
STRATEGY
FOR
HEALTH AND
ENVIRONMENT**



WORLD HEALTH ORGANIZATION
Regional Office for the Eastern Mediterranean
Alexandria, Egypt
1993

©World Health Organization, 1993

This document is not a formal publication of the World Health Organization (WHO), and all rights are reserved by the Organization. The document may, however, be freely reviewed, abstracted, reproduced or translated, in parts or in whole, but not for sale or for use in conjunction with commercial purposes.

The views expressed in documents by named authors are solely the responsibility of those authors.

WHO-EM/PEH/456/E/G/09.93/250

CONTENTS

	<u>Page</u>
FOREWORD	5
SUMMARY	7
1. INTRODUCTION	9
2. BASIS FOR THE STRATEGY FOR A PLAN OF ACTION	9
2.1 UNCED - Agenda 21	9
2.2 WHO Global Strategy for Health and Environment	10
2.3 Regional Strategies	11
3. SHORT-TERM CONSIDERATIONS FOR A PLAN OF ACTION	12
3.1 Working with Countries to Develop Health and Environment Plans	12
3.2 Identification of Capacity-building Needs and Securing Related and Required Resources	13
4. STRATEGY FOR A PLAN OF ACTION	13
4.1 Principles	13
4.2 Specific and Current Environmental Health Problems	14
4.3 Capacity-building Functions	24
5. MEANS OF IMPLEMENTATION	29
 <u>Appendices</u>	
1. Health Impacts Associated With Selected Deteriorated Environmental Conditions/Environmental Health Hazards	31
2. Guidelines for a Regional Plan of Action	33

FOREWORD

In early 1990, WHO's Director-General established a 22-member Commission to prepare a global strategy for health and environment and to formulate recommendations for consideration by the World Health Assembly. These, in turn, were presented to the United Nations Conference on Health and Development, also known as the "Earth Summit", which was held in June 1992 in Rio de Janeiro, Brazil

The Forty-fifth World Health Assembly, in resolution WHA45.31, requested the Director-General to formulate a new global strategy for environmental health, based on the findings and recommendations of the WHO Commission on Health and Environment and on the outcome of the Earth Summit.

The global strategy, which was developed in close cooperation with WHO headquarters and its regional offices, was adopted by the Forty-sixth World Health Assembly in May 1993

In the light of the Forty-sixth World Health Assembly resolution WHA46 20, EMRO organized a Consultation on the Development of a Regional Strategy for Health and Environment, which was held in Amman, Jordan, in June 1993.

Based on the countries' experience in the Region, the Regional Strategy for Health and Environment, is focused on this Region's specificity and trends and contains guidelines for the preparation of national plans of action.

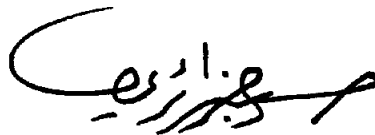
The links between health, the environment and sustainable development will require intersectoral efforts, involving schools, universities, the community (including the business community), as well as religious, civic and cultural organizations. Particularly relevant is the inclusion of "prevention" programmes, rather than solely "curative" programmes.

Some goals are suggested in order to ensure consistent and effective technical cooperation of WHO with its Member States, and that the limited national and WHO resources (financial and human) are used to the maximum. These will include:

- achieving a sustainable basis for "health for all",
- promoting a healthy environment; and
- making individuals and organizations aware of their responsibilities for their own health and that of the environment

It is important to stress that leadership, together with an informed public and national political commitment are essential if we are to tackle the problems of environmental pollution effectively.

I trust that all Member States of our Region will make it a priority to follow up the regional strategy for health and environment and prepare national action plans for implementation. I am very glad to know that many Member States have already started to take urgent action. I wish them all success.



Hussein A. Gezairy, M.D., F.R.C.S.
Regional Director

SUMMARY

As a follow-up to the United Nations Conference on Environment and Development (UNCED), also known as the "Earth Summit", which was held in Rio de Janeiro, Brazil in June 1992, WHO developed a global strategy for health and environment, which was adopted by the Forty-sixth World Health Assembly in May 1993. In the light of Forty-Sixth World Health Assembly resolution WHA46.20, EMRO organized a Consultation on the Development of a Regional Strategy for Health and the Environment, which was held in Amman, Jordan, in June 1993. It was attended by 21 national participants from EMR Member States, the occupied West Bank, and representatives from WHO headquarters and various other United Nations organizations and donors (AGFUND, the British Council, UNDP, UNRWA, etc.)

The regional strategy for health and environment is based on our Region's specificity and trends, particularly its rapid urban population growth, rural depopulation; rapid urbanization, lack of adequate waste disposal facilities; problems of food hygiene safety, including street food vending; and the anticipated increase in industrialization and energy use. These conditions have all resulted in generating more air pollution, greater discharges of solid and liquid wastes, with increased risk of polluting surface, coastal and groundwater resources, as well as creating overconsumption and depletion of water resources in general. Waste products, including toxic chemicals and metals, can have long-lasting adverse effects on land and water resources, as well as on food, and ultimately, on all forms of life. The industrialization of agriculture is increasing pollution levels through mechanization, large-scale irrigation and a greater increase in the use of chemical fertilizers and pesticides.

The introduction explains that health and the environment, in the context of the Strategy, encompasses the health outcomes of interactions between humans and the full range of factors in their physical and social environments.

The Strategy is guided by the principles contained in WHO's global strategy for health and environment.

Based on the countries' experiences in the Region, the regional strategy for health and environment describes 19 specific and current environmental health problems and 10 capacity-building functions needed to enable countries to carry out the policies promulgated and agreed upon during the Earth Summit and at the Forty-sixth World Health Assembly.

The relative urgency of each problem, as well as the specific needs for building the appropriate institutional capacities, vary considerably among Member States of the WHO Eastern Mediterranean Region (EMR). Nevertheless, it was agreed by the participants that EMR's plan of action be guided by a prioritization of these problems and needs. This will enhance the timeliness and effectiveness of its activities in the Region as a whole.

These priorities were presented, along with the proposed activities for most of the priority problems or needs.

At this stage, these identified problems and the specific tasks associated with them are viewed as guidelines towards the finalization of the plan of action, which will serve as the blueprint for implementation of the regional strategy.

A prerequisite for the finalization of the plan of action is the formal adoption of the draft strategy by EMRO, and the provision for the refinements

of various technical and managerial inputs called for by detailed action plans.

The gradual transition of EMR's present programme of environmental health to the new strategy and plan of action for health and environment, within the context of sustainable development, may require some years to complete

A transitional stage of preparatory efforts and mobilization of resources prior to the beginning of implementation of the plan of action is therefore envisioned

Short-term considerations for the development of a Plan of Action will concentrate on the following:

- *Working with countries to develop health and environment plans*
- *Identifying capacity-building needs and securing related and required resources*

Activities to be undertaken in the short term will be developed through the following specific actions

- (a) Country-by-country assessment of the status of preparations for national plans for sustainable development, with particular reference to their health and environment sections
- (b) Identification of country priorities for capacity-building in the health and environment area.
- (c) Evaluation of the duties and capabilities of existing environmental health departments/units and identification of measures to strengthen them, including decentralization of responsibilities as far as possible.
- (d) Promotion of health and environmental issues as they relate to sustainable development planning, e.g., national meetings and media programmes/events.
- (e) Preparation and issuance of new guidelines for such items as (c) and (d) above
- (f) Carry out case-studies on the preparation of the sections of national plans for sustainable development dealing with health and the environment and on the identification of priority needs for capacity building
- (g) Evaluation of the effectiveness of different means of coordination, both within the health sector and intersectorally, and identification of measures that can help to strengthen them.

Finally, additional general recommendations are provided, based on further comments on the plan of action that may be of use as guidelines towards its finalization.

1. INTRODUCTION

The report of the WHO Commission on Health and Environment (1992) was an important contribution to the policies for national and international action promulgated by the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, June 1992. Health and environment in this context encompass the health outcomes of interactions between humans and the full range of factors in their physical and social environment. The physical environment includes both natural and man-made elements, and consists of physical, chemical, and biological factors. The social environment includes social conditions (values, customs, beliefs, etc.) and the structures affecting access to employment and education that determine the distribution of health risks and health-sustaining benefits. **Appendix 1** lists some health impacts associated with environmental conditions and hazards.

As a follow-up to the Earth Summit, WHO developed a global strategy for health and environment (WHO/EHE/93.2), which was adopted by the Forty-sixth World Health Assembly in May 1993. The strategy outlines the ways in which the Organization can assist Member States to define their plans for sustainable development, giving emphasis to aspects of the environment that affect human health. Achievement of health benefits will result from, and is dependent upon, consistent and practical actions taken by responsible communities and Member States supported by international organizations and entities.

The Forty-sixth World Health Assembly, through its resolution WHA46.20, requested the Director-General that this global strategy be used to develop corresponding regional strategies and action plans. In the light of that resolution, EMRO organized a consultation on the development of a regional strategy for health and environment in Amman, Jordan, from 19 to 23 June 1993. This strategy document brings together information on policies of UNCED and the Eastern Mediterranean Region (EMR) problems and previous regional strategies that need to be considered. Suggested approaches are put forth on short- and long-term basis for developing a strategy for health and environment in the Region.

The four sections of the strategy document which follow, include: (1) the basis for a regional strategy as related to UNCED, WHO's global strategy and existing Eastern Mediterranean regional strategies; (2) short-term considerations that propose a gradual transition from the present regional programme; (3) a strategy that is built-up on specific priority environmental health problems and capacity-building activities; and (4) some suggestions and ideas for formulation and implementation of a regional plan of action for health and environment.

2. BASIS FOR THE REGIONAL STRATEGY FOR A PLAN OF ACTION

2.1 UNCED - Agenda 21

The United Nations Conference on Environment and Development (UNCED) adopted the Rio Declaration on Environment and Development. Its first principle declares that: "Human beings are the centre of concern for sustainable development. They are entitled to a healthy and

productive life in harmony with nature". This is fully supportive and compatible with the social goal of Health for All, and directly links health and the environment and development. UNCED also adopted Agenda 21 which defines the action that governments, international organizations and other bodies should implement to achieve sustainable development. It encompasses 40 chapters and more than 100 programme areas. Chapter 6 is focussed on "Protecting and Promoting Human Health". Health is more or less a consideration in the majority of the other chapters of Agenda 21. These links between health and environment in Agenda 21 have been identified and assessed with respect to health involvement in WHO's global strategy for health and environment.

2.2 WHO Global Strategy for Health and Environment

WHO global strategy for health and environment is based on the recommendations of WHO's Commission on Health and Environment and on the policy agreed upon by UNCED. It establishes a unifying framework for WHO's future actions. It provides the basis for WHO headquarters, regional offices and country programmes to support Member States, as they prepare action plans to implement Agenda 21. The WHO global strategy has the following four interrelated components:

- the enhanced programme for promotion of environmental health;
- the expanded programme for promotion of chemical safety;
- broader action and partnership on health and environment throughout WHO, including actions for disease prevention and control, nutrition information systems, basic health needs and other health environment related activities of the Organization; and
- strengthened partnerships with other international agencies and nongovernmental organizations.

The following objectives, taken from the WHO global strategy, are relevant throughout the Organization and are relevant to the EMRO's strategy and the proposed plan of action for health and environment:

- To support countries in providing the environmental elements required to meet basic health needs.
- To promote increased awareness and understanding of interactions between health, the environment, and development among leaders and the public, so as to strengthen community action for health and sustainable development.
- To collaborate with national and local authorities in the creation of supportive environments for health.
- To advance the central role of health in decision-making and programmes on matters of environment and development, and to foster partnerships between health and related sectors in these processes.
- To strengthen capabilities for emergency preparedness and response to cover public health aspects of disasters and violent conflicts.

- To strengthen national capabilities for human resources development in work related to health, environment and development.
- To improve technical capabilities for the monitoring and assessment of environmental risks to health.
- To improve technical capabilities for the management of environmental risks to health, i.e., their prevention, abatement, and control.
- To strengthen local, national and international environmental health information systems, for the exchange and proper use of information.
- To promote research on a progressively stronger scientific and technical basis for the wide range of interventions needed to achieve the health goals of sustainable development.
- To foster integrated, environmentally safe and sound methods and technology for the effective control, prevention and treatment of disease and disability.
- To promote and support other institutional and sectoral capacities for improving progressively policies, plans, legislation and actions for health, the environment and development.

The Consultation suggested two additional objectives:

- To emphasize the role of women in all aspects of health, environment and development, especially in rural areas, and
- To promote the involvement of nongovernmental organizations in planning and implementation of national plans and meeting national goals, with special emphasis on health education.

2.3 Regional Strategies

The existing regional strategies and guidelines are an important resource for further technical cooperation with Member States, as they prepare their plans in response to Agenda 21. Some modification of these strategies/guidelines may be appropriate, taking into account the agreed policies and actions of UNCED. This, however, does not detract from the value these strategies/guidelines have as a valid foundation of information, understanding and agreement as to how to proceed in several important aspects of health and environment and development. The following documents contain significant existing regional strategies/guidelines:

World Health Organization. Water and sanitation management for health strategy beyond 1990. Regional Office for the Eastern Mediterranean, Alexandria, Egypt, 1990 (Unpublished document No. EM/ES/415-E).

World Health Organization. Control of environmental health hazards including chemical safety. Regional Office for the Eastern

Mediterranean, Alexandria, Egypt, 1990 (Unpublished document No. EM/ES/397-E).

World Health Organization. Environmental health in rural and urban development and housing. Regional Office for the Eastern Mediterranean, Alexandria, Egypt, 1990 (Unpublished document No. EM/ES/410-E).

World Health Organization. Prevention and control of foodborne diseases by improvement of food safety activities. Regional Office for the Eastern Mediterranean, Alexandria, Egypt, 1990 (Unpublished document No. EM/FOS/13-E).

The need for convergence of ideas and resources is all too obvious, as countries respond to UNCED's call for national action plans for development (with assistance of UNDP), and national health and environment authorities respond with respect to health and environment components of development plans (with technical cooperation of WHO). The opportunities for environmental improvement and enhancement of health are great, but the challenge for the synergistic use of resources and timely cooperation among the many actors is also great.

3. SHORT-TERM CONSIDERATIONS FOR DEVELOPMENT OF A PLAN OF ACTION

The affirmation by UNCED of broad interrelatedness and interdependence of health, environment and development encourages the use of resources of non-health sectors in support of health goals. It also brings substantially revised concepts to the health sector and imposes the need for changes in health policies and in techniques of cooperation with Member States and international agencies concerned with health. In large measure, the changes pertain to the need to approach health, environment and development in a holistic way. For example, while there is still a need to strengthen urban air pollution control, according to the precepts of UNCED, the causes, effects, costs and controls need to be viewed in a larger developmental manner.

For the health sector, this implies the greater use of other broader programme approaches, such as, healthy cities, as a mechanism to consider categorical programmes in the concept of health, environment and development. EMRO's healthy villages approach, which integrates environmental sanitation concerns, for example, safe drinking water, excreta disposal, health education. in rural areas, is another example. The changes required in the Regional Office will reflect directly the needs of Member States to adopt new broadened policies in response to UNCED, and put in place the capabilities to implement them. The gradual transition of the current regional environmental health programme to the new strategy and plan of action for health and environment, within sustainable development, may require up to two years to complete. Short-term considerations for the development of a plan of action will be the following:

3.1 Working with Countries to Develop Health and Environment Plans

This pertains specifically to the preparation of national action plans for development, based on Agenda 21, Chapter 6, Protecting and Promoting Human Health. In addition, health components of many other

aspects of development, for example, energy, agriculture, transportation, will need to be considered. The work will require strengthening information/data systems and new ways of assessing data; strengthened intercountry/interdisciplinary cooperation; and revised approaches to physical and social planning.

3.2 Identification of Capacity-building Needs and Securing Related and Required Resources

The full realization of the promising new approaches of UNCED will require many adjustments of management capacities of Member States and also of WHO and other international agencies involved. The range of functions where capacity needs to be assessed and appropriately built up includes development planning, monitoring and assessment, advocacy and public information, human resources development, information data systems, research, and intersectoral cooperation. Strengthening of traditional sources of funding, as well as identifying new and unique sources of support, will be essential to attaining the required build-up of national capacities.

Short-term considerations will be developed through the following specific actions:

- (a) Assessment of the status of preparations for developing national plans for sustainable development and their health and environment sections.
- (b) Identification of country priorities for capacity building in the health and environment areas.
- (c) Evaluation of the duties and capabilities of existing environmental health departments/units and identification of measures to strengthen them, including decentralization of responsibilities to the extent possible.
- (d) Promotion of health and environment issues as they relate to sustainable development planning, for example, national meetings, media programmes/events.
- (e) Preparation and issuance of new guidelines for items such as (c) and (d) above.
- (f) Conducting case-studies on the preparation of sections of national plans for sustainable development dealing with health and environment and for the identification of priority needs for capacity building.
- (g) Evaluation of the effectiveness of means of coordination, both within the health sector and intersectorally, and identification of measures for their strengthening.

4. STRATEGY FOR A PLAN OF ACTION

4.1 Principles

The strategy for a plan of action will be guided by, and based upon, the principles derived from WHO global strategy for health and environment. They include the following:

Broader action and collaboration, both within the health sector and intersectorally, for health, environment and development.

More holistic approach to programmes and projects, allowing the diverse and complex environmental health problems to be more readily addressed in their entirety, avoiding piecemeal approaches. Programmes will be established and carried out with a clearer focus on urban and rural situations.

Risk management, emphasizing corrective and/or preventive measures to alleviate environmental effects on health. Risk assessment will be pursued as required.

Capacity building for sustainable action on health and environment will take precedence over projects that feature *ad hoc* problem-solving.

Strict adherence to agreed priorities. WHO resources are limited and funds are not available to deal with all needs simultaneously.

Greater emphasis to collaboration with, and coordination among, United Nations agencies, and other international organizations, governmental and nongovernmental.

4.2 Specific and Current Environmental Health Problems

The specific and current environmental health problems are indicated in the following 15 sub-paragraphs, according to specific activities. Some priority activities are general and are commonly applicable to all of the specific and current environmental health problems, listed below.

- Promoting of awareness of health implications and successful schemes.
- Strengthening of institutional framework, including training of national personnel.
- Mobilization of funds.
- Development of national planning standards and design criteria, to include environmental health impact assessments.
- Provision of logistics support
- Development of information data base systems.
- Community involvement and health education.
- Encouraging sector coordination.
- Development of government policy for the problem areas/sectors.
- Development of reference centres and research activities for technologies.
- Collaboration among Member States having common problems (research, investigations, exchange of information).

1) Drinking-water quality

Drinking water has been historically one of the most critical single environmental factor for protecting the health of the public against communicable diseases. Communicable water-related diseases, with diarrhoea taking the first place, are undoubtedly still the most widespread health problem, particularly in underserved rural areas and urban slums in most of the countries in the Region. There are considerable difficulties in adopting or accepting "enforceable" standards that are different from universally adopted ones.

List of Activities

- Attention should be given to ensuring adequate drinking water supply, improving its quality and ensuring the maintenance of such quality.
- Operation and maintenance of systems.
- Monitoring/control of water quality.
- Leak detection/reduction.
- Implementation of urban and rural programmes.
- Development of a cost-recovery framework.
- Water-quality monitoring and strengthening of laboratory capabilities.
- Appropriate and safe technology transfer.
- Integrated environmental health education programmes.
- Control of water-related diseases.
- Water treatment and disinfection.

2) Adequate means and practices for water supply, sanitation and disposal of excreta

The level of population coverage with water supply and sanitation also varies considerably from country to country. For practical purposes, it can be assumed, for example, that Bahrain, Cyprus, Kuwait and United Arab Emirates have already achieved full water supply and sanitation coverage. In the case of Egypt, the Islamic Republic of Iran, Iraq, Morocco, Oman, Pakistan, Saudi Arabia, Syrian Arab Republic and Tunisia the progress ranges from good to reasonable. Countries in the last grouped are those that require radical action and considerable aid in terms of expertise and material resources: Afghanistan, Djibouti, Somalia, Sudan and Republic of Yemen come in this group.

Open defaecation and poor sanitation is a common practice in low economic rural and urban population groups. It contributes to contamination of the general environment, including food and water, with resultant high incidence of enteric diseases and high rates of infant mortality. Traditional latrine-building promotional activities have not produced the desired results. Sanitation practices are the result of education, access to facilities, income (or lack thereof) and other aspects of socioeconomic development.

List of Activities

- Acceleration of application of the healthy villages approach.
- Support to sanitation within the primary health care system.
- Strengthening of health education in rural areas.
- Support to national efforts to increase income of rural and urban disadvantaged.
- Implementation of urban and rural sanitation programmes.
- Transfer of safe, appropriate and sustainable, applicable technologies.
- Control of sanitation-related diseases.

3) Water resources management

Some EMR countries, because of their semi-arid and arid nature, are particularly vulnerable to the deleterious effect of water pollution on health. Municipal wastes and a diversity of industrial wastes are often discharged, without prior proper treatment, into available water courses. Sewerage systems, where they exist, are often in a poor state of maintenance and contribute to the contamination of surface and ground water. Such contamination is of particular importance where the receiving waters are used, with minimal treatment, for drinking purposes, or for irrigation. In the majority of cases, environmental legislation is not well advanced, and national authorities are generally not equipped to monitor or deal with these situations.

List of Activities

- Attention to ensuring availability of water for healthy lives, while maintaining local environments.
- Protection of water resources.
- Development of pollution control strategies, including legislation, standards and regulations.
- Encouragement of aquifer recharge to combat quality deterioration due to excessive pumping.
- Development of water resources through integrated approach.
- Treatment of wastewater and sewage.
- Incorporation of health components in different phases of water resources development.
- Promotion of public awareness for water conservation.
- Setting up of national standards for drinking-water quality.
- Institution of measures for protection of drinking-water quality in rural areas - simple methods.
- Effective surveillance systems for controlling drinking-water quality - publication of data training, upgrading laboratories, improving regulations.
- Dissemination of information to primary health care workers and others.
- Guidance on water-quality requirements for special health-related uses.
- Leak-detection/reduction programmes.

4) Coastal-water quality

Most countries in the EMR border on wide seas and oceans, and many of the populated cities and industrial zones are along the coast. The populations along the coastal waters are already quite large in many countries. With population growth, tourism and industrial expansion, the potential for worsening of the situation is substantial and the impact on tourism could be serious. Coastal-water quality is of major concern where desalination plants for potable water supplies are located. The recent experience during the Gulf war needs to be kept in view. To protect the coastal environment, national authorities should carry out an assessment of the existing situation, and develop appropriate legislation and regulations to control discharges of waste material. The overall progress of national actions, however, has been

insufficient. Several collective and concerted actions, such as the Mediterranean Action Plan (MED-POL), the Regional Organization for the Protection of the Marine Environment (ROPME), and the Red Sea and Gulf of Aden Programme (PERSGA) have been taken, among groups of countries.

List of Activities

- Dissemination of guidelines for recreational and aquacultural uses of coastal waters and for tourism.
- Studies of alternative land disposal and disposal into nearshore waters of wastewater after treatment.
- Assessment and qualification of land-based sources of pollution.
- Monitoring of coastal bathing waters, shellfish grounds and edible marine organisms.
- Epidemiological studies for evaluation of health effects and effects on ecosystems for microbial and chemical contamination (heavy metals, etc.).
- Health effects of dispersants.
- Protection of intakes to desalination plants.
- Definition of health effects.

5) Urban air quality

Air pollution is already a significant health problem in the large urban areas in the Region. The predominant problems are caused by pollutants: particulate matter, sulphur dioxide, nitrogen oxides, carbon monoxide and lead compounds. Hydrogen sulphide near sewage treatment plants or oil refinery plants may also be a problem. The number of primary sources of pollution, industries, energy facilities and automobiles, increase as population grows. In general, air pollution control does not receive much attention. The effects of the burning oil fields in Kuwait (following the Gulf war) have been felt by numerous countries, including those far away from Kuwait.

List of Activities

- Development of an integrated urban management strategy, including land-use planning, city development plans.
- Development of strategies for urban air pollution control, particularly for metropolitan areas, including legislation, continuous inspection and penalties.
- Development of guidelines to curb specific types of air pollution.
- Inventories of sources and emissions.
- Upgrading of monitoring capabilities of Global Environment Monitoring System (GEMS).
- Dissemination of information on health risks.
- Control technologies for urban air pollution (dissemination of alternatives).
- Research on effects of atmospheric pollutants on health.
- Introduction of new concepts for air pollution control techniques, namely, elimination of emissions, materials and fuel substitution, process change, energy conservation, collection of pollutants, their reduction, reuse and recycle concepts.

6) Domestic combustion of biomass and coal

It is estimated that, in some countries in the Region, up to 70 million people may be using biomass fuels. These are mostly burned under primitive, inefficient conditions, producing large quantities of indoor pollution that is harmful to health. Rural communities may not be aware of the resultant risks.

List of Activities

- Assessment of the scope and severity of the problems to health.
- Dissemination of information on exposure and health effects.
- Dissemination of information on appropriate control technologies (quality of fuels, improved stoves, housing designs, etc.).
- Raising of public awareness through primary health care.

7) Hazardous waste management

Many industries, such as petrochemicals, fertilizers, pesticides and electroplating, produce wastes toxic to biota and human health. Most EMR countries have problems with the disposal of municipal solid waste. Often little consideration is given to the safe disposal of hazardous solid and liquid wastes. The majority of countries have no regulations governing transport or disposal of such wastes. Problems of trans-frontier shipment of hazardous wastes require regional collaboration (hazardous wastes have been defined in the Basel Convention).

List of Activities

- Prepare a regional specific directory of hazardous materials used and wastes generated.
- Assist in identification of hazardous wastes.
- Support development of techniques for assessing risk and health hazards.
- Develop strategies for handling, storage, treatment, recycling and disposal, including methods for inventories of wastes, monitoring of shipments and surveillance, taking into account environmental health, socioeconomic and cultural considerations.
- Promote the use of cleaner technology to limit hazardous waste generation.
- Develop appropriate legislation, including regulatory and administrative procedures.
- Promote awareness of hazardous wastes.
- Provide experts and training for specific wastes, i.e., PCBs, chlorinated hydrocarbon pesticides.
- Promote the preparation of national guidelines with more attention to, and efforts on, the following hazardous wastes sources in the Eastern Mediterranean Region:

oil refining/petroleum
fertilizers, pesticides and insecticides
medical wastes

lead acid batteries
power and desalination plants
organic chemicals and solvents/waste oil
aluminum smelters/dry-dock shipping.

- Collaborate with countries and UNDP in respect to waste disposal sites in individual countries and/or groups of countries.

8) Localized hazardous environmental pollution sources

There are situations in the Region where hazardous, isolated sources of pollution endanger the health of the people residing in the vicinity (e.g., mines, smelters, cement factories, fertilizer plants, etc.). If these are located in urban areas, large numbers of people may be affected in view of the high population density, and pollution of agricultural soil in rural areas may have secondary effects as a result of contamination of groundwater and food crops. Health effects here may take many years to develop and may be identified only after specific investigations. Rapid assessment techniques would be useful as a first step in addressing such problems.

List of Activities

- Support the preparation of inventories of all possible hazardous waste sources endangering health.
- Encourage screening through risk assessment techniques.
- Assist in identifying and developing capabilities in high-risk circumstances, using local resources.
- Assist in developing control legislation and programmes for dealing with high-risk sources.
- Assist in the formulation of contingency plans and emergency response procedures.
- Support epidemiological studies for identifying and assessing risks to health and environment.
- Support the development of regulations and standards for the prevention and control of health risks to communities.
- Assist in establishing well coordinated surveillance and monitoring system for hazardous waste sources.
- Sponsor hazard assessment studies addressing local needs and situations.
- Provide advisory services for remedial measures and facilitate the exchange of technical information and experience if the problems have been encountered elsewhere (TCDC).

9) Safe use of chemicals

Due to rapid increase in industrial and agricultural activities, people are increasingly being exposed to environmental health hazards from a large number of chemicals in their workplaces and dwellings and in the general environment. Many health problems had appeared recently that could be attributed to pesticides, pesticide residues, bio-accumulation of heavy metals, adulteration of foods and the indiscriminate use of carcinogenic, genotoxic and other harmful substances. In

addition to importing, an increasing number of countries are also manufacturing hazardous products for their domestic market. Management of hazardous chemicals includes survey of chemicals in common use, screening of potentially hazardous chemicals, biostudies on selected dangerous chemicals and in-depth risks evaluation of priority hazardous chemicals through epidemiological and biological studies. Risk-assessment of chemical accidents should be conducted to identify potentially critical hazardous areas, and to quantify risks. Each country should develop its own integrated legislation.

The setting of standards is a national prerogative. Chemical accidents are a related problem. Several recent accidents involving massive exposure of local population to chemicals have occurred. These include industrial accidents, wrecking of ships carrying chemicals, poisoning of agricultural workers by pesticides and other forms; lack of maintenance of equipment and management procedures were often the causes of chemical accidents.

List of Activities

- Development of national chemical safety programmes, including import, labelling, transport, licensing, storage, information, legislation and regulation.
- Control of misuse of pesticides.
- Inventory of potentially hazardous industries and chemicals within the country and of chemicals imported.
- Regional plan for promoting the use of safe non-toxic alternatives.

10) Wastewater reuse

Reuse of wastewater and sewage sludge in agriculture, greenbelt development and recreational areas is practised to varying degrees in the EMR countries. In many cases, untreated sewage is used for irrigation in an uncontrolled manner, thus raising the risk of contaminating foodstuffs and affecting the health of agricultural workers and consumers. Arid and semi-arid countries in the Region are becoming more aware of the potential benefits of reuse of wastewater, and the practice will therefore increase.

List of Activities

- Promotion and encouragement of wastewater reuse in industry, agriculture, or otherwise, depending on the quality of water after treatment.
- Consideration of treated effluent as an integral component of water resources management.
- Encouragement of development of national guidelines/standards and codes of practice.
- Encouragement of epidemiological studies in areas where reuse is practised.
- Encouragement of pilot-scale studies in aquifer recharge to further polish and store treated effluent.
- Information management and technology transfer.
- Dissemination and promotion of the application of *Reuse of Effluents: Methods of Wastewater Treatment and Health*

Standards (WHO Technical Report Series, No. 517).

- Studies to evaluate health aspects of alternative approaches to wastewater reuse.
- Meeting on planning, designing and management of wastewater and sludge reuse for both agriculture and industry.
- Support to the development of technical centres and research.

11) Solid wastes

Solid waste management is generally neither organized nor respected in developing countries, including those in the EMR. Inadequate storage, collection and disposal of solid wastes present significant threat to public health. Its accumulation will provide food and harborage for insects and rodents, result in frequent fires, block surface water drainage channels, and contribute to visual degradation of residential areas. Where excreta disposal services are inadequate, excreta will be a constituent of this waste. Solid waste handling, such as during scavenging, is a hazardous occupation. Municipal governments are usually deficient in legislative authority, trained personnel, use of appropriate technologies, maintenance of equipment and financial stability. They also lack the capacity to investigate and adopt solid waste recycling and reclamation technology. Solid waste collection and disposal are poorly organized in most of the countries in the Region, and solid waste disposal is a contributory factor to air pollution in many Gulf countries. Land pollution from solid wastes is a common problem which requires immediate attention.

List of Activities

- Provision of expertise for solid waste management, including national plans, standards, hygiene, education, community participation and technologies for storage, collection, recycling and disposal. Institutional aspects cover financial and administrative aspects and epidemiological assessments.
- Training of national personnel at all levels through national seminars, fellowships and tutorial visits.
- Promotion of case-studies/surveys and background data collection, including special studies on health aspects.
- Promotion of meetings of experts, travelling workshops, specific fora for presentation of case-studies and epidemiological investigations of health effects and aspects of collection, transportation, disposal and recovery of solid wastes.
- Sponsoring of special studies for developing simplified methods for quality control of composting plants, reclamation of organic solids and recovery of solid waste components.
- Assistance in assessing and identifying cost-effective human resources and equipment needs for solid waste management systems.
- Assistance in developing information systems for disseminating information on techniques and methods for handling and disposal of solid wastes.
- Assistance in the development of short- and long-term

- plans and disposal options appropriate to local conditions.
- Dissemination of information on successful application of solid wastes technology, including experience from other countries and other organizations, such as the World Bank, UNEP, etc.
- Assistance to governments in the design of schemes--economically feasible, implementable funding, for solid waste management.

12) Food safety

Coordination between agriculture, health, industry, commerce, education sectors and consumers is very important to achieve food safety. Food safety activities are not always properly coordinated in most countries of the EMR and in some countries not coordinated at all.

There is a need for raising awareness about the impact of food storage, preparation and service practices in the home environment. Most countries of the Region have an urgent need to strengthen information and laboratory services related to technical monitoring and control of chemical contamination, pesticide residues, aflatoxins, and radionuclides in food. Food inspectors are generally absent in rural areas and there is an urgent need to integrate food safety into primary health care.

List of Activities

- Development/review of national food safety strategy, policy and action plans.
- Formulation, review or updating of food legislation.
- Strengthening of food control administration, focal point, national coordinating committee.
- Implementation of food safety programmes in coordination with other agencies and bodies.
- Strengthening of laboratory infrastructure and upgrading of facilities.
- Human resources development: inspectors, sanitarians, primary health care workers, laboratory personnel, medical doctors, etc.; continuing education through short courses in specialized aspects.
- Adding food safety to school curricula at various levels.
- Education on health effects and on food safety technologies for policy-makers, planners, producers, health workers, consumers, school personnel and mass media representatives.
- Development of codes of practice for food manufacturers/processors, handlers, producers and vendors.
- Training of food handlers, sanitarians, supervisors, inspectors and primary health care workers (food sanitation and hygiene).
- Conducting knowledge, aptitude, behaviour and practices (KABP) studies in urban and rural areas.
- Integration of food safety activities into PHC.
- Quality assurance in programmes based on hazard critical control points (HACCP) for food processors, handlers and producers.

13) Housing and urbanization

In some developing countries, the disadvantaged comprise the majority of the urban population. In these situations, housing is deficient in terms of protection from excessive heat and cold, ventilation and proper lighting, insulation against noise and intrusion of dust, insects and rodents; services such as drainage, water supply and excreta disposal are often hazardous/deficient. Rapid urbanization has led to haphazard development. Urban facilities and services are often unplanned and overwhelmed by excessive population growth and overcrowding, i.e., transport, communications, health care, educational facilities, police and fire protection.

List of Activities

- Promotion of housing and health.
- Ensuring environmental health measures in water resources utilization.
- Environmental impact assessment for urban and industrial development.
- Setting urban development plans.
- Attention to safe building material, e.g. asbestos, lead, paints.
- Legislation and regulations for environmental health measures in rural and urban development and housing.
- Environmental health impact assessment.
- Healthy cities programmes to emphasize:
 - environmental education, awareness, sanitation, cleanliness;
 - air pollution (in major cities);
 - solid waste management;
 - sewage collection and treatment;
 - urban development;
 - coordination;
 - urban poor;
 - environmental education awareness;
 - healthy life-styles for the prevention of cardiovascular and diet-related diseases, which are the leading causes of death;
 - accident prevention, including home, industrial establishments and traffic;
 - prevention of odour in sewer lines and treatment plants (all Gulf countries have septic sewage problems);
 - development of city health profiles;
 - solid and hazardous wastes disposal.

14) Radiation protection

The use of radioactive material in energy production, industry, agriculture and medicine is increasing in the Region. As regards radon in dwellings, the extent of this problem has yet to be assessed. It is important that environmental and health authorities have monitoring and analytical capabilities, independent of those of the atomic energy sector, though safeguards against contaminants are often taken by manufacturers and users. Such capability is limited, at present, in

most countries, and the reaction of several countries in the Region to the Chernobyl accident points to that deficiency.

List of Activities

- Support to Member States to establish or strengthen monitoring and laboratory analysis.
- Legislation and regulations on radiation protection.
- Emergencies: intervention levels and development of emergency preparedness plans.
Medical assistance during emergencies.
- Assessment of radon in dwellings.
- Safe disposal of radioactive material.

15) Noise Pollution

Effects of noise on health, based on European data and experience, indicate that there are physiological, psychological, and pathological disorders and discomforts, changes in behaviour and annoyance levels of residents/workers. Country reports indicate that environmental health departments are routinely monitoring noise levels in industrial workplaces to ensure compliance with industrial codes and/or standards. Unfortunately, similar noise level measurements and standards in the ambient environment and commercial areas in the Region are very minimal.

List of Activities

- Strengthening of institutional management and development of strategies.
- Noise pollution control at source; legislation, standards and regulations.
- Promotion of education and awareness.
- Information collection and exchange.
- Research on health effects of noise.

4.3 Capacity-Building Functions

Capacity-building functions associated with the UNCED concept of health, environment and development require special attention and effort. The importance of an integrated intersectoral approach, strict land-use planning, and monitoring and enforcement of plant and environmental impact assessment cannot be overemphasized. Regrettably, these approaches are often not implemented in the EMR due to various factors, including lack of public awareness of the risks involved, low priority given to environmental protection, and lack of cooperation and communication between the agencies responsible for development and those responsible for environmental and health protection.

Capacity building is the process and the means through which national governments and local communities develop the necessary skills and expertise to manage their environment and natural resources in a sustainable manner in their daily activities. Capacity may include institutions, legal framework, enforcement mechanisms, technical skills and basic knowledge of the individual regarding the natural environment.

Priorities for building national capacities for health and environment within sustainable development are listed below with their specific activities.

1) Overall management of environmental determinants to health

The relationship between human health and the environment is dynamic and mutually dependent. The impact of environmental conditions on health and actions of people affect qualities of the environment. Successful governmental intervention to improve both health and environmental quality requires central capacity to assess the situation, define strategies and policies, communicate with other relevant sectors/agencies and manage resources available to control and solve the problems. Governments have a responsibility to ensure the requisite management authority and structures, covering health and environment and other relevant socioeconomic sectors, such as agriculture, energy, industry, transportation, and those relevant to urban and rural development.

List of Activities

- Planning and programming for all environmental health components - determination of priorities.
- Strengthened intersectoral coordination, ensuring health in environmental and socioeconomic development plans.
- Mobilization of resources for implementation of plans.
- Establishment of national systems for environmental impact assessment (EIA), including environmental health impact assessment (EHIA).
- Objectives for environmentally sound development.
- Development of broad environmental planning approaches and legislation.
- Integrated environmental planning strategies, including dissemination of information.

2) Monitoring and assessment of environmental risks to health

Monitoring of environmental quality and assessment of environmental risks to health is very important from a health perspective. Information on health risks is required throughout the process, from identification of environmental problems and populations at risk, to guiding the adoption of appropriate strategies for prevention or abatement, to verifying that the risk to health has been eliminated or reduced. It is up to the health sector to ensure that the requisite surveillance systems are in place, either under its own mandate or elsewhere in the government.

List of Activities

- Monitoring of environmental quality and assessment of human exposure.
- Epidemiological studies of environmentally-related diseases.
- Environmental health impact assessment.
- Monitoring of coverage by environmental health services.
- Establishment/maintenance of environmental health data systems/data banks.

3) Environmental elements required to meet basic health needs

The global imperative of primary health care encompasses basic health needs. Some basic health needs are directly linked to environment, including safe and ample drinking water supply, safe disposal of human wastes, adequate nutrition and decent shelter. Control of priority health problems is also a basic health need and, in some countries, environmental management may be needed to control insect and rodent vectors of communicable and parasitic diseases.

Activities to meet basic needs will have a renewed focus on the poor, underserved, and unserved--implying a new leadership role for WHO, not in the actual provision of basic services, but rather in their promotion and encouragement, concentrating on the most deprived populations, those bypassed and neglected by development, and on the health aspects of the WHO initiative in order to support countries and people in greatest need.

Activities will be directed both at supporting the development community (other international and nongovernmental organizations, donors) and devising ways and means to meet basic needs. Monitoring will be expanded to determine which areas have the greatest need for essential services, and reporting systems will be improved to increase awareness of these needs.

List of Activities

- Cooperation among health, environment and education authorities.
- Strengthening of hygiene and health education.
- Access to safe drinking water.
- Adequate safe disposal of human waste.
- Adequate nutrition.
- Decent shelter.
- Control of vectorborne diseases and disease arising from inadequate sanitation.

4) Awareness raising and community participation

Improvement of environmental quality and related health conditions is invariably linked with support of the population. Many environmental controls and improvements require institutional solutions, for example, control of air quality. Emission and air-shed standards are required, as well as legislation, means of air sampling and legal action against polluters. The individual citizen is restricted in terms of specific actions that one can take to control air pollution, but her/his support to relevant national programmes, expenditures and revenue (taxes) is essential. On the other hand, many environmental health concerns require the direct involvement and cooperation of the people as individuals, families and community groups. Control of accidental injuries is an example, as are sanitation conditions in the home environment. Here the attitude, knowledge and behaviour of people is the paramount consideration. Successful environment health programmes are engaged in providing relevant information to people in order to encourage and gain their support for national initiatives and programmes and to reinforce health-promoting individual and community action.

List of Activities

- Public information, assembling, interpreting, disseminating valid information to the media, institutions, agencies, and the community.
- Strengthening of hygiene and health education.
- Advocacy and promotion of agreed national priority programmes.
- Stimulation and support of community organizations and self-reliant actions.

5) Human resources development for environmental health

Adequately trained and experienced people are essential to cope with the complex relationship between the environment and health. The range of skills and training needs are extremely broad. Tasks include, *inter alia*, identification, prevention and control of environmental hazards, information gathering and assessment, financial and programme management. The range of disciplines includes physicians, engineers, public health specialists, ecologists, planners and others, but also community-based auxiliaries and volunteers, and with respect to actions within the domestic sphere, the general public. The training needed entails a broad spectrum of material, and public and private institutions. National planning is essential to maximize the effective use of resources and to reduce dependence on outside sources of trained personnel.

List of Activities

- Establishment of national human resources development plan.
- Strengthening of environmental health education at the community level.
- Training of community organizers and community-based auxiliaries.
- Training for environmental impact assessment (EIA), broad planning procedures and implementation and enforcement of environmental protection measures.
- Education incorporating environmental health protection aspects.

6) Environmental health information

Adequate valid information is essential for competent policy decisions, planning, operations, research and programme evaluation. Information is also a crucial ingredient of intersectoral cooperation, for comparison of progress among jurisdictions and as a basis for further scientific enquiry.

Information focused on the nature and severity of health effects of environmental conditions provides the primary motivation for environmental control action. However, the collection of environmental health information, its analysis, management and dissemination is extremely complex. Careful planning of environmental health information systems is necessary to ensure the desired results and avoid waste of resources.

List of Activities

- Development of a strategy for information support in the Eastern Mediterranean Region, based on the existing CEHANET and the "EMR Workplan for Information Capacity Building".
- Strengthening of CEHANET as the mechanism for information support at the regional level in the EMR.
- Capacity building at the national level based on needs assessment and available resources:
 - health effects, surveys, epidemiological studies;
 - indicators linking health and environment;
 - managerial and financial resources-related socio-economic development.
- Information management and dissemination.
- Assessment of national programme coverage.

7) Research

Resources to combat environmental health problems are always limited. It is essential to ensure that public funds are spent wisely and effectively. Also that options selected for environmental interventions are correct and that technologies are appropriate and suitable to the local culture and economy. Consequently, there is a need to support institutions and personnel to pursue new knowledge. Research is needed to achieve greater understanding of the ways in which environmental quality affects health, and in the use of improved technologies for management of environmental quality relevant to health. National research plans will ensure that resources are directed towards national priority needs in health and environment.

List of Activities

- Development of capacity for national health and environment research plan.
- Selection of research priorities, according to severity and extent of health problems.

8) Legislation and enforcement

Environmental health institutions should be strengthened by capabilities to enact appropriate legislation and subsequently develop standards for ambient environmental quality and limitations for emissions and discharges. They should also be enabled to review, assess and amend these regulations as further problems arise and new knowledge is gained about health impacts. Guided by legislation, enforcement capabilities must also exist for review of plants, issuance of permits, and periodic inspection.

Control programmes for enforcing desirable environmental quality are frequently organized for specific environmental attributes; for example, air quality, water pollution control, road traffic safety, hygiene of housing and institutions, solid wastes and other sources of hazards to specific human environments. Categorical environmental health programmes have been effective in achieving improvements in the

environment and related health conditions. Nevertheless, they should always be managed from a national ecological perspective to ensure that resources are applicable to priority problems in a balanced way, and that important environmental health problems/issues are not overlooked. A number of fundamental considerations/capabilities for programmes aimed at prevention and control of environmental hazards to health are in the list below.

List of Activities

- Standards of environmental health, according to national culture and economy.
- Control programmes emphasizing legal control and/or voluntary compliance.
- Promotion of development and use of appropriate technology.
- Development of legislation.
- Planning of response to natural disasters and emergencies.
- Techniques for integrating environmental health into development planning.
- Epidemiological studies and data relating the costs of control programmes to health benefits.

5. MEANS OF IMPLEMENTATION

Implementation requires formulation of a plan of action. The bases for considering the plan of action are the short-term considerations and the strategy contained in this document. The plan of action will enable EMRO to work in collaboration with Member States. Guidelines for a regional plan of action, as approved by the Consultation, are in **Appendix 2**.

WHO will take the lead to promote and expand the understanding of the linkage between health, environment and development. The understanding by decision-makers, government officials, media personnel, leaders of commerce, industry and the general public that "Health and Environment is Everybody's Business" should be reinforced.

WHO needs to consider and implement relevant organizational/operational arrangements for the new strategy. These include consideration of the following issues:

- The role of the WHO Representative with respect to his relationship with the Ministry of Health, the Ministry of Environment and other ministries and agencies involved in health and environment.
- The WHO Representative's role in promoting intersectoral action at the country level.
- Expanded and enhanced role for the Centre for Environmental Health Activities (CEHA).
- Strengthened arrangements for cooperation/liaison with UNDP, UNEP, the World Bank and other international organizations and entities, at both country and regional levels.
- Ways to achieve timely and effective teamwork within environmental health programmes and activities of the

Organization, at all levels, i.e., WHO headquarters, the Regional Office, CEHA, programme.

List of Activities

- Annual regional coordinating meetings on health and environment.
- Regional agency task force to broaden WHO programme participation in health and environment.
- Preparation of a strategy paper for the expanded role of CEHA.

*

*

*

Mobilization of resources need to be augmented for preparation and implementation of national plans for health and environment related to Agenda 21. National, bilateral and multilateral sources will be the principal ones for such resources.

Chapter 33, Financial Resources and Mechanisms, of Agenda 21 contains the important agreements reached by the UNCED. In summary, it says that, in general, the financing for the implementation of Agenda 21 will come from a country's own public and private sectors. For developing countries, particularly the least developed countries, Official Development Assistance (ODA) will be a main source for external funding, and substantial new and additional funding for sustainable development and implementation of Agenda 21 will be required. The United Nations target is that the rich industrialized countries of the world should attain a target of 0.7% of their GNP.

Additional resources may include (a) multilateral development banks and funds, i.e. the International Development Association (IDA), regional and sub-regional development banks, the Global Environment Facility (GEF), jointly managed by the World Bank, UNDP and UNEP; (b) the relevant specialized agencies, United Nations bodies and other international organizations; (c) multilateral institutions for capacity building and technical cooperation; (d) bilateral assistance programmes; (e) debt relief; (f) private funding; and (g) investment and joint ventures.

Innovative financing was suggested and new ways of generating new public and private financial resources were proposed, i.e. various forms of debt relief, use of economic and fiscal incentives and mechanisms, feasibility of tradeable permits, new schemes for fund-raising and voluntary contributions through private channels, including nongovernmental organizations, and reallocation of resources presently committed to military purposes.

Appendix 1

HEALTH IMPACTS ASSOCIATED WITH SELECTED DETERIORATED ENVIRONMENTAL CONDITIONS/ENVIRONMENTAL HEALTH HAZARDS

<u>Environmental Issues</u>	<u>Health Impacts</u>
Land pollution (waste management) <ul style="list-style-type: none">- Production- Agricultural- Public/domestic- Hospital	Poisoning from toxic chemicals; vectorborne diseases; communicable diseases.
Land use (growth and development)	Potentially all health impacts listed herein
Deforestation and desertification	Vectorborne diseases, malnutrition, diseases associated with poor sanitation; communicable diseases.
Food safety <ul style="list-style-type: none">- Production- Marketing/distribution- Preservation- Natural toxins- Animal-borne infections	Poisoning from toxic chemicals and naturally occurring toxins; malnutrition (food availability) foodborne diseases resulting from microbiological contamination (see also water supply and water quality); nutrition/malnutrition (food quality).
Nutrition/diet	Malnutrition; obesity; diseases related to deficiencies of micronutrients; cancer; cardiovascular diseases; and other health impacts noted above.
Housing <ul style="list-style-type: none">- Selection of materials- Heating, lighting and ventilation- Vector control- Waste disposal- Cultural factors.	Acute/chronic respiratory diseases; water-, food- and vectorborne diseases; accidents and poisoning, heat/cold stress; psychosocial stress and violence.
Air pollution <ul style="list-style-type: none">- Industrial- Motor vehicles- Indoor air pollution	Acute/chronic respiratory diseases; eye, skin irritation; cardiovascular diseases; cancer; traffic accidents; stress.

Environmental Issues

Health Impacts

Water pollution

- Industrial
- Agricultural
- Public
- Surface water
- Ground water

Poisoning from toxic chemicals; waterborne diseases associated with poor sanitation (insufficient quantity of water); vectorborne diseases.

Water supply, water quality and water resource management

Dehydration, malnutrition; diseases associated with poor sanitation (insufficient quantity of water); vectorborne diseases; waterborne diseases.

Sanitation and wastewater use

Water-, food- and vectorborne diseases; waterborne diseases (positive/negative).

Appendix 2

GUIDELINES FOR A REGIONAL PLAN OF ACTION

1. Introduction

In order to implement the policies agreed by UNCED, and elaborated by the Forty-sixth World Health Assembly, the regional strategy for health and environment identified 15 environmental health problems, and eight capacity-building functions. These were slightly modified and a few new ones were added by the Consultation. The relative urgency of each problem, as well as the specific needs of building the appropriate institutional capacities vary considerably among Member States of the WHO Eastern Mediterranean Region (EMR). Nevertheless, it was agreed by the participants that the regional plan of action should be guided by a prioritization of these problems and needs that will enhance the timeliness and effectiveness of its activities in the Region as a whole.

These priorities are presented in the following two sections along with the proposed activities for most priority problems or needs.

At this stage, these problems and their specific tasks are viewed as guidelines towards the finalization of the action plan which will serve as the blue print for implementation of the regional strategy.

A prerequisite for the finalization of the action plan is the formal adoption of the draft strategy by EMRO, and making necessary provision for the refinements of various technical and managerial inputs called for by detailed action plans.

A transitional stage of preparatory efforts and mobilization of resources prior to the beginning of implementation of the action plan is thus envisaged. The proposed activities are also presented as short-term considerations. Finally, additional general recommendations are provided at the end of this document to summarize further comments on the plan of action which are deemed to have value as guidelines toward its finalization.

2. Environmental Health Priority Problems

For the Region, 19 environmental health problems have been grouped into three categories of priority: first, second and third. The problems are given below, by groups.

FIRST PRIORITY

- Drinking-water quality
- Water supply, sanitation and disposal of excreta
- Wastewater reuse
- Solid waste management
- Food safety
- Health aspects of water resources management

SECOND PRIORITY

- Coastal-water quality
- Hazardous waste management
- Environmental emergency preparedness and response
- Municipal and industrial wastes
- Environmental health in refugee camps
- Occupational health and safety
- Domestic combustion of biomass and coal
- Safe use of chemicals
- Housing and urbanization

THIRD PRIORITY

- Localized hazardous environmental pollution sources
- Noise pollution
- Radiation protection
- Urban air quality

3. Suggested Priority Activities

The participants also identified highly specific and relevant activities for most of the problem areas considered, and these should be taken into consideration along with the suggested list of activities contained in the strategy document. The listing presented here will require further evaluation before it is incorporated in any action plan.

FIRST PRIORITY

Drinking-Water Quality

- a) Strengthening of water quality monitoring (support schemes for quality assurance and quality control provide sustained support for spare parts and chemicals, training of staff, provision of specialized laboratory service for advanced analysis, etc.).
- b) Assistance to countries in developing or revising their standards for drinking-water quality in the light of WHO Drinking-Water Quality Guidelines.
- c) Upgrading of water plant operators.

Water Supply, Sanitation and Disposal of Excreta

- a) Promotion of rational use of water supplies (minimizing leakages, pricing, cost recovery).
- b) Promotion of appropriate sanitation system from technological and environmental points of view.
- c) Training.

Wastewater Reuse

- a) Development of national standards for effluent reuse in agriculture and industry.
- b) Assistance to countries in monitoring long-term health impacts of projects with extensive wastewater reuse.

Solid Waste Management

- a) Promotion of appropriate urban solid waste management, emphasizing development of master plans, community participation, and appropriate disposal facilities.
- b) Assistance to the operation/demonstration of projects involving recycling and reuse of recoverable solid wastes.

Food Safety

- a) Development or strengthening of existing national food safety policies and action plans.
- b) Strengthening of laboratory infrastructures, upgrading of facilities and provision of specialized analytical services, when needed.
- c) Human resources development.
- d) Public education and raising of awareness.

Health Aspects of Water Resources Management

- a) Promotion of the use of water resources and water supply development as tools for health improvement and health safeguarding.
- b) Development of health curricula/courses for inclusion in faculties (medical, engineering, agriculture, environment, etc.).
- c) Development of modules and guidelines for the formulation of health policies for water resources development and management.

SECOND PRIORITY

Coastal-Water Quality

- a) Development of health-based guidelines and criteria for recreational and aquacultural use of coastal waters and for tourism.
- b) Assessment and quantification of land-based sources of pollution.

Hazardous Waste Management

- a) Support to drawing up of inventories of sources and wastes.
- b) Promotion of preparation of hazardous waste management plans.
- c) Assistance in establishing hazardous wastes disposal sites.

Environmental Emergency Preparedness and Response

Assistance in developing emergency response plans (training, awareness, coordination, notification).

Municipal and Industrial Wastes

- a) Promotion of waste minimization and use of safe and cleaner technologies.

- b) Assistance to countries in developing applicable criteria for discharging industrial wastes into municipal systems or receiving environments.

Environmental Health in Refugee Camps

- a) Development of manuals and guidelines.
- b) Training.

Occupational Health and Safety

- a) Assistance to countries in developing applicable criteria and standards for safeguarding the occupational health of workers.
- b) Addressing the occupational and environmental health problems in small-scale industries.
- c) Establishment of industrial hygiene programmes in all major industries for the surveillance of workers' exposure to health hazards, especially female workers.
- d) Development, in accordance with national plans and strategies in all sectors and consistent with the WHO concept of healthy cities and healthy villages, of programmes to reduce the frequency and severity of injury.

Domestic Combustion of Biomass and Coal

Dissemination of information on exposures and health effects and promotion of appropriate handling and control technologies.

Safe Use of Chemicals

- a) Support to the drawing up of inventories of toxic chemicals produced and imported.
- b) Support to the establishment of poison control centres.
- c) Legislation and regulations to control the use of chemicals, e.g. licensing of chemicals.
- d) Development of guidelines for, and training in, the use of pesticides and other toxic chemicals.

Housing and Urbanization

- a) Assistance in increasing awareness of officials and the general public of the principles of housing and health.
- b) Development and dissemination of methodologies, guidelines and technologies in environmental health management, with specific reference to children and the urban disadvantaged.
- c) Development of the "healthy villages" and "healthy cities" concepts and support to their implementation.
- d) Development of low-cost and appropriate technology in relation to housing, water supply, sanitation, solid waste disposal, vector control, control of indoor and outdoor pollution and recycling and reuse of domestic and industrial wastes.

THIRD PRIORITY

Localized Hazardous Environmental Pollution Sources

Noise Pollution

Assistance in developing legislation and standards.

Radiation Protection

- a) Support to Member States to establish or strengthen monitoring and laboratory analysis.
- b) Development of guidelines on intervention levels and emergency preparedness plans and provision of medical assistance during emergencies.

Urban Air Quality

- a) Assistance in establishing or strengthening health-related air quality monitoring systems and support to drawing up of inventories of sources and emission.
- b) Development of strategies for urban air pollution control, including legislation, standards and regulations with particular emphasis on lead.

4. Capacity Building

The capacity-building requirements presented in the existing EMRO strategy documents were reviewed by the participants. They identified important activities that are needed to support many of these elements and added new ones to this list.

Training and Education

- a) Demonstration of successful ways of dealing with priority problems.
- b) Assistance in the development of national plans for human resources development.
- c) Development of training material and support to training of trainers programme.
- d) Assistance to the development of curricula and promotion of teaching of environmental health in higher educational institutions.
- e) Revision of training patterns to focus more on health and environment.

Management of Urban Environmental Health

- a) Promotion of "healthy cities" approach; collaboration with relevant agencies.
- b) Strengthening of local institutions and capabilities.
- c) Promotion of effective coordination among all relevant agencies.

Research

- a) Strengthening of national research institutions for conducting applied research on priority problems (exchange programmes, direct financial support, libraries, access to data).
- b) Promotion of collaborative research - regional and global.
- c) Promotion of information exchange.

Health Impact Assessment

- a) Development of guidance for the application of health impact assessment (HIA) through a permanent regional committee
- b) Assistance in the development of national guidelines and implementation of HIA activities.
- c) Promotion of post-study assessment through appropriate legislation and other means.
- d) Development of national capabilities for conducting HIA.

Awareness

- a) Development of public information material and support to making them available in appropriate languages.
- b) Strengthening of hygiene and health education.
- c) Sponsoring of seminars on decision-making.
- d) Stimulation of, and support to, community organizations, and self-reliance.

Information Management

- a) Strengthening of, and support to, CEHANET, and encouraging the countries to collect and provide information to CEHANET.
- b) Assistance in the development of national environmental health information systems.
- c) Organization of a regional meeting on the accessibility and dissemination of national information in order to promote freer exchange of information.

Administrative Structures

- a) Assistance in the evaluation and definition of organizational functions and structures.
- b) Development of national human resources in the fields of management and administration.
- c) Support, at the country level, to the incorporation of health concerns in the plans and programmes of other development sectors, through the organization of intersectoral meetings, provision of guidelines, etc.

Legislation

- a) Encouraging incorporation of environmental health concerns in the integrated environmental laws.

- b) Assistance in establishing national standards, criteria and codes related to environmental health.
- c) Strengthening of enforcement mechanisms, through workshops, case-studies, guidelines, etc.

Evaluation

- a) Assistance in developing guidelines for post-activity assessment and promotion of their application.
- b) Development of strategies, including reliable health indicators, to monitor progress and evaluate the effectiveness of environmental health programmes.
- c) Assessment of the health status of urban populations in relation to the development of urban environment.
- d) Development and adoption of standard environmental indicators (qualitative and quantitative).

Coordination

- a) Assistance in the strengthening of institutions.
- b) Promotion and facilitation of intersectoral collaboration and coordination.
- c) Establishment of an interministerial coordinating body, involving all ministries dealing with health, environment and development.
- d) Promotion of health leadership for the protection of the environment.

5. Short-Term Considerations

The participants reviewed and accepted, with minor modifications, the short-term considerations contained in the strategy document. For the purpose of consistency, the short-term considerations are repeated here and are viewed as part of the guidelines for the action plans.

The affirmation by UNCED of the broad interrelatedness and interdependence of health, environment and development encourages the use of resources of non-health sectors in support of health goals. They also bring substantially revised concepts to the health sector and necessitated the need for changes in health policies and techniques of cooperation with Member States and international agencies involved in health. In large measure, the changes pertain to the need to approach health, environment and development in a holistic manner. For example, while there is still a need to strengthen urban air pollution control, according to the precepts of UNCED, the causes, effects, costs and controls need to be viewed from a larger developmental perspective. For the health sector, this implies greater use of other broader programme approaches, e.g., "healthy cities", as a mechanism to consider categorical programmes in the concept of health, environment and development. EMRO's "healthy villages" approach, which integrates environmental sanitation concerns, such as safe drinking water, excreta disposal, health education. in rural areas, is another example. The changes required of EMRO will reflect directly the needs of Member States to adopt new broadened policies in response to UNCED, and put in place the capabilities to implement them. The gradual

transition of EMRO's present programme of Environmental Health to the new strategy and plan of action for health and environment, within sustainable development, may require some years to complete. Short-term considerations for the development of a plan of action will be concentrated on the following.

1) Working with countries to develop health and environment plans

This pertains specifically to the preparation of national plans of action for development in the light of Agenda 21, Chapter 6, Protecting and Promoting Human Health. In addition, health components of many other aspects of development, e.g., energy, agriculture, transportation, will need to be prepared and considered. The work will require strengthening of information/data systems and new ways of assessing data; strengthened intercountry/interdisciplinary cooperation; and revised approaches to physical and social planning.

2) Identifying capacity building needs and securing related and required resources

The full realization of the promising new approaches of UNCED will require many modifications of management capacities of Member States and also of WHO and other international agencies involved. The range of functions where capacity needs to be assessed and appropriately built up includes development planning, monitoring and assessment, advocacy and public information, human resources development, information data systems, research, and intersectoral cooperation. Strengthening of traditional sources of funding, as well as identifying new and unique sources of support will be essential to attaining the required build up of national capacities.

Activities to be undertaken in the short-term will be developed through the following specific actions:

- (a) Assessment of the status of preparations for developing national plans for sustainable development and their health and environment sections.
- (b) Identification of country priorities for capacity building in health and environment areas.
- (c) Evaluation of the duties and capabilities of existing environmental health departments/units and identification of measures to strengthen them, including decentralization of responsibilities to the extent possible.
- (d) Promotion of health and environment issues as they relate to sustainable development planning, e.g., national meetings, media programmes/events.
- (e) Preparation and issuance of new guidelines for items such as (c) and (d) above.
- (f) Conducting case-studies on the preparation of sections of national plans for sustainable development dealing with health and environment and for the identification of priority needs for capacity building.
- (g) Evaluation of the effectiveness of means of coordination, both within the health sector and intersectorally, and identification of measures for their strengthening.

6. General Recommendations

1. Member States should prepare national action plans on health, environment and development, incorporating health aspects. This should be the responsibility of an interagency task force on which all concerned ministries, institutions, and agencies should be represented.
2. Member States should approach donors and United Nations agencies (including UNDP) in order to securing funds and implement their action plans, as well as to develop capacity building. Capacity building should include institutions, legal framework, enforcement mechanisms, technical skills and basic knowledge of the individual regarding the natural environment.
3. EMRO should be kept informed of any initiative taken by Member States with donors and/or agencies in order to provide support to their efforts, and to secure any follow up requested, particularly with WHO Representatives, as well as with WHO headquarters and the Regional Office.
4. WHO will take the lead to promote and expand the understanding of the linkages between health, environment and development. The awareness of decision-makers, government officials, media personnel, leaders of commerce and industry and the general public that "Health and Environment is Everybody's Business" should be reinforced.
5. Active support should be provided by WHO to countries for the development and implementation of actions necessary to ensure that health and environmental issues are included as integral part of national plans for sustainable development.
6. WHO needs to consider and implement relevant organizational/operational arrangements for the new strategy. These include consideration of the following issues:
 - The role of WHO Representatives (WRs) with respect to their relationship with the Ministry of Health (MOH), the Ministry of Environment and other ministries and national agencies involved in health and environment.
 - The role of the WRs in promoting intersectoral action at the country level.
 - Expanded and enhanced role for the Centre for Environmental Health Activities (CEHA).
 - Strengthened arrangements for cooperation/liaison with UNDP, UNEP, the World Bank and other international organizations and entities both at country and regional levels.
 - Ways to achieve timely and effective teamwork within environmental health programmes and activities of the Organization at all levels, i.e., headquarters, the Regional Office, CEHA, and programmes.

- Provision of support by EMRO and WHO headquarters to Member States in their efforts in establishing a voluntary fund concerned with health, environment and development.
- The Regional Office may consider convening a meeting of external support agencies to ascertain the potential for support to defined projects and to harmonize selected policies; for example, inclusion of health when environmental impact assessments are required prior to project funding.
- EMRO should initiate an awareness and information campaign aimed at decision-makers and leaders in Member States on the theme that "Health and Environment is Everybody's Business".