

Health and development are intimately interconnected. Both insufficient development leading to poverty and inappropriate development resulting in over-consumption, coupled with an expanding world population, can result in severe environmental health problems in both developing and developed nations. Action items under Agenda 21 must address the primary health needs of the world's population, since they are integral to the achievement of the goals of sustainable development and primary environmental care. The linkage of health, environmental and socio-economic improvements requires intersectoral efforts. Such efforts, involving education, housing, public works and community groups, including businesses, schools and universities and religious, civic and cultural organizations, are aimed at enabling people in their communities to ensure sustainable development.

Particularly relevant is the inclusion of prevention programmes rather than relying solely on remediation and treatment. Countries ought to develop plans for priority actions, drawing on the programme areas in this chapter, which are based on cooperative planning by the various levels of government, non-governmental organizations and local communities. An appropriate international organization, such as WHO, should coordinate these activities.

A Meeting primary health care needs, particularly in rural areas

Basis for action Health ultimately depends on the ability to manage successfully the interaction between the physical, spiritual, biological and economic/social environment. Sound development is not possible

without a healthy population; yet most developmental activities affect the environment to some degree, which in turn causes or exacerbates many health problems. Conversely, it is the very lack of development that adversely affects the health condition of many people, which can be alleviated only through development. The health sector cannot meet basic needs and objectives on its own; it is dependent on social, economic and spiritual development, while directly contributing to such development. It is also dependent on a healthy environment, including the provision of a safe water supply and sanitation and the promotion of a safe food supply and proper nutrition. Particular attention should be directed towards food safety, with priority placed on the elimination of food contamination; comprehensive and sustainable water policies to ensure safe drinking water and sanitation to preclude both microbial and chemical contamination; and promotion of health education, immunization and provision of essential drugs. Education and appropriate services regarding responsible planning of family size, with respect for cultural, religious and social aspects, in keeping with freedom, dignity and personally held values and taking into account ethical and cultural considerations, also contribute to these intersectoral activities.

Objectives Within the overall strategy to achieve health for all by the year 2000, the objectives are to meet the basic health needs of rural peri-urban and urban populations; to provide the necessary specialized environmental health services; and to coordinate the involvement of citizens, the health sector, the health-related sectors and relevant non-health sectors (business, social, educational and religious institutions) in solutions to health problems. As a matter of priority, health service coverage should be achieved for population groups in greatest need, particularly those living in rural areas.

Activities National Governments and local authorities, with the support of relevant non-governmental organizations and international organizations, in the light of countries' specific conditions and needs, should strengthen their health sector programmes, with special attention to rural needs, to:

a Build basic health infrastructures, monitoring and planning systems:

- i** Develop and strengthen primary health care systems that are practical, community-based, scientifically sound, socially acceptable and appropriate to their needs and that meet basic health needs for clean water, safe food and sanitation;
 - ii** Support the use and strengthening of mechanisms that improve coordination between health and related sectors at all appropriate levels of government, and in communities and relevant organizations;
 - iii** Develop and implement rational and affordable approaches to the establishment and maintenance of health facilities;
 - iv** Ensure and, where appropriate, increase provision of social services support;
 - v** Develop strategies, including reliable health indicators, to monitor the progress and evaluate the effectiveness of health programmes;
 - vi** Explore ways to finance the health system based on the assessment of the resources needed and identify the various financing alternatives;
 - vii** Promote health education in schools, information exchange, technical support and training;
 - viii** Support initiatives for self-management of services by vulnerable groups;
 - ix** Integrate traditional knowledge and experience into national health systems, as appropriate;
 - x** Promote the provisions for necessary logistics for outreach activities, particularly in rural areas;
 - xi** Promote and strengthen community-based rehabilitation activities for the rural handicapped.
- b** Support research and methodology development:
- i** Establish mechanisms for sustained community involvement in environmental health activities, including optimization of the appropriate use of community financial and human resources;
 - ii** Conduct environmental health research, including behaviour research and research on ways to increase coverage and ensure greater utilization of services by peripheral, underserved and vulnerable populations, as appropriate to good prevention services and health care;
 - iii** Conduct research into traditional knowledge of prevention and curative health practices.

Pauline Sawadogo feeds her new born baby, left, whilst, right, a less healthy child is treated in a field hospital for diarrhoea, one of the main causes of childhood death in many developing countries.



Primary health care includes food safety and child care. Above: monks from Bjakar Ozong, Bhutan give women lectures in child care. Below: food and nutrition lessons are given to mothers by a health worker in Rutiyay, India.



Financing and cost evaluation \$40 billion, including about \$5 billion from the international community on grant or concessional terms. *

B Control of communicable diseases

Basis for action. Advances in the development of vaccines and chemotherapeutic agents have brought many communicable diseases under control. However, there remain many important communicable diseases for which environmental control measures are indispensable, especially in the field of water supply and sanitation. Such diseases include cholera, diarrhoeal diseases, leishmaniasis, malaria and schistosomiasis. In all such instances, the environmental measures, either as an integral part of primary health care or undertaken outside the health sector, form an indispensable component of overall disease control strategies,

together with health and hygiene education, and in some cases, are the only component.

With HIV infection levels estimated to increase to 30-40 million by the year 2000, the socio-economic impact of the pandemic is expected to be devastating for all countries, and increasingly for women and children. While direct health costs will be substantial, they will be dwarfed by the indirect costs of the pandemic – mainly costs associated with the loss of income and decreased productivity of the workforce. The pandemic will inhibit growth of the service and industrial sectors and significantly increase the costs of human capacity-building and retraining. The agricultural sector is particularly affected where production is labour-intensive.

Objectives A number of goals have been formulated through extensive consultations in various inter-

My government is committed to the huge task of reversing the trend of increasing degradation of the ecosystems of this region. With the help of the Caribbean Conservation Association, the United States Agency for International Development and the local Environmental Awareness Group, we have begun to tackle the many problems in a determined effort to achieve sound national environmental development. We hail the resolve of UNCED with the specific aim of strengthening national and international efforts to promote sustainable and environmental development in all countries.

Rt. Hon. V. C. Bird
Prime Minister
Antigua and Barbuda

national forums attended by virtually all Governments, relevant United Nations organizations (including WHO, UNICEF, UNFPA, UNESCO, UNDP and the World Bank) and a number of non-governmental organizations. Goals (including but not limited to those listed below) are recommended for implementation by all countries where they are applicable, with appropriate adaptation to the specific situation of each country in terms of phasing, standards, priorities and availability of resources, with respect for cultural, religious and social aspects, in keeping with freedom, dignity and personally held values and taking into account ethical considerations. Additional goals that are particularly relevant to a country's specific situation should be added in the country's national plan of action (Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s¹). Such national level action plans should be coordinated and monitored from within the public health sector. Some major goals are:

- a** By the year 2000, to eliminate guinea worm disease (dracunculiasis);
- b** By the year 2000, eradicate polio;
- c** By the year 2000, to effectively control onchocerciasis (river blindness) and leprosy;
- d** By 1995, to reduce measles deaths by 95 per cent and reduce measles cases by 90 per cent compared with pre-immunization levels;
- e** By continued efforts, to provide health and hygiene education and to ensure universal access to safe drinking water and universal access to sanitary measures of excreta disposal, thereby markedly reducing waterborne diseases such as cholera and schistosomiasis and reducing:
 - i** By the year 2000, the number of deaths from childhood diarrhoea in developing countries by 50 to 70 per cent;
 - ii** By the year 2000, the incidence of childhood diarrhoea in developing countries by at least 25 to 50 per cent;
 - iii** By the year 2000, to initiate comprehensive programmes to reduce mortality from acute respiratory infections in children under five years by at least one third, particularly in countries with high infant mortality;
- g** By the year 2000, to provide 95 per cent of the world's child population with access to appropriate care for acute respiratory infections within the community and at first referral level;
- h** By the year 2000, to institute anti-malaria programmes in all countries where malaria presents a significant health problem and maintain the transmission-free status of areas freed from endemic malaria;
- i** By the year 2000, to implement control programmes in countries where major human parasitic infections are endemic and achieve an overall reduction in the prevalence of schistosomiasis and of other trematode infections by 40 per cent and 25 per cent, respectively, from a 1984 baseline, as well as a marked reduction in incidence, prevalence and intensity of filarial infections;
- j** To mobilize and unify national and international efforts against AIDS to prevent infection and to reduce the personal and social impact of HIV infection;
- k** To contain the resurgence of tuberculosis, with particular emphasis on multiple antibiotic resistant forms;
- l** To accelerate research on improved vaccines and implement to the fullest extent possible the use of vaccines in the prevention of disease.

Activities Each national Government, in accordance with national plans for public health, priorities and objectives, should consider developing a national

health action plan with appropriate international assistance and support, including, at a minimum, the following components:

- a** National public health systems:
 - i** Programmes to identify environmental hazards in the causation of communicable diseases;
 - ii** Monitoring systems of epidemiological data to ensure adequate forecasting of the introduction, spread or aggravation of communicable diseases;
 - iii** Intervention programmes, including measures consistent with the principles of the global AIDS strategy;
 - iv** Vaccines for the prevention of communicable diseases;
- b** Public information and health education: Provide education and disseminate information on the risks of endemic communicable diseases and build awareness on environmental methods for control of communicable diseases to enable communities to play a role in the control of communicable diseases;
- c** Intersectoral cooperation and coordination:
 - i** Second experienced health professionals to relevant sectors, such as planning, housing and agriculture;
 - ii** Develop guidelines for effective coordination in the areas of professional training, assessment of risks and development of control technology;
- d** Control of environmental factors that influence the spread of communicable diseases:
 - Apply methods for the prevention and control of communicable diseases, including water supply and sanitation control, water pollution control, food quality control, integrated vector control, garbage collection and disposal and environmentally sound irrigation practices;
- e** Primary health care system:
 - i** Strengthen prevention programmes, with particular emphasis on adequate and balanced nutrition;
 - ii** Strengthen early diagnostic programmes and improve capacities for early preventative/treatment action;
 - iii** Reduce the vulnerability to HIV infection of women and their offspring;
- f** Provide support for research and methodology development:
 - i** Intensify and expand multidisciplinary research, including focused efforts on the mitigation and environmental control of tropical diseases;
 - ii** Carry out intervention studies to provide a solid epidemiological basis for control policies and to evaluate the efficiency of alternative approaches;
 - iii** Undertake studies in the population and among health workers to determine the influence of cultural, behavioural and social factors on control policies;
- g** Development and dissemination of technology:
 - i** Develop new technologies for the effective control of communicable diseases;
 - ii** Promote studies to determine how to optimally disseminate results from research;
 - iii** Ensure technical assistance, including the sharing of knowledge and know-how.

Financing and cost evaluation \$4 billion, including about \$900 million from the international community on grant or concessional terms.

C Protecting vulnerable groups

Basis for action In addition to meeting basic health needs, specific emphasis has to be given to protecting and educating vulnerable groups, particularly infants, youth, women, indigenous people and the very poor as a prerequisite for sustainable development. Special attention should also be paid to the health needs of the elderly and disabled population.

Infants and children. Approximately one third of

Communicable diseases can be controlled or restricted. Above, the International Centre for Diarrhoeal Disease Research, Dacca, Bangladesh. Below, Workers in a water-testing and purification laboratory in Mangua, Nicaragua.



the world's population are children under 15 years old. At least 15 million of these children die annually from such preventable causes as birth trauma, birth asphyxia, acute respiratory infections, malnutrition, communicable diseases and diarrhoea. The health of children is affected more severely than other population groups by malnutrition and adverse environmental factors, and many children risk exploitation as cheap labour or in prostitution.

Youth. As has been the historical experience of all countries, youth are particularly vulnerable to the problems associated with economic development, which often weakens traditional forms of social support essential for the healthy development, of young people. Urbanization and changes in social mores have increased substance abuse, unwanted pregnancy and sexually transmitted diseases, including AIDS. Currently more than half of all people alive are under the age of 25 and 4 out of every 5 live in developing countries. Therefore it is important to ensure that historical experience is not replicated.

Women. In developing countries, the health status of women remains relatively low, and during the 1980s poverty, malnutrition and general ill-health in women were even rising. Most women in developing countries still do not have adequate basic educational opportunities and they lack the means of promoting their health, responsibly controlling their reproductive life and improving their socio-economic status. Particular attention should be given to the provision of pre-natal care to ensure healthy babies.

Indigenous people and their communities. Indigenous people and their communities make up a significant percentage of global population. The outcomes of their experience have tended to be very similar in that the basis of their relationship with traditional lands has been fundamentally changed. They tend to feature disproportionately in unemployment, lack of housing, poverty and poor health. In many countries the number of indigenous people is growing faster than the general population. Therefore it is important to target health initiatives for indigenous people.

Objectives The general objectives of protecting vulnerable groups are to ensure that all such individuals should be allowed to develop to their full potential (including healthy physical, mental and spiritual development); to ensure that young people can develop, establish and maintain healthy lives; to allow women to perform their key role in society; and to support indigenous people through educational, economic and technical opportunities.

Specific major goals for child survival, development and protection were agreed upon at the World Summit for Children and remain valid also for Agenda 21. Supporting and sectoral goals cover women's health and education, nutrition, child health, water and sanitation, basic education and children in difficult circumstances.

Governments should take active steps to implement, as a matter of urgency, in accordance with country specific conditions and legal systems, measures to ensure that women and men have the same right to decide freely and responsibly on the number and spacing of their children, to have access to the information, education and means, as appropriate, to enable them to exercise this right in keeping with their freedom, dignity and personally held values, taking into account ethical and cultural considerations.

Governments should take active steps to implement programmes to establish and strengthen preventive and curative health facilities which include women-centred, women-managed, safe and effective reproductive health care and affordable, accessible services, as appropriate, for the responsible planning of family size, in keeping with freedom, dignity and personally held values and taking into account ethical and cultural considerations. Programmes should focus on providing comprehensive health care, including pre-natal care, education and information on health and responsible parenthood and should provide the opportunity for all women to breast-feed fully, at least during the first four months post-partum. Programmes should fully support women's productive and reproductive roles and well being, with special attention to the need for providing equal and improved health care for all children and the need to reduce the risk of maternal and child mortality and sickness.

Activities National Governments, in cooperation with local and non-governmental organizations, should initiate or enhance programmes in the following areas:

- a** Infants and children:
 - i** Strengthen basic health-care services for children in the context of primary health-care delivery, including prenatal care, breast-feeding, immunization and nutrition programmes;
 - ii** Undertake widespread adult education on the use of oral rehydration therapy for diarrhoea, treatment of respiratory infections and prevention of communicable diseases;
 - iii** Promote the creation, amendment and enforcement of a legal framework protecting children from sexual and workplace exploitation;
 - iv** Protect children from the effects of environmental and occupational toxic compounds;
- b** Youth: Strengthen services for youth in health, education and social sectors in order to provide better information, education, counselling and treatment for specific health problems, including drug abuse;
- c** Women:
 - i** Involve women's groups in decision-making at the national and community levels to identify health risks and incorporate health issues in national action programmes on women and development;
 - ii** Provide concrete incentives to encourage and maintain attendance of women of all ages at school and adult education courses, including health

UNCED provided all nations with a unique opportunity to establish a framework for ecologically sustainable development. Australia participated actively in the UNCED process to ensure practical outcomes that would provide the basis for effective international action and cooperation into the next century. Australia is now moving to ensure the prompt ratification of the framework convention on climate change and the convention on biological diversity and examining the implications of Agenda 21 for domestic and global environmental policies. The international community must maximise the opportunity given to it by UNCED for the benefit of both present and future generations.

Hon J. E. Keating
Prime Minister
Australia

education and training in primary, home and maternal health care;

- iii Carry out baseline surveys and knowledge, attitude and practice studies on the health and nutrition of women throughout their life cycle, especially as related to the impact of environmental degradation and adequate resources;
- d Indigenous people and their communities:
 - i Strengthen, through resources and self-management, preventative and curative health services;
 - ii Integrate traditional knowledge and experience into health systems.

Financing and cost evaluation \$3.7 billion, including about \$406 million from the international community on grant or concessional terms.

D Meeting the urban health challenge

Basis for action For hundreds of millions of people, the poor living conditions in urban and peri-urban areas are destroying lives, health, and social and moral values. Urban growth has outstripped society's capacity to meet human needs, leaving hundreds of millions of people with inadequate incomes, diets, housing and services. Urban growth exposes populations to serious environmental hazards and has outstripped the capacity of municipal and local governments to provide the environmental health services that the people need. All too often, urban development is associated with destructive effects on the physical environment and the resource base needed for sustainable development. Environmental pollution in urban areas is associated with excess morbidity and mortality. Overcrowding and inadequate housing contribute to respiratory diseases, tuberculosis, meningitis and other diseases. In urban environments, many factors that affect human health are outside the health sector. Improvements in urban health therefore will depend on coordinated action by all levels of government, health care providers, businesses, religious groups, social and educational institutions and citizens.

Objectives The health and well-being of all urban dwellers must be improved so that they can contribute to economic and social development. The global objective is to achieve a 10 to 40 per cent improvement in health indicators by the year 2000. The same rate of improvement should be achieved for environmental, housing and health service indicators. These include the development of quantitative objectives for infant mortality, maternal mortality, percentage of low birth weight newborns and specific indicators (e.g. tuberculosis as an indicator of crowded housing, diarrhoeal diseases as indicators of inadequate water and sanitation, rates of industrial and transportation accidents that indicate possible opportunities for prevention of injury, and social problems such as drug abuse, violence and crime that indicate underlying social disorders).

Activities Local authorities, with the appropriate support of national Governments and international organizations should be encouraged to take effective measures to initiate or strengthen the following activities:

- a Develop and implement municipal and local health plans:
 - i Establish or strengthen intersectoral committees at both the political and technical level, including active collaboration on linkages with scientific, cultural, religious, medical, business, social and other city institutions, using networking arrangements;
 - ii Adopt or strengthen municipal or local "enabling strategies" that emphasize "doing with" rather than

"doing for" and create supportive environments for health;

- iii Ensure that public health education in schools, workplace, mass media etc. is provided or strengthened;
- iv Encourage communities to develop personal skills and awareness of primary health care;
- v Promote and strengthen community-based rehabilitation activities for the urban and peri-urban disabled and the elderly;
- b Survey, where necessary, the existing health, social and environmental conditions in cities, including documentation of intra-urban differences;
- c Strengthen environmental health services:
 - i Adopt health impact and environmental impact assessment procedures;
 - ii Provide basic and in-service training for new and existing personnel;
 - d Establish and maintain city networks for collaboration and exchange of models of good practice.

Financing and cost evaluation \$222 million, including about \$22 million from the international community on grant or concessional terms.

E Reducing health risks from environmental pollution and hazards

Basis for action In many locations around the world the general environment (air, water and land), workplaces and even individual dwellings are so badly polluted that the health of hundreds of millions of people is adversely affected. This is, *inter alia*, due to past and present developments in consumption and production patterns and lifestyles, in energy production and use, in industry, in transportation etc., with little or no regard for environmental protection. There have been notable improvements in some countries, but deterioration of the environment continues. The ability of countries to tackle pollution and health problems is greatly restrained because of lack of resources. Pollution control and health protection measures have often not kept pace with economic development. Considerable development-related environmental health hazards exist in the newly industrializing countries. Furthermore, the recent analysis of WHO has clearly established the interdependence among the factors of health, environment and development and has revealed that most countries are lacking such integration as would lead to an effective pollution control mechanism.¹ Without prejudice to such criteria as may be agreed upon by the international community, or to standards which will have to be determined nationally, it will be essential in all cases to consider the systems of values prevailing in each country and the extent of the applicability of standards that are valid for the most advanced countries but may be inappropriate and of unwarranted social cost for the developing countries.

Objectives The overall objective is to minimize hazards and maintain the environment to a degree that human health and safety is not impaired or endangered and yet encourage development to proceed. Specific programme objectives are:

- a By the year 2000, to incorporate appropriate environmental and health safeguards as part of national development programmes in all countries;
- b By the year 2000, to establish, as appropriate, adequate national infrastructure and programmes for providing environmental injury, hazard surveillance and the basis for abatement in all countries;
- c By the year 2000, to establish, as appropriate, integrated programmes for tackling pollution at the source and at the disposal site, with a focus on abatement actions in all countries;

- d To identify and compile, as appropriate, the necessary statistical information on health effects to support cost/benefit analysis, including environmental health impact assessment for pollution control, prevention and abatement measures.

Activities Nationally determined action programmes, with international assistance, support and coordination, where necessary, in this area should include:

- a Urban air pollution:
 - i Develop appropriate pollution control technology on the basis of risk assessment and epidemiological research for the introduction of environmentally sound production processes and suitable safe mass transport;
 - ii Develop air pollution control capacities in large cities, emphasizing enforcement programmes and using monitoring networks, as appropriate;
- b Indoor air pollution:
 - i Support research and develop programmes for applying prevention and control methods to reducing indoor air pollution, including the provision of economic incentives for the installation of appropriate technology;
 - ii Develop and implement health education campaigns, particularly in developing countries, to reduce the health impact of domestic use of biomass and coal;
- c Water pollution:
 - i Develop appropriate water pollution control technologies on the basis of health risk assessment;
 - ii Develop water pollution control capacities in large cities;
- d Pesticides: Develop mechanisms to control the distribution and use of pesticides in order to minimize the risks to human health by transportation, storage, application and residual effects of pesticides used in agriculture and preservation of wood;
- e Solid waste:
 - i Develop appropriate solid waste disposal technologies on the basis of health risk assessment;
 - ii Develop appropriate solid waste disposal capacities in large cities;
- f Human settlements: Develop programmes for improving health conditions in human settlements, in particular within slums and non-tenured settlements, on the basis of health risk assessment;
- g Noise: Develop criteria for maximum permitted safe noise exposure levels and promote noise assessment and control as part of environmental health programmes;
- h Ionizing and non-ionizing radiation: Develop and implement appropriate national legislation, standards and enforcement procedures on the basis of existing international guidelines;
- i Effects of ultraviolet radiation:

- i Undertake, as a matter of urgency, research on the effects on human health of the increasing ultraviolet radiation reaching the earth's surface as a consequence of depletion of the stratospheric ozone layer;
- ii On the basis of the outcome of this research, consider taking appropriate remedial measures to mitigate the above-mentioned effects on human beings;
- j Industry and energy production:
 - i Establish environmental health impact assessment procedures for the planning and development of new industries and energy facilities;
 - ii Incorporate appropriate health risk analysis in all national programmes for pollution control and management, with particular emphasis on toxic compounds such as lead;
 - iii Establish industrial hygiene programmes in all major industries for the surveillance of workers' exposure to health hazards;
 - iv Promote the introduction of environmentally sound technologies within the industry and energy sectors;
- k Monitoring and assessment: Establish, as appropriate, adequate environmental monitoring capacities for the surveillance of environmental quality and the health status of populations;
- l Injury monitoring and reduction:
 - i Support, as appropriate, the development of systems to monitor the incidence and cause of injury to allow well-targeted intervention/prevention strategies;
 - ii Develop, in accordance with national plans, strategies in all sectors (industry, traffic and others) consistent with the WHO safe cities and safe communities programmes, to reduce the frequency and severity of injury;
 - iii Emphasize preventive strategies to reduce occupationally derived diseases and diseases caused by environmental and occupational toxins to enhance worker safety;
- m Research promotion and methodology development:
 - i Support the development of new methods for the quantitative assessment of health benefits and cost associated with different pollution control strategies;
 - ii Develop and carry out interdisciplinary research on the combined health effects of exposure to multiple environmental hazards, including epidemiological investigations of long-term exposures to low levels of pollutants and the use of biological markers capable of estimating human exposures, adverse effects and susceptibility to environmental agents.

Financing and cost evaluation \$3 billion, including about \$115 million from the international community on grant or concessional terms.

- 1 Report of the WHO Commission on Health and Environment (Geneva, forthcoming).