

# Section 2 : Conservation and Management of Resources for Development

## **Chapter 18 : Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources**

### **A. Integrated water resources development and management**

All social and economic activities rely on water, thus it is paramount that plans for water management be integrated into national economic and social policy.

#### **Objectives**

To satisfy the freshwater needs of all countries for their sustainable development. To plan for the sustainable and rational use (possibly through charging of users), protection conservation and management of water systems and to implement policies to do this.

#### **Activities**

All countries should:

- integrate measures for the protection, conservation and sustainable development of water resources
- optimise water resource allocation, especially through the use of economic instruments
- develop public participatory techniques
- decentralise relevant Government services to local authorities
- develop interactive databases, forecasting models and economic planning models on water
- development of alternative sources of water supply and low cost water technologies.

### **B. Water resources assessment**

The establishment of national databases and the assessment of these is vital in the sustainable management of water resources.

#### **Objectives**

To ensure the assessment and forecasting of quality and quantity of water resources and to protect possible conflicts between supply and demand.

#### **Activities**

All countries should:

- establish co-operation between relevant national level agencies
- disseminate data to policy makers and provide warnings on droughts and floods to all
- strengthen research into water resources and provision of databases
- provide training to staff involved in water resource assessment and management
- strengthen input into water use planning by users to improve water use efficiency at the local level.

### **C. Protection of water resources, water quality and aquatic ecosystems**

#### **Objectives**

To integrate water quality elements, such as protecting ecosystems and public health with water resource management.

#### **Activities**

All countries should:

- implement water resource monitoring, protection and conservation
- implement water pollution prevention and control through the application of polluter pays principles, standards for discharges, mandatory Environmental Impact Assessments etc.
- develop legal instruments to protect the quality of water resources
- train those working in relevant areas.

### **D. Drinking water supply and sanitation**

Safe water supplies and environmental sanitation are vital for protecting the environment, improving health and alleviating poverty.

#### **Objectives**

To protect the environment and safeguard health through the management of water resources and liquid and solid waste.

#### **Activities**

All countries should:

- promote the safe treatment and reuse of domestic and industrial waste waters
- conduct decision making at the lowest appropriate level
- educate people on rational water use
- recognise the role of local authorities in supply of water and sanitation.

### **E. Water and sustainable urban development**

Scarcity of water impacts on national, industrial, agricultural and human settlement development and economic growth.

### **Objectives**

To support local and central Government's effort to sustain national development and productivity through environmentally sound development of water resources.

To, by the year 2000 have applied quantity and quality discharge standards for municipal and industrial effluent.

To, by the year 2000 have ensured that 75 percent of solid waster generated in urban areas is collected and recycled or disposed of in an environmentally safe way.

### **Activities**

All countries should:

- protect water sources from depletion, pollution and degradation
- provide for an efficient and equitable allocation of water resources, especially through water tariffs
- promote public awareness, particularly of schemes such as recycling
- train personnel and users
- strengthen related institutional, legislative and management structures.

## **F. Water for sustainable food production and rural development**

### **Objectives**

To develop environmentally sound management of water resources.

### **Activities**

All countries should:

- develop programmes for efficient water use
- develop drainage to prevent water logging
- develop water quality management through education and monitoring
- conduct informal and formal training activities at all relevant levels.

## **G. Impacts of climate change on water resources**

There is uncertainty about the effects of climate change at the global level. Although these uncertainties increase greatly at the regional, national and local levels, it is at the national level that the most important decisions will need to be made.

### **Activities**

All countries should:

- monitor climate change and its impacts

- assess the potential adverse effects of climate change and develop strategies to counter these
- conduct case studies to establish any links between climate change and occurrences of floods and droughts.