

# **THE DUBLIN PRINCIPLES: INSTITUTIONAL AND LEGAL ARRANGEMENTS FOR INTEGRATED WATER RESOURCE MANAGEMENT**

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## **Summary**

The Dublin principles represent the first international major effort to concisely state the main issues and thrust of water management in the world. This contribution specifically considers the relationship between the 1992 Dublin Principles, integrated water management and water law. It is based on the review of a number of systems of national water law and on experiences provided by ongoing processes in countries such as Chile, Mexico, South Africa, and Zimbabwe.

## **1. Overview and Introduction**

The Dublin principles represent the first international major effort to concisely state the main issues and thrust of water management in the world. These principles are summarized in Table 1. Four main themes inform the principles: environment, economics, social needs, and the role of women, under a paramount goal of sustainability. This contribution specifically considers the relationship between the 1992 Dublin Principles, integrated water management and water law. Discussion is organized according to the four guiding principles for water in Table 1. It is based on the review of a number of systems of national water law and on experiences provided by ongoing processes in countries such as Chile, Mexico, South Africa, and Zimbabwe. Cases selected were generally chosen as representative of trends or situations, and not necessarily as models to be followed. The Report relates each principle to actual law.

Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment;

Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels;

Women play a central part in the provision, management, and safeguarding of water;

Water has an economic value in all its competing uses, and should be recognised as an economic good;

Table 1: The Dublin Principles on Water and Water Management

## 2. Fresh Water as a Finite and Vulnerable Resource

### 2.1 Water Policies

Several countries state the purposes and objectives of their water policies in their water legislation. The statement of policies is relevant to the interpretation, application and enforcement of legislation. Several of the statements reflect awareness of the interrelationships resulting from the principle. Several laws include policy principles where the multiple roles of water are recognized. Thus, the 1970 Canadian Water Act encourages optimum use of water resources for the benefit of all Canadians (art.1). The Water Law of Germany (as amended on 23 September 1986) requests that water (both, surface and groundwater) be managed in a manner that serves the common interest, benefiting individual users, while preventing avoidable harmful impacts (art. 1a). The Netherlands' "Policy Document on Water Management" sets up a policy of integrated water resources management which includes the quantitative and the qualitative aspects of water management. The 1988 Water Law of China policy is to ensure the rational development, utilization, and protection of water resources, fully realizing the benefits of water, for economic development, and the livelihood of the population. The policies of the 1992 Mexican Water Law include the preservation of water quality and the promotion of sustainable development.

## 2.2 Quality Controls and Environmental Concerns

The environmental dimension of water is rapidly becoming a major component of water legislation. As water becomes scarcer, relative to demand; as externalities increase, and as knowledge improves, the need to control the deterioration of water quality is translated into more detailed and demanding legislation. Permits, prohibitions, and charges are used to curb the deterioration of water and related natural resources and environmental assets.

The Canadian Water Act provides for the designation of water quality management areas and the implementation of water quality management programs (art. 11). Water quality management agencies shall plan, initiate and carry out programs to restore, preserve and enhance the quality of the waters within the water quality management area (art 13). The German Water Law imposes a general duty to prevent water contamination and detrimental changes of its properties, requiring “an economical use of water in the interest of natural water resources” (art. 1a). Discharges into water are subject to maximum loads and technological requirements. Hazardous wastes must be treated using the best available technology (art. 7). Article 22 provides for strict, joint and several liabilities resulting from damages caused by introducing or throwing any substances into water. Discharges causing not merely insignificant detrimental changes, shall only be allowed when overriding public interest thus requires. Waters can be subject to characterization parameters issued by the Federal Government (art. 36b). The law also provides for proper flow conditions, maintenance of navigation, ecological requirements, landscape features, protection of banks, and self purification (art. 27).

The policies on environment and water of the Netherlands aim primarily at having and maintaining a safe and habitable country and to develop and maintain healthy water systems which guarantee sustained use. Three “screens” are established: 1) Reduction of pollution at the source; 2) Hydraulic design; 3) Rational or “guided” use of water resources, in particular groundwater. Quality objectives and monitoring methods and procedures have been established. The system includes licensing of discharges into water and, for specific industrial sectors, into sewers; payment of pollution charges and the preparation, every five years, of action plans to combat water pollution. The policies also address diffuse pollution, like atmospheric deposition, tars (utilized on protection materials for wooden shore and bank facilities), and agricultural run-off and leachates. Some pesticides have been absolutely prohibited, others are restricted, and some are subject to application according to best environmental practices. Additional measures, intended to control environmentally negative effects, include friendly environmental design and sedimentation and eutrophication control.

The 1989 Water Act of England provides for the classification of water quality in relation to controlled waters (sect. 104), the establishment of water quality objectives (sect. 105), controlling and remedying pollution (sect. 107), protection from sedimentation and refuse or waste vegetation (sect. 109), protection against pollution (sect. 110), creation of water protection zones (sect. 111), establishment of nitrate sensitive areas (sect. 112), establishment of minimum acceptable river flows (sect. 127), and enactment of codes of good agricultural practices, with a view to protect water resources (sect. 116). The 1991 Water Resources Act imposes conservation and

enhancement duties on ministers and the National Rivers Authority, with a view to protect amenities, flora, fauna, historical places and other environmental interests. Public access and public availability are also taken into account. These duties are likewise to be considered when dealing with undertakers and their proposals for the management of waters and lands (sect. 16). Additional duties refer to environmental concerns for sites of special interest and for the enactment of codes of practice with respect to environmental and recreational duties (sects. 17-18).

The Water Law of China creates a state duty to protect water resources and adopt effective measures to protect flora, conserve water sources, control soil and water losses and improve the ecological environment. Water pollution is to be prevented and controlled, with a view to protect and improve water quality. Supervision and management of prevention and control of water pollution is to be strengthened (arts. 5-7). Agriculture must be practiced with a view to promote stable and high agricultural yield (art. 15). Hydropower development is to be done in accordance with protection of the ecological environment (art. 16). Fish ladders must be constructed when needed (art. 18). Adverse environmental impacts in the implementation of interbasin transfers (art. 21) must be prevented. Additional rules control disposal of refuse, mining activities, land reclamation, construction of projects, and creation of management and safeguard zones (arts. 24-29).

In some systems environmental concerns are the basis on which existing water rights can be amended, restricted, subjected to prorata, or cancelled. The 1992 French Water Law authorizes changes in water rights when public health or safety so requires, or when water environments are threatened (art. 10iv). In the United States the public trust doctrine has been utilized to limit prior appropriation rights when the full exercise of such rights would have affected the environmental functions of a lake.

### **2.3 Protection and Management of Water Supplies**

The protection of water sources has been a traditional concern of water law. Increasing demand and externalities have strengthened this concern. The Mexican Water Law reflects this dimension of water legislation through the regulation of the use and development of national water resources. The German Water Law provides for the creation of water protection areas, within which certain activities cannot take place, or certain measures have to be tolerated (art. 19). The law requires the licensing of pipeline systems conveying substances constituting a hazard to water. These licenses are subject to conditions that can be changed even after a license has been issued (art. 19). Use of, and discharges into, groundwater are subject to permit and licensing (arts. 32-34).

Groundwater is increasingly controlled and protected. A number of countries have enacted legislation requiring permits, creating administrative devices to control the use of groundwater in special management areas and restricting the expansion of high consumption activities like irrigation. Management measures include issuing certifications of assured water supplies, required for the approval of subdivision plats, registration and recording of wells, control of water storage and recovery, control of well drillers, protection of preexisting uses, use of groundwater charges, measurement of withdrawals, estimations of supply and demand, stopping and reducing withdrawals

in order to allow replenishment, granting emergency powers in case of drought, granting of permits at the discretion of water administrators (except in cases of clear abuse of discretion), deadlines for waterworks and activities, monitoring, possibility to amend and forfeit water rights (previous hearing), conjunctive use of surface and groundwater, control of discharges into groundwater and allocation of groundwater to preferred uses like drinking water supply.

The 1991 Water Resources Act of England provides for the National Rivers Authority to have a general mandate of proper management, which includes conserving, redistributing, augmenting, and securing the proper use of the water supplies of England and Wales. Water resources management schemes can be entered into for this purpose.

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