



**WATER LAW
IN
SELECTED EUROPEAN COUNTRIES**

Volume II

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WATER LAW

IN

SELECTED EUROPEAN COUNTRIES

(Cyprus, Finland, the Netherlands, Union of Soviet Socialist Republics, Yugoslavia)

Agrarian and Water Legislation Section
Legislation Branch, Legal Office

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FOREWORD

Water has been aptly described as the “lifeblood” of mankind. In the eight years that have elapsed since the publication of Volume I of this series, the unassailable nature of this statement has been reconfirmed in a variety of ways including the United Nations Water Conference at Mar del Plata (1977) and the declaration of the International Drinking Water Supply and Sanitation Decade, to name but two examples. There, and elsewhere in the intervening years, repeated stress has been given to the importance of water to health, economic and social development and the quality of life in general.

This study is about the rational management and protection of this most important of resources. On the one hand, it is intended as a further contribution towards a global inventory of national experiences in the field of water resources management. On the other, it is an effort to educate by example; to provide a guide to those who want to know how others are coping with the complexities of managing and protecting water resources. In the latter context it is hoped that the reader will find this study especially useful. Although the subject matter is, in general terms, the water law of European countries, the countries themselves have been selected in a way intended to provide a broad cross section of how water resources are managed in wet (Finland) and arid (Cyprus) climates; how they are managed in the face of the constant threat of seawater intrusion (Netherlands) and how they are dealt with under a federalized management regime (Yugoslavia). In addition, we have included the example of legislation intended to facilitate the management and protection of an enormous variety of water resources over a vast area affected by climatic extremes (USSR). In short, it is hoped that the study will satisfy a variety of appetites for knowledge.

The country monographs contained in this study are each the work of water resources lawyers who graciously contributed their time and considerable effort in their personal and private capacity. They are:

- Edmée Roëll, P.W.J. Odero and J.H.A. Teulings, who prepared and reviewed the chapter on the Netherlands;
- Vera Jazvic Pierrogianna and Dr. Lovro R.R. Sturm, who prepared and reviewed the material on Yugoslavia;
- O.S. Kolbasov who prepared the chapter on water law in the Soviet Union;
- Professor Martti Enäjäriv who contributed the chapter on the water law of Finland;
- Charalambos Kyraikidis who has kindly prepared the chapter on the water legislation of Cyprus; and

Thanks are also given to Mr. Dante Caponera, Chief of the FAO Legislation Branch who originated the concept of these comparative studies.

Finally, it is recognized that the five country monographs comprising this study may possibly contain minor omissions or may require modification as new legislation is developed in the countries themselves. The Legislation Branch will accordingly be grateful to anyone who would point out such omissions or necessary modifications so that they may be taken into account in any future edition.

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CYPRUS 1/

I. INTRODUCTION

Cyprus is a relatively small island in the extreme Northeastern end of the Mediterranean, situated between Turkey, Syria and Egypt. The island lies 37 miles from the coast of Turkey, 104 kilometers from the coast of Syria, 300 kilometers from the coast of Egypt, and 350 kilometers from Rhodes, its area is 9,250 square kilometers; the maximum dimensions from North to South are 96 kilometers and East to West 226 kilometers. Currently, the population is approximately 650,000 with roughly 40 percent of the people residing in three main towns: Nicosia (120,000), Limasol (79,000) and Famagusta (45,000) 2/.

Cyprus, in relation to the regional geology of the Eastern Mediterranean, can be considered as lying between the Anatolian Plateau and the foreland of the African shield. The Southeastern coast of Cyprus consists of natural ports protected from strong Northern winds. Natural ports, such as Kyrenia, are also formed on the North coast. On the South coast of Cyprus are the ports of Paphos, Episkopi and Limasol (historically known respectively as Kourion and Amathus). On the East coast there are the ports of Larnaca and Famagusta (known historically as Larnaka and Salamis). On the North of Kyrenia there are the ports of Solon and Poleos Chrysochou (Marion). The Western coast of Cyprus is rather rocky and consequently is without ports.

The topography of Cyprus is generally hilly and dominated by two mountain ranges. Along the South-Western coast the Troödas Mountain range rises with Olympus as its highest peak (1950 meters). The range stretches approximately 80 kilometers from near the West coast to within 19 kilometers of the Island's Eastern edge. Along the Northern coast, the Pentadachtylos range is found, with Kyparissovoun its highest peak. The range runs approximately 128 kilometers from east to west only a short distance inland, leading a narrow, fertile plain along the Northern coast. Between these two ranges lie three fertile plains; Messaoria, Nicosia and the Morphou. The coastal areas are mostly flat. The Meassaoria Plain spans the island from Morphou Bay in the West to Famagusta Bay in the east (a distance of approximately 128 kilometers) and varies from 24 to 48 kilometers in width. The plain furnishes the major supply of grain for the island, primarily wheat and barley. Approximately 121,500 hectares of the plain are cultivated under irrigation, with the remainder devoted to dryland farming 3/. The most important crops generally are citrus fruits, cereals, carobs, potatoes, grapes and raisins. In 1978, citrus exports were worth Ct 6.7 million and potato exports Ct 10.7 million 4/.

1/ Prepared for FAO Legislation Branch by...

2/ Quarterly Economic Review of Cyprus, 1979, p. 19.

3/ Encyclopedia Britannica, Vol. 5, p. 403.

4/ Quarterly Economic Review of Cyprus, 1979, p. 21.

Annual precipitation on the island is approximately 48 centimeters, with the largest amount (111 centimeters) occurring in the Troödos ranges and the lowest (30 centimeters) falling in the central plain. During the winter months of December through March, the Troödos range typically experiences several weeks of below freezing night temperatures. During these months and extending through April, the weather pattern varies considerably, being influenced by prevailing conditions in the Aegean Sea and on the Turkish mainland. From the middle of June through the middle of September, a low pressure trough generally builds over the Eastern Mediterranean which brings high temperatures and steadily increasing humidity with little or no rain. There are no running rivers on the island; it is, however, crisscrossed by dry river valleys that become fast flowing torrents during periods of heavy rainfall. Because of its intermittent and torrential character, surface water flow on the island tends to cause severe soil erosion.

Much of the land devoted to annual crops lies within the zone of low rainfall. This situation together with the concentration of the rainfall in the winter months led historically to an emphasis upon dryland farming of winter cereals. Some irrigation, however, was practiced using water from springs, rivers and streams (none of them perennial) which continued to flow until April or May due to snow melt in the mountains. Limited irrigation was also possible from flash floods. Further, a certain amount of irrigation was carried on throughout the year using gravitational flow of groundwater through tunnels that eventually brought water to the surface at a lower altitude ^{5/}. In the mid-1920's, the British began a major program to abstract groundwater both for domestic purposes, and irrigation. These efforts proved successful and, by the 1950's, involved some 4000 hectares of agricultural land under perennial irrigation which was able to produce two crops annually. A drive by private entrepreneurs to expand commercial agriculture led to the drilling of a large number of boreholes that tapped aquifers in coastal areas - where groundwater would be found relatively near the surface. A survey of Cypriot water supplies completed in the late 1960's concluded that it was unlikely that new groundwater sources would be found; nonetheless, by the late 1970's some 44,000 hectares were under perennial irrigation from both underground and surface sources ^{6/}. This excessive extraction of underground water has already resulted in seawater intrusion and developing soil salinization in some areas, thus making it likely that newly irrigated land will largely be required to depend solely on surface water supplies.

In this connection, the costs for adequately providing surface water are relatively high in Cyprus due to physical factors associated with containment and distribution. Extremely irregular river flow necessitates the construction of large storage capacities, while terrain features require unusually high dams. Further, the substantial erosion caused by flash flooding creates a need for substantial dead storage space. Together, these cost factors deterred significant construction by the British administration until the 1950's, when a modest construction programme was initiated. By independence, some 16 dams had been constructed. Together these facilities possessed the

^{5/} Cyprus, A Country Study, the American University, 1980, p. 111.

^{6/} Ibid.

capability of storing only 6.2 million cubic meters of the estimated 600 million cubic meters of usable annual run-off provided by rainfall. After independence, this construction effort was continued with the result that, by the mid-1970s, storage capacity was increased to 64 million cubic meters. In early 1979, the World Bank approved a loan of approximately \$ 11 million to aid further water resource development, which included construction of additional storage facilities of 32 million cubic meters. One major project currently contemplated is the construction of a pipeline across the Mediterranean between Turkey and Cyprus. The purpose of the project is to irrigate the large citrus groves in North-Western Cyprus where exists an annual water deficit of approximately 30 million cubic meters. According to estimates this pipeline, if completed, would pump up to 10 million cubic meters of water annually. A feasibility study of the project has apparently been completed, but no further progress has been made ^{7/}.

The people of Cyprus represent two principal ethnic groups, Greek (77.1 percent of the population) and Turkish (18.2 percent) with the former descended from the islands' earliest inhabitants and the latter descended from the Ottoman Turks who conquered the island in 1571 and occupied it until 1878. British occupation commenced in 1878, and it was from Britain that the Cypriots achieved independence in August 1960. The following year, Cyprus joined the British Commonwealth and became the sixteenth member of the Council of Europe.

The 1960 constitution of the republic attempted to formally respond to the ethnic duality of the island's population. It provided for a Greek Cypriot president, and a Turkish Cypriot vice-president; a Council of Ministers (seven Greek and three Turkish members) and an elected House of Representatives of 50 members (35 Greek, 15 Turkish). It also established Greek and Turkish communal chambers to control community affairs, a Supreme Constitutional Court under a neutral foreign judge and a High Court of Justice under a neutral chief justice. These provisions of the constitution, however, have been held in obedience since the outbreak of communal violence in 1963. At that time, Turkish Cypriots ceased to take any part in the government or the legislation., On July 15, 1974 the government was overthrown and control of the island seized by the Greek Cypriot controlled National Guard. Following the installation of a new president supporting enosis (a campaign seeking re-unification of the island with Greece) Turkey, on July 20, 1974 invaded Cyprus seizing roughly the 36 percent of the Northern island (including the part of Famagusta), which contained over 60 percent of the island's agricultural and industrial potential; and 30 percent of its water supplies ^{8/}. About 80 percent of the island's citrus plantations, 25 percent of the industrial sector, including the island's copper mines, as well as tourist facilities and hotel accommodations are now largely under Turkish Cypriot ^{9/}. Greek Cypriots control the port of Limassol and the island's main election power plant. To date, efforts to achieve a political settlement of the Cyprus conflict have been unsuccessful and the island remains ethnically divided.

^{7/} Quarterly Economic Review of Lebanon and Cyprus, Annual Suppl. 1980, p. 26.

^{8/} Ibid., 1979, p. 18.

^{9/} Ibid.

II. LEGISLATION IN FORCE

The main legislative enactments which govern, either directly or indirectly the conservation, development, and use of water resources in Cyprus include the following major enactments:

1. The Wells Law of 1 September 1946 (Cap. 351) as amended by Laws of 15 November 1961 and 3 March 1962.
2. The Water Supply (Special Measures) Law of 9 July 1964 as amended by laws of 15 July 1965 and of 25 April 1975.
3. The Government Waterworks Law of 12 May 1928 (Cap. 341) as amended by Laws of 28 December 1968, 30 June 1972 and 21 January 1977.
4. The Irrigation Divisions (Villages) Law of 22 April 1938 as amended by Law of 28 December 1968.
5. The Irrigation Association Law of 22 August 1949 (Cap. 115).
6. The Water (Development and Distribution) Law of 28 May 1955 (Cap. 348).
7. The Water Supply (Municipal and Other Areas) Law of 22 May 1951 (Cap. 350).
8. The Water (Domestic Purposes) Village Supplies Law of 29 July 1948 (Cap. 349).
9. The Villages (Administration and Improvement) Law of 2 June 1950 (Cap. 243).
10. The Kefalovriso Water Supply Improvement Law of 22 June 1932 (Cap. 343).
11. The Kythrea Water Supply Improvement Law, of 7 May 1928 (Cap. 344).
12. The Nicosia Water Supply (Arab Ahmet and Silikaar Vakfs) Management Law of 3 May 1919 (Cap. 345) as amended by Law of 2 April 1971.
13. The Nicosia Water Supply (Special Power) Law of 3 October 1932 (Cap. 346).
14. The Nicosia Water Supply (Special Provisions) Law of 17 June 1959.
15. Polis tes Khrysokhou Water Law of 28 July 1900 (Cap. 347).
16. The Public Rivers Protection Law of 9 May 1930 (Cap. 82).
17. The Foreshore Protection Law of 9 September 1934 (Cap. 59).
18. The Mines and Quarries (Regulation) Law of 10 April 1953 (Cap. 270) as amended by Law of 1965.
19. Factories Law of 22 December 1956 (cap. 134) as amended by Law of 1964.
20. The Fisheries Law (Cap. 136).
21. The Municipal Corporation Law of 10 June 1930 (Cap. 240) as amended by the Acts of 14 May 1959, 12 October 1959, 17 February 1961, 18 December 1964, 15 May 1966, 20 February 1970.

22. The Streets and Buildings Regulation Law of 1 September 1964 as amended by laws of 14 May 1959, 11 April 1974, and 5 July 1974.
23. Immovable Property (Tenure Registration and Valuation) Law of 1 September 1946 (Cap. 224) as amended by laws 25 february 1960, 30 December 1965, 31 March 1966 and 12 July 1968, 1971, 1974.
24. Vine Industry (Regulation and Control) Law of 1965 as amended by laws of 7 July 1966 and 1970.
25. Citrus Groves (Survey and Registration) Law of 28 July 1968 as amended by Law of 1972.
26. Sale of Drugs and Food Law of 24 June 1938 as amended by law of 30 June 1967.
27. The Public Health (Villages) Law of 27 August 1937, as amended by Law of 1963.

III. OWNERSHIP OF WATERS

Water in Cyprus is classified as either surface or underground and the Conservation, development and ownership of water is regulated by the Government Waterworks Law 10/. The law provides that ownership of all water, surface or underground, is vested in the Government of the Republic of Cyprus, unless the abstraction of groundwater or the use of surface water commenced prior to 12 May 1928 11/. This legislative provision has been preserved by the Cyprus Constitution Which came into force on the 16th August 1960 12/.

(a) Surface Water Resources

Surface water is defined to include any water running to waste from any river, spring, stream or other water course. With regard to surface water, the private individual has the right of ownership of a certain amount of water for a specific period Of time and taken from a specific spot provided the right was exercised without interruption for a full period of thirty years before the 12th May 1928 or that the right has been conferred by a Firman or other valid document confiring title, issued before the 4th June 1878 right of which has been acted upon from the time when it was issued or is currently being exercised under any law currently in force. Once established, this right of ownership of surface water can be acquired or transferred in the same way as real property, i.e., by gift, sale or devise 13/.

10/ The Government Waterworks Law of 12 May 1928 (Cap. 341).

11/ Ibid., Section 3 (1).

12/ The Cyprus Constitution, Article 23 (a).

13/ The Immovable Property (Tenure Registration and Valuation) Law, Cap. 224, Section 7 (a) (b).

(b) Groundwater Resources

Underground water consists of water percolating in the subsoil which moves by gravity. The water is brought to the surface by sinking wells, boreholes or chains of wells or by springs. The ordinary individual is deemed to have a right of ownership of underground water if two conditions are met. First if prior to 12 May 1928 - the effective date of Government Waterworks Law No. 26/1928 - he had a well or a spring from which water was being used. Second, if the individual had applied for, and obtained, a proper permit from the appropriate authority to sink, construct the well or any other work and to use the water found therein 14/. This right of ownership is protected by a legislative provision which requires the maintenance of safe distances between groundwater and abstraction works. That law prohibits abstractions within 80 feet of an existing well or borehole and 600 feet from a chain of wells or a spring 15/. The owner of a groundwater source whose right has been affected by the abstraction of water in violation of the foregoing limitations has, by statute, a right to damages and an order terminating the illegal abstraction 16/.

IV. THE RIGHT TO USE WATER OR WATER RIGHTS

As already noted, surface as well as underground water, constitutes the property of the government in Cyprus, unless an historical right of use has been established. Notwithstanding government ownership, however, an individual may obtain a right to use such water. In the case of surface water, the individual may apply for a permit to use water from any lake, river, stream or watercourse 17/. In the case of groundwater, an individual may acquire a right of use if he obtains the necessary permit to sink a well 18/ and to use the water found therein 19/.

Whenever any person acquires or possesses any right of irrigation, such right extends to a right in, or over any artificial or other channel, watercourse, aqueduct, well or chain of wells formed for the distribution of the water to which such right relates, and a space of not more than five feet from either edge of such channel, watercourse, aqueduct, well or chain of wells as may be required for the cleaning, repairing or protection thereof shall be deemed to form part thereof. Such space shall be not interfered with, cultivated or planted by the owner of the land on either side of the channel, watercourse aqueduct, well or chain of wells 20/.

14/ The Government Waterworks Law of 12 May 1928 (Cap. 341), Section 3 (1).

15/ The Wells Law Cap. 351, Section 7.

16/ Ibid., Section 8.

17/ Ibid., Section 3 (1) of Cap. 341.

18/ Ibid. and the Water Supply (Special Measures) Law 32/64, 35/65 and 17/75, Section 4 (1).

19/ The Government Waterworks Law Cap. 341, Section 3 (1).

20/ The Immovable Property Law, Cap. 224, Section 16.

The appropriate government administrator for the issuance of permits is the District Officer 21/. In granting a permit the District Officer may impose restrictions or conditions by using such criteria as the existing water situation in the area, including its future potential development, and the requirements of prior users of water 22/. The conditions or restrictions imposed may include, *inter alia*, limiting the use of water to irrigating only the plot of land on which the water abstraction or diversion occurs; restricting the maximum number of cubic meters to be extracted per day; specifying the purpose of the use of such water; requiring the installation of water meters and; specifying the kind of pumping machine to be installed 23/.

In cases where a private water source is proposed to be used in connection with the subdivision of land for building sites and the land does not lie within a municipal area or a village water supply area, the appropriate authorities, before granting or refusing a permit, are obliged to forward the application to the Director of the Department of Water Development of the Ministry of Agriculture and Natural Resources who must advise whether the water intended for this purpose is pure, wholesome and adequate for the domestic uses sought. Normally, this is determined by performing a pumping test so as to determine quantity and chemical and bacteriological content. Purity and wholesomeness are required to strictly conform to prevailing international standards 24/

V. ORDER OF PRIORITIES

With the exception of a priority accorded to domestic water users, Cypriot water legislation does not establish priorities between different users, different types of water rights or different geographic areas, where the use of water is for domestic purposes - regardless of whether the place of use is a town, a village or a rural area - the use is granted a priority over agriculture, industry or tourism 25/. Moreover, while the law does not establish a *de jure* distinction between agricultural users or areas, the scarcity of water supplies on the Island tends to create a kind of *de facto* prioritization: water is used to irrigate existing farmlands rather than to place heretofore unirrigated lands into production.

21/ Section 3 (1) of Cap. 351 and Section 5(1) of Law 32/64.

22/ *Ibid.*

23/ *Ibid.*

24/ The Streets and Building Regulation Law, Cap. 96, Section 9(b) (xi) and 9(c) (ii).

25/ The Wells Law, Cap. 351, Sections 9 and 10.

VI. LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic and Household Uses

The supply of water for domestic purposes is obtained mainly from underground sources. In municipal areas this supply is provided by Water Boards established by the Water Supply Law 26/. In addition to providing for domestic use, these Boards supply water for industrial purposes, for spraying and cleaning the streets, sewers and drains, public pumps, public baths, wash-houses, watering public parks, and the Municipal Fire Brigade. To implement these purposes, every Water Board is charged with the duty of providing and maintaining a good, sufficient and clean supply of water within its geographic jurisdiction. It is also obliged to maintain necessary works in good order and repair. The supply of water for domestic purposes in villages is the responsibility of the Village Water Commission 27/, unless the village is declared an Improvement Area under the provisions of the Villages (Administration and Improvement) Law, Cap. 243, whereupon the Board of such Improvement Area is responsible for the supply of water 28/.

(b) Agricultural Uses

For agricultural purposes, both surface water and groundwater is being used. In both cases, a permit to use water for agriculture is required except where there are private water rights established, as described supra (section III), prior to 12 May 1928, the date of the enactment of the Government Waterworks Law No. 26/1928.

As a general rule the criteria used to grant permits to sink and use underground or surface water for agricultural purposes vary from area to area in as much as there are free areas where water supplies are relatively abundant 29/. Water conservation 30/ and controlled areas 31/ are established where water supplies are scarce. Among the factors taken into consideration in determining whether, and on what terms, to issue a permit is the purpose for which the underground water is required; i.e., if it is to be used for irrigation, and whether that irrigation is for permanent or seasonal crops or for the watering of animals or for hot-houses.

(c) Fishing

Fishing, (particularly for trout) occurs at a number of dams in Cyprus. A permit from the Ministry of Agriculture and Natural Resources is required.

Recently the rearing of fish has been encouraged and a number of fish-ponds have been constructed near running surface water. To use this surface water for fish rearing, a permit must be obtained from the District Officer.

26/ The Water Supply (Municipal and Other Areas) Law, Cap. 350, Section 12 (1).

27/ The Water (Domestic Purposes) Village Supplies, Cap. 349, Section 33.

28/ The Villages (Administration and Improvement) Law, Cap. 243, Section 21 (i).

29/ The Wells Law, Cap. 351, Section 3 (1).

30/ Ibid., Sections 4 (1) and 5 (1).

31/ The Water Supply (Special Measures) Law 32/64, Section 3 (1).

(d) Industry and Mining

The Water Boards in the larger towns and the Water Commissions in vilages, are obliged to meet the needs of industrial consumers from the water supply system established for domestic users, provided the supply of water to domestic users is not likely to be affected thereby. Industrial enterprises may also apply for and obtain a permit to sink a well or borehole and use the water found therein for industrial purposes under conditions specified by the appropriate authority.

For mining purposes, the use of water is indispensable, and typically, mining leases in Cyprus provide that water upon or within any of the area of the mine may be collected, impounded and abstracted for the purpose of working the mine. However, it must be noted that despite such mining lease provisions, in order to bore for water in a mining area, or to use surface water, the lessee must first obtain a proper permit 32/. In addition to the requirement of obtaining a permit, every person who uses water for mining operations, is required to assure that such water does not contain injurious substances likely to prove detrimental to human, animal, or vegetable life, when it leaves the mining area in which it has been used 33/.

VII. LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Soil Erosion

Existing legislation provides for the creation of Soil Conservation Divisions and for the preparation and enforcement of soil conservation schemes 34/. In accordance with this legislation, divisions comprised of landowners are reestablished to generally supervise and control implementation of soil conservation schemes at the local level. The divisions may make regulations for the construction and maintenance of any soil conservation works, for the manner in which any land shall be prepared for planting, for the withdrawal from cultivation or grazing of any land for a certain period, and for the restriction of the number of kinds of livestock which may be grazed for any specified period on any defined portion of land 35/. The divisions may also acquire property after payment of compensation, may enter upon land for the purpose of carrying out necessary work and may remove all obstructions. Actions may be brought by or against the treasurer of each division as its representative 36/. The Soil Conservation Divisions may also be dissolved by an order of the Council of Ministers 37/.

32/ Attorney General v the Asbestos Mines Ltd XX (2) CLR page 4, and the Mines and Quarries Regulations Law, Cap. 270, Section 28 (1).

33/ The Mines and Quarries Regulations Law, Cap. 270, Section 29.

34/ The Soil Conservation Law, Cap. 94.

35/ Ibid., Section 12.

36/ Ibid., Sections 15, 17 and 19.

37/ Ibid., Section 32.

(b) Drainage and Sewerage

The Streets and Buildings Regulation Law provides for drainage and sewerage control. The legislation requires that to lay out or construct a street, to erect a building, divide land into separate sites, it is essential that a permit from the appropriate authority should be obtained. If the area is within a municipality the appropriate authority is the Municipal Council. If the area lies within any rural municipality, the Council of Ministers may appoint the District Officer as the appropriate authority. In lieu of the District Officer, the Council of Ministers may appoint a Board consisting of not more than six persons with the District Officer as Chairman. In an improvement area, the District Officer may appoint as an appropriate authority the Board established for that area under the provisions of the village (Administration and Improvement) Law, (Cap. 243) 38/.

In granting a permit, the appropriate authority has the power to impose conditions with regard to the laying out or the construction of streets, including their width, length, position, level, inclination and drainage, as well as the construction of bridges, culvert and side ditches 39/ With regard to the erection of any new building or additional alteration or repair to any existing building, conditions requiring provision for protection of drainage and sewerage 40/, wells, water closets, privies, pits, septic tanks, soakaways and cesspools may be imposed on the builder 41/.

In connection with the laying out or division of any land into building sites, the appropriate authority may impose conditions, inter alia, the diversion of of natural and artificial water courses, the levelling of the site and the construction of the streets, ditches bridges and culverts 42/.

Notwithstanding the foregoing controls, the rapid development of the island made it necessary for the authorities to look into the question of sewage disposal. Hence on 8 January 1971, the Sewage System Law 43/, as amended by Law 24/72, was enacted. It provides for the establishment and construction of sewage systems in any area, including areas within any municipality which does not have a sewage system, or in which an existing system is not adequate or does not work satisfactorily. The Council of Ministers may impose the provisions of the law upon any area of the island by an order published in the Official Gazette of the Republic. Following such publication, the Ministers appoint a local Council to carry out the provisions of the law by installing, maintaining and operating a suitable sewage system capable of treating and disposing of waste.

38/ The Streets and Buildings Regulation Law, Cap. 96, Section 3.

39/ Ibid., Section 9 (a) (i) (ii) (iii).

40/ Ibid., Section 9 (b) (iii).

41/ Ibid., Section 9 (c) (iii).

42/ Ibid., Section 9 (c) (iii).

43/ The Sewage System Law of 8 January 1971 No. 1/71, and the Sewage System Amended Law 24/72, Section 3.

(c) Flood Control, Overflow and Bank Protection

There exists no legislation which is directed at these harmful effects of water. Notwithstanding the absence of express legislation, however, whenever it appears that there is a danger or threat of danger to life or to property, the Government takes all necessary steps to prevent or ameliorate damage.

VIII. LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

Water, both surface and underground, belongs to the Government except where there are acknowledged legal rights over surface and underground water. The private individual has the right to use water which right he acquires after obtaining a written permit from the appropriate administrative organ, i.e., the District Officer. The District Officer in granting a permit may impose conditions and restrictions. He may restrict the use of water for a particular purpose or may restrict the use for a specific area 44/. Apart from the legislative enactments providing for the use of water, the Ministry of Agriculture and Natural resources through its specially constituted department, the Department of Water Use, instructs water users to make use of the most efficient and economic water fittings in order that water will not be wasted.

(b) Health Preservation

The quality of water destined for a water supply for domestic purposes is decided by the Department of Water Development of the Ministry of Agriculture and Natural Resources. For this purpose, the Department carries out ion and bacteriological analysis in order to determine whether the proposed water supply is suitable for drinking. In doing so, it applies International Standards for Drinking Water and Regulations that are based on World Health Organization recommendations. Once this is done, the responsibility for maintaining the water supply of an area clean and free from contamination is in the hands of local authorities. In municipal and other areas the Water Board established by the Water Supply Law has a duty to provide and maintain a good and sufficient supply of water, and all waterworks connected therewith are to be kept cleaned and in good repair 45/. Furthermore the Boards, from time to time, take necessary steps to ascertain the sufficiency and wholesomeness of the water supply 46/.

In villages, the responsibility for water supply lies with the Water Commission of the village whose duty it is to provide an adequate supply of pure and wholesome water for the domestic purposes of the village and to maintain such supply and any

44/ The Wells Law, Cap. 351, Section 3 (3).

45/ The Water Supply (municipal and other areas) Law, Cap. 350, Section 12 (1) (a).

46/ Ibid., Section 12 (1) (c).

waterworks connected therewith clean and in good condition 47/. The Duties of a Village Water Commission are supplemented by the exercise of more specialized duties by the Village Health Commission constituted for each village under the provisions of the Public Health Villages Law 48/. However, in cases where a village has been declared an improvement area under the provisions of the Villages (Administration and Improvement) Law (Cap. 243) then the duties and powers connected with the supply of water to such village are carried out by the Board of the area concerned 49/ whose duty it is to provide a good and sufficient supply of water for domestic purposes and keep clean and in good condition all public fountains, drains and aqueducts and preserve the same from contamination and prohibit or regulate the supply or use of any water, for domestic purposes 50/.

In conjunction with the aforementioned powers and duties provided for by legislative enactments there are also the Public Health Anti-Malaria Law, Cap. 256, and the Public Health (Rural and Exhumation) Law Cap. 257 and the Public Health (Marsh Areas) Law (Cap. 258) which deal with particularized health problems. For example, where there is marsh land which in the opinion of the Director of Medical Services is a source of malaria and there exists in the neighbourhood any main drain or other reasonably available facility for drainage, the Director of Medical Services may enter upon such land and thereon make such connections and execute such works as in his opinion may result in the drainage of such land. Such entry, of course, is made subject to the proviso that compensation shall be paid to the owner or occupier of such land for any damage or loss caused in consequence of any connections or works made or executed thereon (other than the loss of the use of the water in such land) 51/.

(c) Pollution

The act of pollution, in general terms, is deemed to be either a public or private nuisance by the Civil Code of Laws, Cap. 148, and as such it can be remedied either by an injunction or by damages if damages have been caused as a result of the pollution 52/. Furthermore, fouling the water of any spring or reservoir so as to render it less fit for the purpose for which it is ordinarily used, is an offence under the Criminal Code and is punishable by imprisonment for 2 years 53/.

47/ The Water (Domestic Purposes) Village Supplies Law, Cap. 349, Section 6.

48/ The Public Health Village Law, Cap. 259, Section 7.

49/ The Water (Domestic Purposes) Village Supplies Law, Cap. 349, Section 33 (1) (a).

50/ The Villages (Administration and Improvement) Law, Cap. 243, Section 21 (u).

51/ The Public Health Anti-Malaria Law, Cap. 256, Section 5 and the Public Health (Marsh Areas) Law, Cap. 258, Section 3.

52/ The Civil Code, Cap. 148, Sections 45 and 46.

53/ The Criminal Code, Cap. 154, Section 191.

In addition, special laws deal expressly with certain types of pollution, e.g. the Mines and Quarries (Regulations) Law, Cap. 270 54/, the Foreshore Protection Law, Cap. 59 55/ and the Public Rivers Protection Law, Cap. 82 56/. Under the Mines and Quarries Law, for example, no mining lease can be construed as authorizing a lessee to divert the waters of any river, stream, spring, well or water course without the written consent of the Inspector of Mines or to divert any water privately owned without the written consent of the owner. Nor may such lease be viewed as a license or permit to pollute any water or in any way to render such water unfit for the purpose for which it is being used 57/. Moreover, every person who uses water in connection with mining purposes, whether for generating or for the removal of mineral substances or for concentrating, milling or otherwise, shall make such provisions as will ensure that all water so used does not contain injurious substances in quantities likely to prove detrimental to human, animal or vegetable life when it leaves the mining area in which it has been so used 58/. Any lessee under a mining lease who contravenes this provision may, without prejudice to any other remedy therefor, be required by Order of the Council of Ministers to take such action as may be directed to prevent a continuance or recurrence of such violation, within such time as may be specified in the order. Any lessee who fails to comply with such an Order is liable to have his lease suspended until compliance is effectuated 59/.

In order that the foreshores be protected, the District Officer may cause a notice to be published in the official Gazette prohibiting absolutely or imposing restrictions or conditions upon the dumping of any rubble, rubbish, litter, night-soil, or other refuse on that part of the foreshore specified in the notice, or into the sea within such distance from the low watermark as may be specified in such notice, or from any pier, wharf, quay or jetty 60/. In addition, the District Officer may, by notice, require any person or Municipal Council to cover, within a specified period of time, any drain which crosses the foreshore and to extend it into the sea by means of pipes to such a distance as the District Officer may direct 61/. Upon the receipt of the notice, such person or municipal council must take all necessary steps to comply with the requirements of the notice and if such person or Municipal Council fails or neglects to comply, the District Officer may proceed to execute the necessary works, at the cost, payable by the person or Municipal Council 62/.

Finally, special legislation makes provision for the protection of certain rivers. Again the appropriate administrative organ responsible for protection is the District Officer. By notification to be published in the Official Gazette, the District Officer may from time to time prohibit either absolutely or under specified conditions the dumping of any rubbish, sweepings or other refuse into the bed of any river or part thereof, on the bank, wall or any part of any river. Any person who does not conform with the notification commits an offence and is liable to be prosecuted, convicted and punished 63/.

54/ The Mines and Quarries Reg. Law, Cap. 270, Section 28.

55/ The Foreshore Protection Law, Cap. 59, Section 6.

56/ The Public Rivers Protection Law, Cap. 82, Section 5.

57/ The Mines and Quarries Reg. Law, Cap. 270, Section 28 (1) (c).

58/ *Ibid.*, Section 29.

59/ *Ibid.*, Section 28 (2) (3)

60/ The Foreshore Protection Law, Cap. 59, Section 3 (1) (b).

61/ *Ibid.*, Section 6 (1)

63/ *Ibid.*, Section 6 (2).

63/ The Public Rivers Protection Law, Cap. 82, Section 5 (1) (b) and 5 (2) (b).

IX. LEGISLATION ON GROUNDWATER RESOURCES USE

By legislation as well as by constitutional provision, the right to underground water is reserved to the Republic 64/. Consequently, no one can make use of groundwater unless he obtains the necessary permit from the appropriate administrative organ viz., the District Officer. In order to sink a well on ones1 own land, application must be made to the District Officer for a permit to sink or construct a well 65/. In issuing such a permit, the District Officer may impose any conditions and restrictions which he deems with regard to the sinking or construction of the well, the manner in which the water shall be taken and used therefrom 66/.

Where the Council of Ministers is satisfied that special measures for the conservation of water in any area are necessary in the public interest for the protection of water supplies used for industrial, domestic or other purposes, the Council may declare such an area to be a water conservation area 67/.

Further, in areas where the Council of Ministers is satisfied that, by reason of exceptional circumstances, a serious shortage or deficiency of water exists or is likely to exist and special measures for the conservation of water resources and the maintenance of water supplies are necessary for the public interest, such areas may be declared to be controlled areas. If such a declaration is made, the provisions of the Water Supply (Special Measures) Law No. 32/64 apply with the result that no person:

- (a) may drill, sink or construct a well or any other work for the purpose of abstracting underground water except under a permit granted under this Law;
- (b) may pump, take, use or exploit underground water except in accordance with the provision of Law 32/64;
- (c) may widen, deepen or otherwise extend any existing well or other work for the purpose of abstracting underground water;
- (d) may cause or allow underground water to run to waste from any well or other work;
- (e) may abstract from any well or other work, water in excess of the volume prescribed under the law.

Any person who fails to comply with, or acts in contravention of, any of the above provisions is liable to be imprisoned or to be heavily fined or both.

64/ The Government Waterworks Law, Cap. 341, Section 3 (1) (a); the Constitution of Cyprus, Article 23 (1).

65/ The Wells Law, Cap. 351, Section 3 (1).

66/ ibid., Section 3 (3).

67/ Ibid., Section 4 (1).

In addition to requiring a permit for the actual drilling of a well, the law also requires that well drillers be licensed. More specifically, it is provided that no person may with the assistance of drilling machinery, drill sink or construct a well, deepen, enlarge, repair or clean an existing well unless he is the holder of a licence issued by the Director of the Water Development 68/. Such licences are valid for twelve months only and are subject to terms and conditions. Every holder of a driller's licence is obliged to give seven days prior notice to the Director of the Water Development of his intention to drill, sink or construct a well, deepen, enlarge, repair or clean an existing one. Moreover he must keep records of any work carried out and must transmit a copy to the Director of the Department of Water Development and must retain all samples of materials penetrated during his drilling.

In general, except for prospecting leases related to mining, exploration and exploitation rights do not exist in Cyprus. By virtue of a prospecting lease, however, the lessee may, subject to the approval of the appropriate lessor (i.e. the Government) and use for any purpose connected with the working of the mine, the water upon or within the mining area and may collect, impound or bore for the purpose of working in the mine. In the exercise of this privilege, however, the lessee must not injure the rights of other persons.

X. LEGISLATION ON THE CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

(a) Waterworks Construction

All rivers, streams and natural watercourses which are not privately owned, as well as their basins, beds or channels, belong to the Government 69/ Consequently the construction of any waterworks in the beds of rivers streams, natural watercourses, and channels is subject to a permit 70/. As a practical matter, such permits are rarely granted since the construction of major as well as minor waterworks is in the hands of the Government.

For the purpose of taking or utilizing water, replenishing an aquifer, land drainage, or protecting land from floods, pollution or erosion the Council of Ministers may:

- (i) store, divert or control water;
- (ii) construct, preserve or maintain any waterworks; or
- (iii) acquire compulsorily, or requisition, any private property for the construction, preservation or maintenance of any waterworks, after payment of just and reasonable compensation 71/

68/ The Wells Law Cap. 351, Section 6 (1).

69/ The Immovable Property (Tenure Registration and Valuation) Law Cap. 224, Section 7.

70/ The Streets and Buildings Regulations Law, Cap. 96, Section 3.

71/ The Government Waterworks Law, Cap. 341, Section 4.

(b) Waterworks Operation and Maintenance

The Council of Ministers determines the nature of waterworks to be undertaken and prepares plans and drawings thereof. The waterworks undertaken by the Council may be either for public use or for the use of an Irrigation Division or for the use of an Irrigation (Private) Association 72/. To more closely supervise day to day operation, the Council may, by regulations, establish for any waterworks a committee composed of such members and assigned with such duties and powers as it may determine 73/. In the case of a project intended for an Irrigation Division or an Irrigation Association, the supervising Committee is elected by the landowners concerned 74/. Whether it is appointed by the Council of Ministers or elected by landowners proposing to form an Irrigation Division or Association, the Waterworks Committee is granted the power to supervise, control, operate and maintain the waterworks concerned 75/.

(c) Waterworks Protection Measures

Existing legislative provisions concerned with the protection of waterworks include those concerned with wells and boreholes. It is provided, for example, that no other well or borehole should be permitted to be sunk or constructed within 2000 feet of an existing borehole used for domestic water supply or used by an Irrigation Division or Irrigation Association. Secondly, a one thousand foot perimeter must be maintained around existing boreholes used for irrigation purposes; less if the borehole is used for animal husbandry or industrial purposes.

XI. LEGISLATION ON THE DECLARATION OF PROTECTED ZONES OR AREAS

In Cyprus there exists open areas, water conservation areas and controlled areas. The District Officer is the Administrator who deals with the water problems in each of these areas.

Open areas are areas which have a poor aquifer and there are no prior users with existing farms. In such areas the District Officer himself deals with applications to sink and construct a well or a borehole, without consulting any other government technical department for advice. In granting a permit within an open area the District Officer may impose such conditions and restrictions as to his satisfaction in connection with the sinking or construction of wells or boreholes and the manner in which the water shall be taken and its use therefrom 76/.

72/ The 6/1 Waterworks Law, Cap. 341, Section 5.

73/ Ibid., Section 4 A.

74/ The Irrigation Division (Villages) Law, Cap. 342, Section 10 (1); the Irrigation Association Law, Cap. 115, Section 5 (5).

75/ The Government Waterworks Law, Cap. 341, Section 4 A; the Irrigation Division (Villages) Law, Cap. 342, Section 13 (1); the Irrigation Association Law, Cap. 115, Section 9.

76/ The Wells Law, Cap. 351, Section 3 (3).

Where the Council of Ministers is satisfied that the public interest demands special measures for the conservation of water in an area, either for the protection of public water supplies or for the protection of water supplies used for industrial, domestic or other purposes, it may by Order define such area as a conservation area. No permit for the sinking or construction of a well can be issued by the District Officer and no variation or modification of any condition or restriction imposed in a permit can be effected save with the concurrence of the Director of Water Development 77/. In giving or withholding his concurrence the Director must consider the extent to which the general water situation in the area (including its further development), the requirements of prior users of water may not be affected by the proposed well or borehole 78/. Even, if a permit may have been granted, however, no well or borehole can be sunk or constructed in a conservation area within a distance of six hundred feet from any point of any chain or system of wells or to any spring or source of any water, or within eighty feet of any other well from which water is raised to the surface by any means whatsoever if, by the sinking or construction of any such well or borehole, the amount of water in any such chain of wells or spring or source or other well is or is likely to be substantially diminished 79/. Any person beneficially interested in a well or chain of wells or spring of water may bring an action against another who has sunk or constructed a well or borehole in violation of the foregoing. Both claims of damage and claims for injunctive relief are authorized 80/.

Finally, if the Council of Ministers is satisfied that, by reason of exceptional circumstances, a serious shortage or deficiency of water exists or is likely to exist within a certain area or that special measures for the conservation of water resources and maintenance of water supplies in such area are necessary in the public interest, the Council may declare such area to be “controlled”. In a controlled area, no person can:

- (a) drill, sink or construct a well or borehole except under a permit; any permit granted by the District Officer in a controlled area may be issued only after consultation with the Director of Water Development who may give or withhold his concurrence depending on the merits of each case;
- (b) widen, deepen or otherwise extend any existing well or borehole;
- (c) abstract any underground water from any well or other work;
- (d) cause or allow underground water to run to waste; or
- (e) abstract from any well or other work water in excess of the volume prescribed. For this purpose it is provided that the installation of water metres is obligatory 81/.

Violation or contravention of the foregoing provisions of the Water Supply (Special Measures) Law in a controlled area is subject to punishment by heavy fine, imprisonment or both.

77/ The Wells Law, Cap. 351, Section 4 (1).

78/ Ibid., Cap. 351, Section 5.

79/ Ibid., Cap. 351, Section 7.

80/ ibid., Cap. 351, Section 8.

81/ The Water Supply (Special Measures) Law 32/64, Section 4 (1) (a), (b), (c), (d) and (e).

XII. GOVERNMENT WATER RESOURCES INSTITUTIONS AND ADMINISTRATION

The administrative organization responsible for the control of water resources in Cyprus is manifold. It exists at all levels: national, intermediate and local.

(a) At the National Level

At the national level water resources administration can be broadly classified under two rubrics: policy formulation and executive implementation.

In general terms, water policy is formulated by the supreme body of the country, the Council of Ministers. Reporting to the Council are several important Ministries directly involved in the formulation of water policy. These Ministries include the following:

1. The Ministry of Agriculture and Natural Resources, including its constituent Department of Water Development, This is the main Ministry for policy making in connection with water resources and development works; particularly those resources and works which pertain to irrigation and other agricultural aspects of water planning. Through the Department of Water development, which may propose policy matters to the Minister of Agriculture and through him to the Council of Ministers, the Ministry acts as the technical agency for water resources planning, design, construction and maintenance in connection with all types of water works.

2. The Ministry of Interior is the principal Ministry concerned with the legal aspects of water resources planning, development and management. It exercises its powers through the District Officer located in each of six districts on the island. Because the Ministry of Interior has wide jurisdiction over local government matters, it unavoidably has a large policy function to fulfill in connection with the domestic water supply of towns, villages, tourist development, industries and factories. In view of the District Officer's permit authority over land subdivisions in rural areas (supra, Section VII (b)), the Ministry of Interior performs a substantial land use planning function as well.

3. The Ministry of Finance is responsible for financial control and budgeting. The Finance Ministry is the main controlling authority on all matters of budget and expenditures through the Accountant General and through budgeting officers. It also controls all personnel and employment matters through the Department of Personnel. In addition to his financial duties, the Minister of Finance is also the Chairman of the Planning Bureau which is the main planning authority at the national level and which coordinates the activities of the various ministries and departments.

4. The Planning Bureau is the government agency responsible at the national level for all long and short range planning to meet the needs of economic sectors as well as government departments. In addition to being the controlling authority over the proper utilization of government funds, it has a great interest in water development and conservation, since water is one of the principal decisive factors in the development of all main sectors of the economy.

5. The Ministry of Commerce and Industry is involved in tourist projects, the establishment of industrial estates and any other matters they may involve pollution of water resources.

Insofar as executive implementation of policy at the national level is concerned, the Department of Water Development is the executive agent of the Government. There are however a number of other principal Departments involved in the implementation of water policy. The most important of these are the following:

- (i) Six District Officers operating under the aegis of the Ministry of Interior to establish and control domestic water supply and irrigation projects, issue drilling and water use permits and, in general, provide for the regulation and administration of all water legislation.
- (ii) The Department of Agriculture, which is involved where farm water use, soil conservation, land leveling land consolidation, soil surveys, cropping patterns, crop water requirements and crop benefits are at issue. The executive agent is the Ministry of Agriculture in all of these matters.
- (iii) The Geological Department, which gives advice to the Department of Water Development on matters of geological interest of water development projects.
- (iv) The Department of Land and Surveys, which is the agency concerned with registration of water rights, acquisitions, requisitions, valuations and compensations.
- (v) The Accountant General, who is concerned with matters related to finance, loans, tenders, contracts and general financial control matters.
- (vi) The Planning Bureau, which is involved with coordination and control aspects at the executive level.

(b) At the Intermediate Level

At the intermediate level, Project Water Committees are established as a board under the chairmanship of a District Officer with members comprised of an engineer from the Department of Water Development and an agriculturist from the Department of Agriculture. Each of the six district committees in the country is responsible for the overall administration and management of Government waterworks in the district. More specifically, each Committee is responsible for the following:

1. For proposal of recommendations on the development, conservation, management and efficient use of water resources within the District.;
2. The management, operation and administration of all projects within each District constructed at Government expense;
3. The maintenance and operation of Government works within the District with a view of:
 - improving the standard of agricultural practice,
 - improving the methods of irrigation,
 - increasing the revenue from land and water to their full economic value,
 - controlling the expenses of maintenance and management of the waterworks to the best possible degree, and
 - making recommendations for the optimum use of Government land within the area commanded by the waterworks.

Project Water Committees are also responsible for the regulation, use and fair distribution of water resources, and undertake the sale or disposal of water on behalf of the Government. They are also responsible for the preparation of a budget for every government waterworks in the District, showing revenue and expenditure in connection with the operation and maintenance of the project.

(c) At the Local Level

For every project, an irrigation division is formed to provide for the participation of the beneficiaries of the project. Each irrigation division has its own committee elected from among the beneficiaries and is responsible for the management of the irrigation system at the farm level. The irrigation division may be required to collect water charges on behalf of the Project Water Committee and make its own arrangements for selling the water to the beneficiaries. The principles behind this management procedure are that the Government retains control over the headworks and main conveyance systems of major projects for the purpose of ensuring better operation and maintenance which enables the enforcement of a wide agro-economic policy developed at the national level. At the same time, this policy recognizes that farmers should be given a free hand to manage their own works to the extent possible.

In the case of minor projects which do not involve the construction of major dams and irrigation systems are financed on a contributory basis. This means that an Irrigation Division (comprised of project beneficiaries) signs a loan for a percentage of the investment cost. By this method, water charges are collected and the Irrigation Division is responsible, for collecting the loan instalments of every beneficiary who is required to pay in accordance with his benefits derived from the project. Where more than one village or independent area is benefited by a single project, more than one irrigation division may be formed.

At the local level, in addition to Irrigation Divisions comprised of project beneficiaries possessing no water rights of their own, there are Irrigation Associations composed of farmers who are owners of water and who have a registered water title deed or ab antiquo water rights. The Government does not encourage the construction of major water development works for Irrigation Associations unless these water owners relinquish their water rights; it does, however, construct works of a minor character for these Associations.

Domestic water supplies at the local level are managed by Municipal Water Boards in the case of the four main towns of Nicosia, Limassol, Famagusta and Larnaca; while others are managed by Village Water Commissions in all of the rural communities on the island. The Municipal Water Boards function under the chairmanship of the District Officer who heads a committee, formed of which are representatives of the Department of Water Development and the Accountant-General of the Government, as well as the elected representatives from the town concerned. Generally, these Water Boards have enough administrative and technical personnel to deal with the day to day routine administrative and technical management of their affairs. However, where major water development issues are concerned, it is normal for the Department of Water Development to make the necessary investigations and plans at the national level. As part of their day-to-day duties, the Water Boards are also responsible for the collection of water charges which are imposed upon every consumer in the town. Collection of such charges is facilitated by automatic water meters which measure the amount consumed for municipal purposes.

Finally, rural water supplies are controlled at the local level by Village Water Commissions made up of the District Officer as Chairman and elected village representatives as members. They are responsible for the management of the domestic water supply works of their village and are also responsible for collecting loan installments necessary to pay off the loans signed in connection with the execution of the water supply works.

XIII. LEGISLATION ON WATER RESOURCES DEVELOPMENT FINANCING

(a) Government Financial Participation

Government participation in water resources development financing takes the form of grants and loans depending upon the nature of the project.

Irrigation works carried out for local Irrigation Divisions or Associations are usually Government financed with the Government contribution varying in practice with the type of scheme as follows: Winter Crop Irrigation Schemes 80 percent; Spring Crop Irrigation Schemes 75 percent; Perennial Irrigation Schemes 66.7 percent; and Drainage Schemes, 100 percent Government financed, except where irrigation works are also involved which are then financed as above. In addition, pattern and practice generally establish that the Government contribution for Domestic Water Supplies for villages is 50 percent while there is no Government contribution in the case of Town water supplies. The financial share of a village is usually made available by the Government in the form of a long term loan at a low interest rate.

All major irrigation schemes especially those involving the construction of dams or other major works are usually built and constructed at full cost to the Government 82/. As noted above, the Government itself operates and maintains such major irrigation schemes through project water committees established at the district level.

(b) Water Rates and Charges

For the purpose of fixing fees to be collected, the Government appoints a committee for each major waterworks 83/. By regulations duly adopted by the Government, such a committee may fix the fees and dues payable as consideration for the water provided, based upon the usefulness of the water provided, or any other benefit accruing to the user. Such fees also typically include the operational cost to the Government for providing such water service 84/, including capital costs which are repaid on the basis of 40 years amortization of total capital investment, including land improvement, at a 5 percent rate of interest.

XIV. WATER LAW IMPLEMENTATION

(a) Juridical Protection of Existing Water Rights

Water rights whether held together with, or independently of, any land are deemed to be immovable property by the Immovable Property (Tenure Registration and Valuation) Law 85/. As such, the right of the citizen over such property is guaranteed by article 23 of the Constitution of the Republic of Cyprus 86/.

82/ The Government Waterworks Law, Cap. 341, Section 5.

83/ Ibid., Cap. 341, Section 4.A.

84/ Ibid., subsection (e) of Section 4.

85/ Ibid., Section 2 (d) of Cap. 224.

86/ Under the Cyprus Constitution, Article 23, para. 1, groundwater is excepted from this constitutional protection since, with respect to such water, the rights of the Government are preserved. See the Government Waterworks Law, Cap. 341, section 3 (1).

As a consequence, no deprivation, restriction or limitation of any such right can be made except as provided in Article 23 87/. The restrictions or limitations authorized in that Article are those which are absolutely necessary in the interest of public safety, public health or public moral 88/. Limitations on existing water rights are also permitted where necessary to promote planning of the development and utilization of property in the public interest or for the protection of the rights of other 89/. For any such restrictions or limitations which materially decrease the economic value of property, compensation must promptly be paid 90/.

Whenever it appears that any existing water rights will or may be injuriously affected by the construction of any water works under the Government Waterworks Law, the Council of Ministers will proceed to nominate and appoint three Water Commissioners whose function would be to ascertain and record the nature, extent of the situation of the said water rights in a book called the Register 91/. After this is done, the Director of Water Development proceeds to prepare a statement wherein he records the amount of water to which all water rights holders are entitled 92/. Whenever water rights are recorded in the Register of the Director's statement, such rights are affected by the construction of a Government waterworks, the Government must provide for their compensation 93/.

Finally, as has already been stated, water rights constitute immovable property; therefore, any trespass or deprivation of such rights permits the owner to file a civil action in the District Court by which he may claim damages or seek an interim injunctive order, or both. Apart from the right to commence civil proceedings in case of interference with water rights, the right holder may also bring criminal proceedings against one who fraudulently abstracts or diverts to his own use or to the use of any other person any running water which is the property of the right holder. The penalty upon conviction is five years of imprisonment 94/.

(b) Penalties

Numerous provisions in the legislation of the Republic of Cyprus deal with the imposition of penalties whenever the water law of the Republic are violated. These provisions are found in the following statutes:

87/ The Cyprus Constitution, Art. 23, para. 2.

88/ Ibid., para. 3 and the Compulsory Acquisition of Property Law, 1962, No. 15/62, Section 3(2) and the Requisition of Property Law, 1962, No. 21/62, Section 3(2).

89/ Ibid.

90/ The Cyprus Constitution, Art. 23, para. 3 and the Compulsory Acquisition of Property, 1962, No. 15/62, sections 8, 9 and 10 and the Requisition of Property Law, 1962, No. 21/62, sections 8, 9, 10, 11, 12 and 13.

91/ The Government Waterworks Law, Cap. 341, Section 6.

92/ Ibid., subsection 3 of Section 13.

93/ The Government Waterworks Law, Cap. 341, Section 14.

94/ The Criminal Code, Cap. 154, Section 279 (2).

1. The Wells Law

Inter alia, the Wells Law provides that any person who sinks or constructs a well without first obtaining a proper permit from the District Officer of the District in which the property is situated, or any person who fails to comply with the conditions of the permit issued to him, is guilty of an offence. Upon conviction he is liable to imprisonment not exceeding three months or to a fine not exceeding twenty five pounds; or to both 95/. Upon conviction, the court can also order the filling-in or closing of the well or borehole at the expense of the person convicted. Typically, such orders require the well or borehole to be filled in within two months time. Where compliance is not forthcoming, the District Officer may authorize a person to execute that particular provision of the Court's order. The costs incurred can be collected from the person against whom the order was issued. Such costs are deemed to be a penalty within the meaning of the Criminal Procedure Law 96/. Further, if any person against whom an order has been made disobeys or fails to carry it out then notwithstanding the fact that the District Officer has proceeded to carry it out, the person is guilty of an additional offence and is liable to imprisonment not exceeding three months or to a fine not exceeding twenty five pounds or to both 97/. Any person who is convicted of obstructing or preventing any person authorized by the District Officer to carry out the provisions of a Court's order shall be liable to imprisonment not exceeding three months or to a fine not exceeding twenty five pounds or both 98/.

2. The Water Supply (Special Measures) Law

Under this legislation if a person is convicted of drilling, sinking or constructing a well or any other work for the purpose of abstracting underground water without a permit, or if he pumps or makes use, exploits underground water, widens, deepens, otherwise extends any existing well or other work for the purpose of extracting water without a proper permit then such person is liable to imprisonment for a term not exceeding three months or to a fine not exceeding one hundred pounds or to both 99/. The same penalties apply when a person proceeds to clean or repair a well or waterwork without submitting forty eight hours written notice to the District Officer, or extracts underground water from any well or other such work in excess of the volume prescribed in the permit granted under the provisions of the water supply law.

By a recent amendment of the Water Supply (Special Measures) Law 32/64 introduced by the provisions of Law 17/75, the owner of the plot of land on which a well or other work has been sunk or constructed illegally is answerable for the offence and the burden lies on him to prove that the offence was committed without his knowledge 100/.

95/ The Wells Law, Cap. 351, Section 13 (1).

96/ Ibid., Section 13 (2) (3).

97/ Ibid., Section 13 (4).

98/ Ibid., Section 13 (5).

99/ The Water Supply (Special Measures) Law 32/64, 35/65 and 17/75, Section 4 (1) (a), (b), (c), (d) and (e) and Section 4 (2).

100/ Ibid., Section 4 (1) (e).

Any court trying an offence committed in contravention of the foregoing provisions of the Water Supply Law can, upon conviction, impose the additional requirement that the well or other work in respect of which the offence has been committed, be filled in or closed, or that any drilling machine in respect of which the offence has been committed, be forfeited, or that any water fittings in respect of which the offence has been committed be altered, repaired or replaced in such a way as to comply with the requirement of any regulations made under the law 101/. If the person against whom an order of the court has been made, fails to comply with such order, the court (without prejudice to its power to impose a penalty for contempt of court) may authorize the taking of such steps as may be necessary to execute the order, and any expenses incurred in carrying out the order can be recovered as a penalty from the person convicted.

3. The Government Waterworks Law

Any person who wilfully damages or destroys any waterworks or any part thereof, or who wilfully interferes with the flow or distribution of water connected with any waterworks can, upon conviction, be imprisoned for a period not exceeding twelve months or be fined an amount not exceeding one hundred pounds or both 102/. Any person who, by any negligent act or omission of duty, damages or destroys any waterworks or any part thereof or interferes or causes interference with the flow or distribution of water connected with any waterworks can, upon conviction, be imprisoned for a period not exceeding three months or fined an amount not exceeding fifty pounds or both 103/. Further, any person who steals or converts to his own use any water from any waterworks or any part thereof, or who uses water without a permit, may be imprisoned or fined, or both 104/. The court trying an offence committed in contravention of the Government Waterworks Law may, in addition to any other penalty which it is empowered to impose:

- (i) order the removal or destruction of any works taken for the acquisition or utilization of water contrary to the provisions of the said law;
- (ii) order the forfeiture of the machines, tools or any other objects used for or in connection with the offence committed; and
- (iii) order the cancellation of any permit granted by the District Officer for taking or using water in accordance with the Law 105/.

101/ Laws 32/64, 35/65 and 17/75, Section 10(2) (a) (b) and (c).

102/ Cap. 341, section 23 (1).

103/ Cap. 341, Section 23 (2).

104/ The Government Waterworks Law Cap. 341, Section 23 (3), (4).

105/ Ibid., Section 23 (6).

4. Interim Orders

When an order is issued in connection with an offence committed in contravention of the Wells Law, the Water Supply (Special Measures) Law or the Government Waterworks Law, the Court may, by interim order issued upon application, compel the accused to suspend or discontinue, pending the final determination of the case, any act or operation and any step or measure alleged by the opposing party to be made in contravention of the provisions of the aforementioned laws 106/.

5. Miscellaneous Penalties

Apart from the laws cited above there are also penalty provisions in the Irrigation Division (Villages) Law, Cap. 342 (2), the Irrigation (Private Water Association) Law 107/, and the Water (Domestic Purposes) Village Supplies 108/.

Importantly also, any person who voluntarily contaminates or fouls the water of any public spring or reservoir so as to render it less fit for the purpose for which it is ordinarily used, is guilty of a misdemeanour punishable by imprisonment for a term not exceeding two years or by a fine not exceeding one hundred pounds or both 109/.

XV. CUSTOMARY WATER LAW AND INSTITUTIONS

Cyprus recognizes certain customary rights of its citizens regarding the water of a river, spring, stream watercourse, lake or pool. Despite the enactment of various intricate water laws over the years, for example, a person retains the right to drink water, to water his animals or to take water in a jar, barrel or similar vessel for domestic use but not for other purposes 110/.

Further, as noted earlier, underground water is the property of the Government and, usually permits for its abstraction are required. However, no permit is required to use underground water drawn from a borehole which was lawfully sunk prior to the enactment of the Government Waterworks Law (9 May 1928). Generally, the legality of old boreholes is determined first, from the category of the property in which the borehole is sunk; second by the production of the permit issued either by the Land Registry Office "Tapou" or by the Ottoman Sultan. If the land on which the borehole is found was classified as "mulk", the owner did not require a permit to sink a well or a borehole since he was entitled by the Ottoman Civil Law - the "Megelle" - to enjoy absolute ownership of his mulk property and do whatever he wished on it including sinking a well or borehole. On the other hand, if the land was historically classified either as "mirie" or "mevaf" then it was essential that a permit be obtained; in the first instance from the Land Registry Office - the "Tapou" - and in the latter instance, from the Sultan.

106/ The Wells Law Cap. 351 Section 6 (9), the Water Supply (Special Measures) Law 32/64, 35/65 and 17/75 Section 10 (1), and the Government Waterworks law, Cap. 341 Section 23 A.

107/ Cap. 115, Section 28 (1).

108/ Cap. 349, Sections 30 (3) and 31.

109/ Cap. 154, Section 191.

110/ The Government Waterworks Law Cap. 341 Section 25 and Section 25; the Constitution of the Republic of Cyprus Article 23 (1); and the Wells Law Cap. 351 Section 3 (1).

FINLAND 1/

I. INTRODUCTION

The northerneast country on the European continent, Finland covers an area of 337,000 square kilometers and is the home of some 4,683,000 people ^{2/}. It shares borders with Sweden on the west (539 km), Norway on the north (720 km) and the Soviet Union on the east (1,268 km). About 1,100 kilometers of coastline on the Gulf of Finland (south), the Baltic Sea (southwest) and the Gulf of Bothnia (west) is deeply fragmented and studded with islands.

Three principal regions can be distinguished in Finland: a coastal plain, an interior lake district and an interior tract of higher land that slopes gently upward to the fells of Lapland. The coastal plain comprises a narrow tract of land in the south. It is this region which has the country's most extensive stretches of farmland, most continuous settlement and the largest number of urban centers. The lake district, with its extensive archipelagos is found in the southern half of the country and lies generally east and north of the coastal plain. Historically, it has been less subject to external influence than the coastal area; however, its population has seen recent increases and it has become progressively more industrialized. Finally, the north and northeast areas comprise what is just now becoming an area of expansion and development. This area includes the far north, the upland fells of Lapland.

Southern Finland developed before the northern part for several distinct reasons. Firstly, Finland's trade historically with European countries has been relatively in heavy or bulky goods. As a consequence, water routes from the southern and southwestern parts of the country have been the main lines of trade. Secondly, forestry and fishing were the principal early occupations for trade and support of the people. Forests and fisheries are generally found in greater abundance in the south. Thirdly, Swedish and Russian administrative centers were located in the south. Additionally, southern Finland has certain climatic advantages over the northern part; summers are generally longer and the winters are not so cold. January and July mean temperatures in Helsinki are 23° F and 64° F; in Lapland they are 10° F and 59° F. Annual precipitation (about one - third of which falls as snow) measures 62 cm in southern and central Finland and 52 cm in the north. The seasonal distribution of precipitation throughout the country is uneven, however, June and July, for example, are dry; August is wet. Snow usually covers the ground for about 3 months in the extreme southwest and for more than seven months in Lapland.

^{1/} Prepared for the FAO Legislation Branch by Professor Martti Enäjärvi.

^{2/} 1970 census. This figure represents a decline from a population peak of 4,704,000 people recorded in January, 1969. Source: Area Handbook for Finland, 1974.

Apart from having an impact upon demography, these physical characteristics make for a more valuable forest cover in southern than in northern Finland. In particular, the area southwest of a line from the coastal border with the Soviet Union to Oulu is characterized by great stands of spruce and pine, heavy use of rivers and lakes for floating and large concentration of wood working industries along these ways and at coastal stream mouths.

In toto, Finland's inland waters occupy nearly 10 percent of the country's area. These are about 150 lakes greater than 2000 hectares in size and innumerable smaller ones. Away from the coastal regions, many of Finland's rivers flow into lakes, which generally are shallow; indeed, only three lakes in the entire county exceed 100 metres in depth. The county's largest lake, Saimaa, drains into Lake Ladoga in Soviet territory by way of the Vuoksi River. Drainage from Finland's eastern uplands is through the lake system of Soviet Karelia to the White Sea, while in the extreme north, the Paatsjoki River and its tributaries drain extensive areas into the Arctic Ocean. On Finland's western coast a series of rivers drain into the Gulf of Bothnia. These include the Torniojoki, while forms a portion of the border with Sweden and the Kemijoki, Finland's largest river (552 km).

Drainage is also a critical element for the Finns at the local level. Roughly 30 percent of the country is swampy as a result of drainage interrupted by glacial deposition. Distinguishing the different kinds of swamps and draining them within reasonable limits of area, time, and cost have become as fine an art in Finland as in Norway. Techniques have also been developed for draining certain types of forests to improve production. Closely related to drainage, is soil type. Finnish farmers use drained swampy soils for hay production and the morainic soils (of rock, gravel, sand and silt) for crops such as oats, barley and potatoes. Higher quantity soils in the south are used to grow spring and winter wheat and sugar beets as well as oats and barley. In the northern third of the country, thick deposits of peat are found, with the humus portion thereof being steadily reclaimed.

Now an independent republic, Finland was a part of Sweden from the 12th Century until 1809. At that time, it became a Russian Grand Duchy under the personal rule of the Tsar. Coincidentally with the Bolshenik revolution in Russia, the Finns, on December 6, 1917 declared their own independence. Following a relatively brief transition period marked by nonetheless intense civil strife, Finland in 1919, adopted a republican constitution. Pursuant to that constitution, legislative power rests with a unicameral Parliament (Eduskunta) of 200 members elected to four year terms and a president of the republic whose term of office is six years. Executive power is shared by the president and the Council of State (Cabinet) at meetings chaired by the president. A clause in the constitution specifically directs that government ministers are responsible to the Eduskunta. Finland is further divided into 12 läänit (provinces) each under a governor appointed by the president. The provisional governor is in charge of the provincial office and of the local sheriffs. The provinces, in turn, are divided into communes which may be rural or urban in character.

The constitutional law of Finland is a collection of fundamental laws and, more commonplace, administrative (ordinary) laws, which together provide a legal context for public action and civil rights. Fundamental law reflects the basic principles upon which the state's institutions are grounded; its amendment is difficult and, with relatively

few exceptions, has been unnecessary. All ordinary legislation must be consistent with the principles set forth in the fundamental laws. Interpretation of the constitutional law and its application to determining the validity of parliamentary legislation is at no point specifically delegated to the courts. The constitution, however, states that "If a provision in a decree is contrary to a constitutional or other law, it shall not be applied by a judge or other official." This provision, while ambiguous, appears to reflect a belief in a strong, independent judiciary. To ensure this independence, all judicial appointments are made upon the recommendation of the courts themselves; moreover, a right to tenure ensures the independence of the courts from partisan or governmental pressures. Generally, there are local courts, appellate courts and the Supreme Court. However, in central areas marked by highly specialized civil proceedings, special courts have been developed. One such area is that of water resources, where a special water resources court has been created.

II. LEGISLATION IN FORCE

The principal legislative texts which govern, either directly or indirectly, the conservation, use and development of water in Finland are as follows:

1. The Water Act of 1961 (264/61)
2. The Act regarding the right to public water areas of 1966 (204/66)
3. The Act concerning regulations pertaining to boundary lines in the water of 1902 (31/02)
4. The Law of 1734
5. The Water Decree of 1962 (282/62)
6. The Decree regarding measures to be taken for the protection of waters of 1962 (283/62)
7. The Fisheries Act of 1951 (503/51)
8. The Fisheries Decree of 1951 (695/51)
9. The Building and Planning Act
10. The Wastewater Fee Act of 1973 (610/73)
11. The Decree regarding the Ministry of Agriculture and Forestry
12. Decision of the Council of State concerning the Advisory Board for water matters, 15.IV.1971/289
13. The Decree regarding Water Administration
14. The Act on Health Care of 1965 (469/65).

III. OWNERSHIP OF WATERS

(a) General

Finnish law distinguishes the right of ownership of a water-area from the right of ownership of the water itself. Water-areas, according to the Water Act, are areas which are permanently covered with water. In applying water law, the limit of the Water-area is held to be the shore-line at the mean height. If the height of the water has changed for a considerable length of time, the limit is determined in accordance with the height of the water ascertained after the change 3/. Generally water-areas include the following:

1. The unsubdivided waters of villages. The water-area off a shore belongs to that village on whose shore it is situated. This is the principle of “shore-ownership”. The “middle-line principle” is ordinarily to be upheld between villages. Open stretches (8 by 8 kilometers) of large lakes, open water between island groups and the mainland, and the open off-shore waters as well as the open sea constitute an exception to the above mentioned principle. In such cases the right of the owner of the shore is limited to a waterward distance of 500 meters beginning with the 2-meter depth line. Water beyond the 500-meter limit is a public water area 4/. Provisions regarding the exercise of joint ownership (see below) are applied to the various users of unsubdivided Waters.

2. Subdivided water-areas. These water areas belong to the various real estate units within a village, or themselves constitute an independent piece of real estate.

3. Waters owned by the State. These water areas can be divided into the following:

- (a) areas of forest lands and other shores which the State owns;
- (b) water-areas beyond the village-boundary belonging to the State under principles established by the Act of 1966 regarding the right to public water-areas.

(b) Surface water

The surface water of a water-area is in principle res communis. However, the owner of the area has a priority to the use of the water e.g. for the supply of water and for water-power. This is the main rule; however, in the use of a water, reservoir, a Well, or an artificial pond, the water is owned by the owner of the installation.

3/ Water Act 1:1.1 and 1:6.1.

4/ Cf. the “Land balken” of the Law of 1734, 12:4 and the Act of 1902 containing provisions regarding the dividing-boundary in water.

(c) Underground water

Groundwater, which is defined as all the water in the groundbase or rock-base, is similarly owned by no one (res nullius). A first-priority right to the use of this water, however, is held by the owner of the overlying land area.

(d) Mode of acquisition of water rights

The right to the use of water belongs to the owner of the area, as has been stated above. This right can be transferred to another, according to the Water Act continuing or temporary rights to the use of water in the area of another can also be granted, as will be mentioned below. In such circumstances, the principle of usus publicus nonetheless applies. This principle implies that water will be taken in accordance with certain prerequisites intended to insure the availability of the water area for other users.

IV. THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of Acquisition

The owner of a water-area or of water can transfer his rights of use to another person. In addition to the sale of a water-area, a leasehold or other interest in a water area can be granted. With respect to fishing, there are special provisions in the Fisheries Act regarding the rental of water-areas and the rights of use of water-areas for fishing. The right of use for water-power purposes can be transferred to another, either for a stated period of time or perpetually. Any agreement respecting the transfer of rights to use water must be in writing and must comply with regulations for the transfer of real property. In addition to the formal bilateral transfers of rights just described, rights of use may also be determined by the courts. For example, in the course of granting permission for water-power to be used in an enterprise, the decision of a court may also establish the right of others to use a water area for power purposes 5/.

(b) Issuance of water use permits, authorizations and concessions

No permits or concessions are required for any measures within the context of water-law, when the party in question is the owner of the water-area or the holder of a right obtained as mentioned above. The foregoing is not intended to suggest that the use of water in Finland is uncontrolled. In fact, there are general restrictions which limit the use of water whether or not that use is pursuant to a permit.

5/ Cf. below VI (e).

The general limitations on the use of waters are based on three principles, namely, prohibition of the closing of water-ways, prohibition of the changing of a watercourse and prohibition of pollution. The last two prohibitions cover groundwater use as well as the use of surface water. The three prohibitions are of considerable significance since they determine which uses of water will require a permit. Generally, in those cases where a proposed water use does not involve the closing of a waterway, the changing of a watercourse or the discharge of a pollutant, it is not necessary to apply for a permit. When a proposed use does involve closure, change or discharge, a permit is likely to be required and may - if issuance is deemed appropriate - be issued by a Water Court.

Ordinarily, before a permit is granted, documents incorporating the permit application are open to the public. Any local authority that may be affected by the proposed is expressly granted a right to be heard thereon. Further, where the quantity of water proposed to be used is of a large magnitude, a special survey will be carried out before the permit is granted. Announcements regarding such surveys are typically made in order that they will receive maximum publicity among the public. Consistent with these principles of open discussion, the decisions of any public agency, including a Water Court, in connection with any water permit are matters of public record.

If a permit is to be granted, the legal provisions which relate to construction of water works, are ordinarily taken into account. In determining the conditions of a permit or in reviewing construction where a permit is not required, it is expected that the building, the waterworks measure, or the proposed use will be executed or undertaken in such a manner that no public or private interest will be needlessly encoached upon and that other interests using the water course or groundwater shall continue to be satisfied as before with the least possible diminution 6/. A permit will be not issued if the measure endangers public health, will cause extensive harmful changes in the natural environment or will greatly worsen the local community as a place to live or in which to earn a living 7/. The prohibition is absolute.

If the proposed construction will not injure public or private interests appreciably, a permit can be granted for such construction or use insofar as the undertaking - because of its beneficial or protective purpose - is necessary for the rational economic functioning of the water-area or the land-area on the shore. If the proposed construction or use may occasion an injury to public or private interests which is more substantial than the above case, but less than the injury which triggers the absolute prohibition, a condition imposed on the granting of the permit is that the benefit to be derived from the construction or use must be greater than the injury to other interests which may result. In short, a rule of "comparison of interests" applies in regard to the proposed undertaking.

6/ Water Act 2:3.

7/ Ibid., 2:5.

In making this comparison of interests, both the benefit and the harmful aspects are evaluated in detail. Wherever possible, this cost/benefit evaluation is assessed in terms of money. Where the proposed construction or use involves the building of a bridge or transportation equipment over a channel used for transport or the floating of timber, or the construction of a water-pipe, drainage-pipe, or power-duct or a tunnel under such a channel, the permit will be granted if the project will not cause harmful or disturbing consequences for the public or any private interest 8/. Where a public need is involved in such measures, this factor can be taken into account in considering the requirements for the granting of the permit 9/. The various provisions mentioned above apply particularly with respect to construction in a watercourse, but they are to be followed also, however, in connection with other undertakings involving water-works unless otherwise stated in law.

V. ORDER OF PRIORITIES

(a) Between different uses

In Finnish water law no mode of use is preferred over another. There is no general priority system. A possible exception to this general principle may be the obtaining of water for domestic purposes. Because of the vital importance of water for drinking and household uses, an effort has been made to assure that water is available for such purposes. However, even the protection of water for domestic purposes is not absolute, but may give way to even more important interest. In such a situation, however, the party obtaining a permit to engage in such an important undertaking is required either to undertake measures to assure for others the availability of water domestic purposes or, in the alternative, to compensate for any damage caused, as the Water Court may determine in its decision regarding the matter.

It would naturally be ideal if the different uses of water were compatible with each other. Frequently however this is not the case and controversies cannot always be avoided. In such circumstances, the authorities, usually the Water Court, proceed to make a comparison of different competing uses and impose a physical solution on the basis of the results of the comparative study. In making the comparative study the provisions of the law relating to the issuance of water permits, authorisations and concessions outlined above, apply. Further, before the comparison is carried out, an inquiry must be made regarding each of the proposed undertakings in order to determine whether the general prerequisites prescribed in the law for granting permission are satisfied 10/.

8/ Water Act 2:6 and the points of law mentioned in it.

9/ Ibid., 2:8.

10/ Cf. IV (b) above.

(b) Between Different Areas

Strictly speaking, there is no order of priority among different areas. It is of course quite natural that water, whether it is surface water or groundwater, should in the first instance serve users who are in the immediate proximity. As has been stated, a water undertaking is not to be permitted to affect adversely the living or economic conditions of the area. This requirement of the protection of the surrounding area is, in general, absolute.

As also mentioned above, the owner of a land-area corresponding to the water-area has some degree of first-priority right to the water of the area. This, however, does not mean that the right of the owner cannot be set aside by means of a permit granted by the Water Court. Any damage occasioned by exercise of the permit is, however, to be compensated. Thus, for example, the court can grant to a more distant community the right to take water from the area of another community despite the opposition of the latter community. One other principle may conceivably apply in these circumstances, however, that is, when a number of applicants request permission for use and there is not enough water to satisfy the demands of all, first priority is given to the party which desires to use the water on the shore of the watercourse or to those in the immediate vicinity who desire to use the water for domestic or similar purposes.

(c) Between Different Existing Rights

The order of priority between different existing uses of water is determined on the basis of the Water Act and the decisions of the Water Court regarding the granting of permits. No mode of use has an absolute priority or privilege with respect to the others; rather it is the Water Court which decides between various modes of use, taking into account the provisions of the law.

With respect to certain types of use there are nevertheless special provisions concerning priority in the Water Act. For example, if several proposals have been initiated to harness the same source of water-power and the general prerequisites for each undertaking are satisfied, first priority is given to the undertaking which is the most economically beneficial. Where several undertakings are of equal value, priority is given to the applicant to whom the greater part of the water-power in question belongs. As regards stream regulation, it is likewise provided that where the undertakings cannot be accommodated or cannot be realized separately, the permit should be granted to the undertaking which is more beneficial economically. Where the purpose of the proposed use is to develop water for drinking, it is provided by legislation that when a number of applications are received, and there is not sufficient water for all, priority shall be given to the applicant who seeks to use the water on the shore of the water-course or for domestic purposes within the vicinity. Competing irrigation schemes also fall within the above rules of priority.

The final priority concerns undertakings which intend to draw water for the needs of a community. In this instance, the lowest priority is accorded to the drawing of water for use in industry 11/. In short, if there are a number of applicants for permission to abstract water from a watercourse, and there is not enough water for all, the needs of the community prevail over the need of industry, or other such needs.

11/ Water Act 3:12, 8:8 and 9:3.

VI. LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic Uses

Everyone has the right to draw water for domestic purposes from a watercourse as well as to take ice from it for household use. In this connection, the phrase “water for domestic purposes” means, according to the Water Act, water used for household use, for cattle-raising and for the watering of a home-garden 12/. Similarly, everyone has the right to swim in a watercourse and to use the water from it for washing, and for watering animals. Each of the foregoing uses, of course, must not involve illegal entry on land nor should it occasion any inconvenience or disturbance to others. Subject to the above-described limitations, there is also an implied permission to draw water occasionally from a ditch, a swampy hollow, or a small water-channel belonging to another and from a source which is not in continuous use by its owner or by the licensee of the owner.

If the water in a watercourse is not sufficient for all applicants for domestic purposes, then the owner of the water-area suffering from the taking of water by others must make a request to the municipal water board to limit the use of water. The board is empowered to issue the necessary orders to protect the complainant 13/. The above rights, which are granted to everyone, refer to the general use of a watercourse. A corresponding right has been extended also for abstracting water for domestic purposes, provided this does not entail changing or closing-off the watercourse 14/. The right of the owner to take groundwater for domestic purposes is also implied 15/ subject to the same general principles which apply to surface water 16/.

(b) Municipal Uses

Provision of a water-supply in the local community can be undertaken either by a company established by the community alone or in conjunction with other communities; or directly by the community itself. There are provisions in the Building Act which refer explicitly to obtaining water. For example, extensive residential development is not permitted in an area in which the organizing of water and sewage works would require disproportionate expenditure. Similarly, the physical feasibility of obtaining water and providing sewage treatment and drainage must be taken into account 17/.

12/ Water Act 1:27.

13/ Ibid., 1:16.

14/ Ibid., 9:1.

15/ Ibid., 1:16.

16/ Cf. Chapter IX.

17/ Building and Planning Act 6:35.2 and 96:1.

When the obtaining of water for domestic purposes to serve a community requires that groundwater from the area of another owner be exploited, the Water Court, on application, has the power to grant permission 18/ regardless of a first-priority right of the landowner to the groundwater of the area. Such permission, however, may not be granted for transferring water outside of the local community if such a transfer means that the municipal needs of the local community cannot be satisfied 19/. The permission of the Water Court must always be sought where the quantity of groundwater to be abstracted is more than 250 cubic meters per day 20/.

c) Agricultural Uses, Including Irrigation and the Watering of Animals

The systematic irrigation of cultivated land is not as yet widespread in Finland. Where it does occur, it is made subject to the same principles of water use that apply to domestic and municipal uses. It should be noted, however, that the concept of “water for domestic purposes” not only includes water to be used for the household, but also for cattle-raising as well as for the watering of a home-garden. The use by the owner of a water area enjoys special protection in this respect. In the situation where there is competition among a number of applicants for water to be used for domestic purposes, the use of the water in connection with irrigating the ground is ranked alongside other possible uses for the purpose of making a comparative study in order to determine priority. This is especially so when the character of the cultivation requires such irrigation and the development of water supplies for the general need of the public is not made more difficult because of the irrigation 21/.

(d) Fishing

The right to fish in a water-area is held, with certain exceptions, by the owner of the area 22/. One exception to this rule arises where there is a valid claim of a fishing right based upon prescription or contract. Further, every Finnish citizen has the right to engage in fishing in the sea outside the boundaries of a village, in sea-shore areas within the boundaries of a village and in the vicinity of the islands and crags of the sea which belong to the state. The citizens of Iceland, Norway, Sweden and Denmark have the same right to fish in Finland for home-needs and for recreation. In addition to the above, a person living in a community which extends into a lake has the right to engage in angling and other kinds of fishing using hooks in the open reaches of a lake outside the boundaries of the village. It is generally up to the local communities to decide whether other kinds of fishing (for example, with nets) may be permitted. Every inhabitant of a community also has the right to engage in angling in the water-area within the community, except:

18/ Chapter III (c) above.

19/ Water Act 9:4.2.

20/ Ibid., 9:7.1.

21/ Ibid., 9:3.1.

22/ Fisheries Act para. 1.

1. in rapids and reaches of watercourses used for spawning by salmon and whitefish;
2. in districts where fishing has been prohibited generally; and
3. in pools used for commercial fish-raising.

Also, angling may not be practiced without permission, where it is so near a beach, bathing-place or other such place occupied by another that there would be inconvenience occasioned to the owner or occupier 23/. Other than angling, one can fish only if a small payment for a fishing-license is made annually to the state. A receipt indicating that the payment has been made must be carried by anyone engaging in such fishing. It should also be noted that the state as an owner of large water-areas, holds rights of fishing.

The joint owners of a fishing-water area may form a "fishing community", whose purpose is to organize the practice of fishing in the area and to ensure the care of the fishing-water. The community is expected to frame rules, which are submitted to the administration of the province for approval. A number of detailed provisions regarding the ways in which fish may be caught, what instruments may be used, and penalties for contravention of regulations are incorporated in the Fisheries Act.

The Water Act also includes a number of important provisions regarding fishing. The purpose of these provisions is mainly to secure the fishing-interest as against other interests in the use of the water-course and to protect the rights of the holder of the right of fishing. The main principle of these provisions is that unless the Water Court gives its approval, no measure involving a watercourse which will be detrimental to fishing. It is possible, however, to engage in such a measure with the permission of the Water Court. In such a case, an effort must be made to remedy the damage caused to fishing; and, if this is not possible the party obtaining the permit must pay compensation 24/. Furthermore the party obtaining the permission for the undertaking may be required to make a special payment to be used for the protection of a special stock of fish 25/.

It should be noted that a revision of the fisheries legislation is currently under consideration, the intention being to stimulate cooperation among fishermen and to strengthen control by the authorities.

(e) Water Power

Water-power is calculated, according to the Water Act, on the basis of the average volume of flow and the height of fall in that part of the watercourse where a water-power plant is proposed 26/. The concept of water-power thus combines both

23/ Fisheries Act, para. 2-4.

24/ Water Act 1:19.1 and 2:22.1.

25/ Ibid., 2:22.2, 10:27.2 and 12:11-13.

26/ Ibid., 1:7.

technical and economic considerations. A water-power plant means a plant constructed for the exploitation of water-power, together with the buildings connected with it. The construction of a water-power plant includes the clearing of the watercourse and the making of a channel for the water-power plant, as well as other measures needed for putting the water-power to use 27/. A permit from the Water Court must always be obtained for such construction. Such permit will include special provisions designed to protect the watercourse and almost certainly its environs from the construction and operation of the plant. It is a prerequisite to construction, that the applicant has a right to the water to be used in the plan, either as an owner, as a holder of a permit right of use or as the holder of a contract right of permission 28/. For the purposes of constructing a water-power plant, an easement over the property of third parties may be obtained together with the ability to enforce rights of access, should that become necessary. Similarly a right may be granted to purchase an area belonging to another for a building-site for the power-plant, or for a road leading thereto 29/.

Authority for the the construction of a water-power plant can be acquired by any party who owns at least one-fifth of the water power to be harnessed - either on the basis of a right of ownership or a right of continuing use. Further, the opportunity of participating in a water-power plant must be offered to all those holders of shares of the water power to be harnessed whose proportional share amounts to at least 1 percent of the total water-power. Those holders of shares may present themselves as initiators of the project if each of them holds at least 1 percent and their shares as a whole make up one fifth or more of the water-power to be used 30/.

In defining the area in which the water-power is to be used, the decisive factor is whether the water-power to be obtained can be used efficiently in one zone. The fact that an area is divided legally among different villages or among different real-estate owners is thus not decisive 31/. Also, unless another arrangement is agreed upon, a joint undertaking is to be in the form of a regular commercial share-company 32/. Finally, the right to exercise water-power is transferrable. A contract of transfer is made as in the case of transfer of real property. Public registration secures the right so transferred 33/.

27/ Water Act,3:1.

28/ Ibid., 3:3.1.

29/ Ibid., 3:4.

30/ Ibid., 3:9.1 and 2.

31/ Ibid., 3:9.1

32/ Ibid., 3:10.

33/ Ibid., 3:6.

(f) Industry and Mining

There are very few provisions in the Water Act referring specifically to industry and mining. As is the case with other water uses, the general principles of the act are applied to industry and mining with modifications to suit individual situations. Thus a watercourse or the groundwater of a protected area may be allocated so to ensure availability of water needed by industry just as it is available for other uses. The order of priorities in the case of water for industrial purposes has been discussed above 34/. Industrial water use is subject to special controls under the Water Act which are discussed infra 35/.

(g) Transportation

In accordance with the principle of usus publicus everyone has the right to travel along a watercourse wherever it is open, provided no unnecessary disturbance is caused. A watercourse is always open unless closed on the basis of some legal right. The same provisions govern movement along the ice 36/ during the winter months.

The protection of water-traffic and transport is secured by those provisions of the Water Act pertaining to general and private water channels, harbours and the loading-places and anchorages joined therewith 37/. Channels of navigation are generally divided into three different groups on the basis of their significance: public channels, which are those channels found in public watercourses and in the sea; local channels and private channels. On application, a part of a watercourse which does not belong to a public channel can be declared to be a general local channel. Thereupon, that part of a watercourse must remain open for general water-traffic. All other water-channels are private. Where a waterway is public or local, those in charge keeping it in proper condition may erect signs and installations as necessary for safeguarding navigation 38/. The Water Court can grant the right to use and/or acquire a water-area for the purpose of a harbour or general loading or anchoring-place in conjunction with such a navigable channel 39/.

In general, everyone is permitted to use a channel for navigation without payment. However, those who maintain the channel may, on application, be empowered to levy a charge on users in order to meet the costs of upkeep. The owner of a lock or other device pertaining to the use of a private water-channel has the right to charge for services involving the use of the device. However, the size of the charge and the basis for determining it may be brought before the Water Court for review. In addition, separate provisions have been established regarding charges incurred in ocean navigation and the use of public channels and harbours 40/.

A number of legislative provisions in the Water Act also pertain to the transportation of timber. The so-called "middle third" of a major channel is viewed as a general floating-channel, in which the right of floating timber is especially protected; there may also be other parts of the watercourse which are declared to be a floating

34/ Cf. Chapter V above.

35/ Cf. Chapter VIII below.

36/ Water Act 1:24.

37/ Ibid., Chapter 4.

38/ Ibid., 4:1 and 2.

39/ Ibid., 4:7.

40/ Ibid., 4:9.

channel 41/. Generally, the floating of timber is treated under the heading of usus publicus, thus timber can be floated in the general floating-channel and elsewhere in the watercourse wherever it is open.

To facilitate floating and make it a secure right the Water Act permits the floater to make temporary use of the water area or shore belonging to third persons. Thus under certain conditions the floater of timber has the right to erect a temporary dam or other similar structure to raise the water level on the land of another, or otherwise to change, temporarily, the flow or height of the water 42/. The floater is obliged, however, to proceed in such a way that no public or private interest shall be infringed upon more than is unavoidably required 43/. In the event, the floating of timber causes damage to the owner of a water area, the shore, or to others, provisions of the Water Act also provide for the payment of compensation by the offending floater 44/. More specific provisions regarding the rights and responsibilities of timber floaters - particularly where those rights and responsibilities come into conflict with other important interests - are found in the floating-rules issued by the Water Court 45/. Floating done in accordance with these regulations is referred to as "organized" floating.

VII. LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood Control, Overflow and Embankment Protection

Provisions concerning flood-control, the regulation of water-levels and water-flow are also found in Finland's Water Act.

The regulation of water-levels includes the lowering of the level of a watercourse by clearing and dredging, shifting a channel or otherwise eliminating or decreasing flood zones. It may also include the drying of a land-area or a water-area, and the filling up of a watercourse or part of a watercourse through the erection of embankments 46/.

When the applicant for a permit desires that those benefitting from regulation of the water-level contribute towards the costs incurred, it is a prerequisite for the granting of a permit requiring such payment that at least fifty percent of those who will benefit from the project support the project - either directly or through representatives. If the regulation involves the lowering of a lake or if a consequence of the project is the lowering of the average level of water at its lowest point during the farming season, it is a condition precedent that at least two-thirds of the owners of the surface-area of the lake give their approval in writing. The permit can be granted either to the party obtaining benefit from the lowering or to a party having a share in the lake, or the State 47/.

41/ Water Act, 5:1.

42/ Ibid., 5:3.6.

43/ Ibid., 5:2.

44/ Ibid., 5:40-90.

45/ Ibid., 5:8-39.

46/ Ibid., 7:1.

47/ Ibid., 7:3 and 4.1.

“Regulating” a watercourse, under the Water Act, means changing of the flow of water in order to adjust the amount of water flowing therein. Such regulation serves a number of different purposes, including providing a consistent supply of water for hydro-electric generation and the promoting of timber floating or navigation. Regulation may also be sought in order to develop water for drinking, or to preserve water quality or to dry out land. Regulation may include conducting water from the watercourse for regulatory purposes, or conducting water from one part of the watercourse to another 48/. Generally, an application for a permit to regulate a watercourse (or a proposal for joint regulation of water-flow) must be made either by the state or by a party whom the regulation is intended to benefit 49/. Frequently though, the regulation of a watercourse is a joint undertaking. Indeed, there are provisions regarding the responsibility of the initiator of the undertaking to offer participation in the project to others. There are also provisions in the Water Act regarding the responsibility of those benefiting from the undertaking to participate in meeting the costs of the undertaking.

When exceptional natural conditions or other overwhelming factors have led, or can be expected to lead, to massive floods or changes in watercourses that threaten to cause disaster to health, life or property, a public official may make an application to the Water Court for orders for extraordinary measures to be taken to combat the emergency. The officer who has responsibility for dealing with the emergency is also obliged to bring the matter to the attention of the Council of State before making such application. Compensation for damage caused by measures taken to deal with the exceptional conditions shall be paid out of state funds, unless a different agreement has been reached 50/.

(b) Soil Erosion

Soil erosion is not a problem in Finland. Generally, however, the provisions of the Water Act on construction of works include measures necessary to prevent possible soil erosion.

(c) Drainage and Sewerage

By “drainage” (ojitus) is meant the draining, or “drying” (kuivattaminen), of land or elimination of water interfering with the use of land. It also includes the dredging of a brook and may involve drainage of areas 51/. In general no authority is required from the Water Court for drainage. Nevertheless permission must be obtained if the drainage will occasion a prescribed change in a body of water or in the course of the drainage, it will be necessary to eliminate or change a water-power station, a dam or some fixed installation 52/.

48/ Preamble of the Government presentment for the Water Act: Water Act 8:1.

49/ Water Act 8:2.1.

50/ Ibid., 12:19.

51/ Ibid., 6:1.

52/ Ibid., 6:2.

There are also provisions in the Water Act regarding the making of a ditch leading onto the land of another and regarding the conducting of water into a ditch of another or into a brook on the land of another 53/. In general, the rule is that an attempt should be made to make the ditch in such a way that it will occasion as little inconvenience as possible to the owner of the land. Generally, the digging of ditches is not to be embarked upon before the matter has been approved in a special drainage proceeding conducted under the terms of the Water Act. This requirement applies to a number of situations: e.g. drainage for which the permission of the Water Court is required; when the direction of flow of the waters is substantially altered; and, when a ditch is to be constructed under a public road or a railway, if the approval of the responsible holder of the road or the railway has not been obtained or an agreement regarding joint drainage has not been reached 54/.

Several other general rules also apply where drainage work is undertaken. Firstly, any damage resulting from drainage-work must be compensated. Secondly, if the drainage desired by a certain land-owner occasions benefit to the land of another, the latter is entitled, and on demand obliged, to participate in the drainage 55/. Thirdly, the costs of the drainage are as a rule to be divided among those deriving benefit from it and in proportion to the benefit received.

The Water Act also provides rules to govern the discharging of waste-water and other potentially detrimental substances into a watercourse or into the ground, using a drain or a ditch. The provisions regarding drains however do not apply to an area for which there is a detailed plan, because such a plan should already contain necessary regulations regarding the treatment of water and drains 56/. Such plans must uphold what has been prescribed with regard to the treatment of water and drains by the Building Act.

The construction and upkeep of a public sewerage department is the responsibility of each city and borough 57/. Rural communes have a similar responsibility in areas for which there is a town-plan and a building-plan 58/. The construction of a private sewer is a matter for the owner and occupier of the plot and the building-site, and occurs at their own expense. Important public health legislation prescribes regulations relating to the constituent content of sewage effluent which regulations are applicable to the operators of public as well as private sewerage systems. This legislation also provides that industrial waste-water may be conducted into a public sewerage-system only with the special permission of the city. In such a case, the nature of the industrial waste-water and the capacity of the public sewerage-system to handle it, are taken into account. The industrial enterprise is required to pay a waste-water fee to the community for its discharge into the sewerage system 59/.

53/ Water Act 6:4-9.

54/ Ibid., 6;10.

55/ Ibid., 6.-13-32.

56/ Ibid., 10:18 and 6:35.

57/ Building Act, 78:1.

58/ Ibid., Act 112, 113 and 117.

59/ Waste-water Fee Act (610/73). In principle everyone who discharges waste-waters into the sewers of a community is responsible for paying a fee to the community and the size of the fee is determined primarily by reference to the volume of the waste-water discharged.

VIII. LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

The waste and misuse of water are regulated by the supervisory authorities 60/. Generally it is forbidden to divert water from a watercourse or to embark upon construction in a watercourse or on land which could cause a change in the location, depth, water-level or water-flow of a watercourse which could in turn:

1. damage or harm the water-area or any property of another;
2. increase the danger of a flood or a general diminution of water;
3. inhibit the ability of the watercourse to purify itself; or
4. change a major channel (“a middle third channel”), make the use of a public channel or a floating channel more difficult or otherwise be detrimental to the public interest 61/.

Further, it is not permitted to change or prevent the free flow of water in such a way as to cause damage to a downstream riparian unless absolutely necessary. This is particularly true if the downstream water is partly used for domestic purposes. In such circumstances, the upper riparian is not permitted to use water for anything other than domestic purposes if such use will interfere with the supply to the party below for domestic purposes 62/. If a watercourse does not provide enough water for domestic purposes for all, the municipal Water Board on request gives instructions regarding the limitations of the use of the water 63/. Waste and misuse of water is also restricted. Indeed, the wasteful use of groundwater is expressly forbidden 64/.

(b) Health Preservation

With respect to health preservation Finland strives to uphold international standards. In addition to the authorities supervising the watercourses, this important function is assigned to the Board of Health and to other health care authorities 65/.

(c) Pollution

Without the express permission of the Water Court, no person may act in any way that might cause the pollution of water, such actions include the spilling of dirt, residue, fluid, gas, bark, or other substances into a watercourse in such a way as to cause immediately, or in the future, a decrease in the depth of the waters, impairment of the quality of the water, damage to the stock of fish, a notable detrimental effect on surrounding environmental amenities, a danger to health or any similar encroachment upon private or public rights. The foregoing prohibitions also apply to the placement of materials near a watercourse in such a fashion that they might reach the water.

60/ Cf. Chapter XIII below.

61/ Water Act 1:15.

62/ Ibid., 1:17.1 and 1:2. Cf. also 9:1 and 2.1.

63/ Ibid., 1:16.

64/ Ibid., 1:18 and 9:6.2.

65/ For the local boards of health, cf. Chapter XII (b) below.

Similarly, they apply also to the placement of the foregoing materials on or near a watercourse covered with ice. A corresponding limitation is also prescribed in connection with so-called small waters, which are not viewed as being watercourses 66/

The above-mentioned points comprise the “general” prohibition of pollution found in the Water Act. Even more detailed provisions regarding waste-waters and other substances tending to pollute are found in Chapter 10 of the Water Act. That chapter contains a particularly broad definition of the term of “wastewater”. A number of other provisions are also in force regarding the transport of wastewater via ditch or sewer 67/. More specifically those provisions which attempt to systematize the relationship between the owner of the land or water-area and the party needing the area for sewerage. For instance, on the application of a private person, a corporation or an association, the Water Court may grant a permit for the discharge of waste or for such other action which, pursuant to other sections of the Water Act, would not be allowed without a permit 68/. The decision of the Water Court to grant a permit presupposes that the damage caused by the discharge may be regarded as relatively slight when compared with the benefit gained and that the elimination of waste-water or other water pollutants by other means is not possible at a reasonable cost. The permit will not be granted if the discharge would endanger public health, cause considerable adverse environmental changes, or would worsen the economic status of the community. In granting such a permit, the Water Court may stipulate that before taking action either in accordance with the permit or within a fixed time from the issuance of the decision of the Water Court, the holder of the permit shall install anti-pollution devices or otherwise take action to regulate the flow of the water or lessen the damage and degradation caused. If the permitted action does cause, degradation or loss of benefit, then the Water Act provides that compensation shall be paid for such damage, degradation or loss. Similarly, if the discharge of waste-water or any other act causes considerable pollution in the watercourse, the Water Court upon application of an aggrieved person, may either prohibit the discharge or may allow it upon condition that the measures referred to above will be taken to prevent or to lessen the damage and degradation. Such a decision may also be made by the Water Court whenever circumstances have changed since the issuance of the permit 69/.

Under certain conditions a time-extension for antipollution measures may be obtained. In such circumstances, the party discharging waste-waters into a watercourse may be required to pay a water-protection fee to the state 70/. Similar provision have been issued regarding the protection of groundwaters 71/.

A decree issued by the Government lists the type of industrial facilities which may possibly cause serious pollution. If an individual or corporate concern seeks to build a facility found on the list, construction may not commence unless evidence is presented regarding the intent and ability, to comply with strict anti-pollution measures. An example of the type of facility included on the list is an atomic reactor.

66/ Water Act 1:19 and 20.

67/ Ibid., 10:3-6 and 7-11.

68/ Ibid., 10:23.

69/ Ibid., 10:24 and 25.1.

70/ Ibid., 10:27.

71/ Ibid., 1:22 and 10:29.

Others include a purification-plant for waste-oil, a serio-bacteriological institue and a factory from which extremely toxic poisons (e.g. cadmium, cyanide, nitrobenzine, etc.) may be discharged. The decree lists also the less-dangerous factories and establishments which, regardless of the actual consequences of their functioning, must make an announcement to the appropriate water-authorities of the district regarding their intention to take water for their use at least three months before their actually doing so 72/. Under recent amendments to this legislation anyone handling a listed substance has six months to inform the Government of the measures they are taking to prevent discharges. If it is a case of simply converting existing structures, only three months are allowed to provide the information. The information which must be provided includes, the name of the owner of the site, the nature of the dangerous substances, their quantity, the plans for structures necessary to prevent discharge and the estimated date that such structures will begin operation 73/.

IX. LEGISLATION ON GROUNDWATER RESOURCES USE

Groundwater includes water in the ground-base or rock-base 74/. The owner of the area from which groundwater is obtained has a first-priority right for the taking of groundwater. On application, however, the Water Court may authorise a party, including an industrial concern requiring water for domestic purposes, to take groundwater from land belonging to another. In such cases it must be ascertained that there remains sufficient water for the landowner's use as well as for other on-going activities that already draw on the water. It must also be ascertained that there will be only minimal inconvenience caused to these interests. It should be understood, however, that community rights may override all these interests if there is a compelling public interest reason for doing so.

The supply of groundwater in Finland is relatively scarce. In the main, the legal provisions which deal with the subject are intended to ensure that groundwater remains available - principally for domestic use. To further this purpose, the Water Act prohibits the extraction of groundwater from the property of another, without a Water Court permit where such extraction may interfere with someone else's domestic use or where such extraction may lower the groundwater level and impair the ability of a waterworks to operate 75/. This prohibition does not operate, however, where the proposed extraction is for domestic supplies 76/. As in the case of surface water diversion, however, it is a condition precedent for the granting of a permit that the benefit to be obtained from the measure shall considerably outweigh the detrimental effect occasioned to those interested; or that the activity is in the public interest 77/. Permit authorization must always be sought when the amount to be abstracted exceeds 250 cubic meters per day 78/. Further, permission may not be granted for

72/ Decree Concerning Protective Measures for the Protection of Waters.

73/ Amendment to Water Act, 27 June 1980.

74/ Water Act 1:4.

75/ Ibid., 1:18.1.

76/ Ibid., 1:18.3.

77/ Ibid., 9:8.1.

78/ Ibid., 9:7.1.

measures which will make it difficult for persons residing over a wide area, or engaged in economic activity over a wide area, to obtain water. Nor will permission be granted for a groundwater extraction which will cause detrimental or injurious changes in the environment 79/. Again, any damage, inconvenience or loss of benefit occasioned by installing equipment for the taking and use of groundwater or by any other measure affecting groundwater, must be compensated 80/.

X. LEGISLATION ON CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

The most generally applicable provisions regarding the control and protection of waterworks and structures are primarily in the Water Act. In addition, conditions may be included in the permits issued to waterworks operators which are intended to protect the works as well as the source from which they draw. The proprietor of any waterworks, for example must take due care to maintain and protect his equipment. Further, by decision of the Water Court, an area surrounding any waterworks may be declared a protected area, in which, as a consequence, works which could worsen the quality of the water will not be permitted without the permission of the Water Court 81/. Permission must also be sought for in order to alter a structure in a way which will cause a change in water-conditions; permission similarly must be sought in order to remove such a structure. The public authorities are also obliged to comply with these requirements of the law in rendering official assistance for the protection of water structures.

XI. LEGISLATION ON THE DECLARATION OF PROTECTED ZONES OR AREAS

In order to keep sources of water clean for hygienic or other important reasons, it is possible to establish special protection-zones, within which water uses are restricted. The same applies to protection-zones for the taking of surface-water. Again, losses resulting from the establishment of protection zones must be compensated 82/. There is also a basis in the Water Act for the Water Court, upon application by the authorities on probable cause, to impose stricter rules than those stated in the law, in order to keep the water clean in a certain watercourse or a part of it. Less strict regulations may also be issued 83/.

XII. GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

(a) At the National Level

Water administration in Finland is directed and controlled by the National Board of Waters, a central government agency under the Ministry of Agriculture and Forestry, which began its functions on July 1, 1970. The country is divided in a manner determined by the Council of State into water-districts for the purposes of district-administration 84/.

79/ Water Act, 9:8.

80/ Ibid., 9:11.

81/ Ibid., 9:20.

82/ Ibid., 9:19 and 20.

83/ Ibid., 1:21.1 and 22.2.

84/ Act regarding Water Administration, Art. 2.

It is the function of the governmental water-administration in Finland to further the use, care and study of watercourses and of other water-areas. More specifically, the National Board of Waters is responsible for the following:

- comprehensive water resources development planning;
- water pollution control;
- improving of water supply and sewerage;
- promoting the recreational use of waters;
- promoting the use of water power;
- flood protection;
- supervision of the waters and the uses of water resources;
- research of water and water resources 85/.

Despite the breadth of these responsibilities, some specialized water-related activities nonetheless fall outside the jurisdiction of the National Board. These activities include fisheries, navigation and certain aspects of timber-floating, all of which are entrusted to the administrative capabilities of other state organs 86/. When the National Board of waters was established, functional units were transferred to it from three central governmental agencies; viz., the National Board of Agriculture (currently the National Farm Board), the National Board of Roadway and Waterway Construction and the National Board of Forestry, certain important functions relating to the administration of watercourses have remained with these above-mentioned agencies. The Fishing and Hunting Department in the Ministry of Agriculture and Forestry, for example, takes care of matters relating to fishing and hunting 87/. The Advisory Board for Water-Matters functions as an agency of the Ministry of Agriculture and Forestry. It issues statements and wide-ranging questions which relate to water administration 88/. Matters concerning waterways and water-traffic are handled by the National Maritime Board and the Board for Roadway and Waterway Construction, under the Ministry of Traffic. Under the Ministry of the Interior finally there is an Environmental Protection Department which takes care of matters relating to the general planning and control of environmental protection.

(b) At the Intermediate Level

Finland is divided into thirteen water-districts, which function under the National Board of Waters and are part of the governmental water-administration scheme. In each of the water-districts there is a Water Bureau with the following functions:

1. exercising the control over watercourses, water-areas and water-reserves;
2. exercising a planning function with respect to construction projects in the field of water resources development;
3. overseeing or performing surveying and drainage operations relating to the field of water-administration;

85/ Water Act, Art. 1 and 3.

86/ Act regarding Water Administration, Art. 12.

87/ Decree regarding the Ministry of Agriculture and Forestry, Art. 6.

88/ Decision of the Council of State regarding the Advisory Board for Water-Matters, 15 April 1971/289.

4. controlling the use, maintenance and condition of structures and equipment needed in the field of water-administration and to take care of the operation and maintenance of such structures and equipment as are operated by the state;
5. carrying out such other functions which are prescribed or ordered to be performed by it 89/.

(c) At the Local Level

Local Water Rights Institutions and Administration

The Water Act of 1962 created a new municipal water authority and Municipal Water Boards in each community. The Municipal Water Boards have a wide range of activities including making decisions in minor matters concerning ditches, sewers and the discharge of waste water when it has not been possible to arrive at an agreement between the parties involved. If a decision of a Municipal Board is not appealed to the Water Court, then it stands. The Boards also enforce the regulations of the Water Court, and if any orders are not implemented, the Municipal Water Boards notify either the public prosecutor or supervisory officials. In addition to the above duties, the Boards act as a repository for documents transmitted by the Water Court in order to make them available for inspection. The Municipal Water Board may also take the initiative regarding improving the quality of the water in the locality.

In each local community there is also a Board of Health, whose duties include making certain that water is not used in a way that would create public health problems. The functions of the Board of Health also include supervising sanitation and sewerage activities in each local community 90/.

(d) At the International Level

International river basin commissions of Finland and Sweden have established a joint Finnish-Swedish Boundary-River Commission. The establishment of the commission was based on the Boundary-River Treaty, signed on September 16, 1971, and the area of application of the treaty is the drainage basin of the Tornio River.

Finland and the Soviet Union have established a joint Finnish-Soviet Union Commission on the use of boundary Watercourses. The establishment of this Commission was based on the Treaty between the Republic of Finland and the Union of Soviet Socialist Republics Regarding Boundary Watercourses. The Treaty was signed on April 24, 1964.

There are also treaties between Finland and Norway concerning certain aspects of the use of border watercourses. Negotiations have been started for the purpose of developing a general water treaty.

(i) Functions and Powers of the International Commissions

The function of each of the above-mentioned commissions is to keep itself continuously informed regarding the situation of the respective boundary-watercourses and to control and ensure adherence to the provisions of the treaty. Generally speaking,

89/ Decree regarding water-administration, Art. 47.

90/ Act regarding Health Care, 27 August 1965/469, Chap. 9-10.

the commissions handle a variety of matters related to boundary-watercourses. The jurisdictions of the commissions, however, differ widely. The Finnish-Swedish Boundary-river Commission functions largely in the manner of a water court., i.e. it handles and settles applications and other matters which in other countries would be dealt with by a water court. If a matter is wide-ranging in its significance, however, it must be submitted by the Commission to its constituent governments for decision. The government of each country may, in addition, reserve to itself the right of consideration in a matter to be handled by the commission so long as it gives notice to the commission before it has settled the question.

The Finnish-Soviet Union Commission on the Use of Boundary Watercourses has the power of decision, only when the parties to the agreement, have decided in each individual case that the commission shall exercise this power. On the basis of an assignment given to it by the parties to the treaty, or on its own initiative, the Commission handles matters regarding the exploitation of the boundary-watercourses. It also handles matters relating to the carrying out of activities, in one country, which might produce negative effects in the other contracting country. Even when the matter has not been given to the Commission to decide, the parties to the treaty can request an advisory opinion from the Commission. When the Commission has made a decision regarding a matter, each of the parties to the treaty, has the right to make an objection within a two-month period regarding the decision of the Commission. In that event, the decision of the Commission will not be binding on the objecting party.

(ii) Coordination with National Water Administrative Authorities

When the Finnish-Soviet Union Commission on the Use of Boundary Watercourses makes a decision regarding a matter which requires a grant of permission from an appropriate authority, the Commission is required to obtain the opinion of that authority before giving its decision. The respective authorities of each of the parties to the treaty are obliged upon request of the Commission to give to the Commission the information and clarification without delay.

The Finnish-Swedish Boundary-river Commission, in cooperation with the appropriate authorities of each state, is directed to control the use of water and otherwise, monitor conditions affecting the watercourses, in the area to which the treaty applies. The Commission can contact the authorities of each state directly and obtain their help in procuring the necessary information. Indeed, the Commission is required to ensure that the supervisory or control authorities in each state shall obtain for its use the data needed for carrying out its supervisory or control functions. The Commission is also obliged to transmit its own observations, regarding the conditions in the area to which the treaty applies, to the attention of the appropriate authority in each country so that the authority may carry out any necessary measures.

(iii) Other Related Aspects

The legal provisions which the Finnish-Swedish Boundary-River Commission apply are included in detail within the Boundary-River Treaty between Finland and Sweden. The treaty deals with construction in boundary watercourses, the regulation of waterflow in the watercourses, fishing and the prevention of pollution of the watercourses. Additional articles deal with the payment of damages and procedure. Where the treaty fails to specify the applicable law, the municipal law, which is in force in either state, shall apply.

The Treaty regarding the Boundary Watercourses of Finland and the Soviet Union is considerably more concise. It contains only 22 articles, since the Finnish-soviet Union Commission on the Use of Boundary Watercourses has the power of decision, only when it has been assigned a particular issue, by the parties to the treaty. It was not necessary to include detailed legal provisions in the treaty. The treaty declares that in making its decision the Commission is to take into account the provisions of the legislation in force in either country, insofar as the treaty itself does not provide otherwise.

XIII. SPECIAL AND AUTONOMOUS WATER RESOURCES DEVELOPMENT AGENCIES

In the Water Act there are also provisions regarding the establishment of different associations or companies of some of which are compulsory and some of which are voluntary. These associations and communities of users are to be distinguished from the different interest-groups of users: nationwide, regional or local, which are established voluntarily; although these interest-groups may also be important from the standpoint of both the use and protection of waters. The special and autonomous organizations of interest-groups discussed herein can make presentations and proposals to the authorities regarding inequities they have observed. These associations and companies are not organs of the state, nor are they organs of local government as such. However they may very well be parties to proceedings, depending on the case. Examples of these special and autonomous organizations are found in numerous areas. For example, an undertaking proposing to erect a power plant in which there will be a number of participants from among the owners of the waterpower must be formed as a joint stock company, unless it is agreed otherwise 91/. Similarly, joint timber-floating is to be conducted by a floating-association expressly formed for the purpose, in accordance with regulations for timber-floating 92/. a drainage company may also be founded for the purpose of drainage 93/. The regulating of the water-level or water-flow of a watercourse can also be put in operation by a regulation company 94/. Finally, there are provisions in the law regarding the conducting of waste-water in a joint sewer 95/.

XIV. LEGISLATION ON WATER RESOURCES DEVELOPMENT FINANCING

(a) Government Financial Participation and Reimbursement Policies

The participation of the government in financing the exploitation of water resources is focused primarily on water supply and the protection of waters. In financing water supplies the main principle is the application of the concept of so-called "full coverage of cost", which means that the party in need of the water ways pays the costs occasioned by obtaining it. It has been observed, however, that for many reasons, this principle cannot be strictly applied. This is true especially in connection with the development of supplies of water for communities and public bodies. In such cases, the government subsidizes the development through assistance-loans.

91/ Water Act 3:10.

92/ Ibid., 5:20.

93/ Ibid., 6:10.2, and 3:27.1, 32.2.

94/ Ibid., 7:10, 13.3 and 8:11-20.

95/ Ibid., 10:12-17.

In financing measures to protect waters, the government aids both communities and industry. Local communities are able to obtain direct assistance from the state for carrying out such measures. In addition, the state itself carries out projects for the protection of waters out of its own funds. Private industry has also embarked upon a separate program for financing the protection of waters. It is the intention of industry to invest approximately 1,300 million Fmk (in 1972) over the 10 year period 1974-83 for the protection of the waters of industry. The share of industry in this sum would be 23 percent, the share of the Bank of Finland and the Mortgage Bank of Finland 38.5 percent and the share of the State of Finland 38.5 percent. The State's share in this enterprise would be given partly in the form of interest-assistance loans and partly as loans made directly from the budgetary funds of the state.

In the financing of water pollution prevention and correction measures a different principle - the "causation principle" - applies. Under that principle, the party responsible for an activity leading to pollution is responsible for the costs of purification.

In connection with other forms of use of watercourses the state constructs and maintains channels for water-traffic. Timber-floating channels are also prepared by the state. The upkeep of these channels, however, is a matter for the floaters. The state also participates in the exploitation of water-power; indeed, the state is a majority stock-holder in the three largest water-power companies in Finland. In all of these matters, the over-all plans drafted by the National Board of Waters are linked to the investment-policy of the state. In these plans the most efficient modes of use of each watercourse are presented. The plans are thus used to assist the state in prioritizing its investment-policy.

(b) Water Rates and Charges

The greater part of the waterworks of Finland are municipal. Municipal operators levy fees on users of the water and these fees cover the costs which are generated by the handling and distribution of the water. According to the Water Act, the diversion of water for drinking purposes is free, so consequently, the water works operator need not pay the owner of the water-area for taking water. Nevertheless a permit from the Water Court may be required. In 1973 the average price to the consumer of a cubic meter of water was 77 cents. The range of variation was from 20 to 200 cents per cubic meter. Since the beginning of 1974, the municipalities have, in addition, been able to charge a so-called "waste-water fee" to the consumer. The purpose of the fee is to cover the costs to the community of building waste-water purification-plants and in handling waste-waters. This charge is determined in accordance with the amount of water used.

XV. WATER LAW IMPLEMENTATION

(a) Juridical Protection of Existing Water Rights

The administrative officials discussed above, as well as the water courts discussed herein below, all have important roles in the legal protection of water rights.

In general, the Water Act provides for juridical protection of water rights by way of fines, injunctions or summary performance of necessary work, in any of the following situations:

1. where an undertaking or other measure is embarked upon in violation of the Water Act;
2. where orders issued under the Water Act are violated or ignored;
3. where the rules or regulations of a public body established by the Water Act have been ignored or violated;
4. where any other responsibility established by the Water Act remains unfulfilled.

Under any of the above circumstances, a supervisory official or a party can be empowered to take the needed action. If the action or omission in issue may occasion a clear danger to the life or property of another, the administrator of the province or the police authorities have the power to take necessary measures to remove the danger 96/.

(b) Modification, Termination and Re-allocation of Water Rights

The question of whether a permit for an undertaking which is in accordance with law may be changed or should continue unmolested is a controversial one in the water law of Finland 97/. Generally, a previous decision regarding the issuance of a permit must be taken into account in making a later decision concerning a permit. The original decision regarding the permit must, in fact, be stated in determining the ground for the latter decision 98/. Some of the provisions of the Water Act indicate, however, that the legal effect of a decision, granting a permit for an undertaking involving water as an economic commodity is not immutable. Thus, if obeying the orders incorporated in a decision granting a permit would cause harm because conditions have changed, the party suffering the harm or, if the harm affects the general public, an official, may make application to have these orders changed, so long as the change will not unduly diminish the benefit to be attained from the construction for which the permit was originally issued. Generally, the holder of a right based on a decision granting a permit does not have the right to obtain compensation from an applicant for a change, or for the costs and lost benefit resulting from a change of the permit, if these costs or losses are slight 99/. A second point which argues in favor of the notion that permit terms may be subsequently modified, is that in issuing a permit for an undertaking, it is often difficult to observe all its possible detrimental effects. Thus the possessor of a permit arguably takes the permit with the expectation that future occurrences may demand modification and, consequently, if such circumstances actually do occur, the possessor may be obliged without hindrance to pay compensation to diversify or change the nature of his diversion or works. In fairness to the permit holder, however, the matter must be taken up within ten years unless a longer time has been reserved for this purpose in the decision granting the permit for the undertaking 100/. If the undertaking occasions damage which was not anticipated in granting the permit, "post-compensation" can be assessed 101/. In practice, however, the decision granting a permit appears to have strong legal validity.

96/ Water Act 21:3.1 and 3.

97/ The above is based partly on Professor Jorma Pietilä's presentation of these viewpoints in pp. 198-199 of his work on water law, "Vesioikeus".

98/ Water Act 12:1.

99/ Ibid., 2:28.

100/ Ibid., 2:27.

101/ Ibid., 11:8.

(c) Water Courts

Water courts, of which there are three, also specialize in water matters at the national level. Inter alia, they deal with applications, lawsuits, criminal actions, appeals and with matters concerning official assistance 102/. Generally, the most important matters which are before the water courts are applications, which involve questions regarding permits for various projects. The three water courts operate in divisions; in each, there is a presiding judge and two water court engineers who serve as members. A lawyer serves as the court secretary. At their discretion, the various water courts have access to expert knowledge in a variety of fields, particularly in connection with inspection procedures.

The Supreme Administrative Court and the Supreme Judicial Court also act as courts of appeal in matters concerning water. In the former, two senior engineers act as members in addition to the normal composition of the court. Generally, the parties involved can appeal a decision made by a water court. With certain exceptions, appeals concerning project applications are dealt with in the Supreme Administrative Court, which resolves the case with the exception of matters involving compensation. These are transferred to the Superior Water Court. Appeals in lawsuits, criminal actions and appeal cases must be made to the Superior Water Court, from which there may still be an opportunity for appeal to the Supreme Judicial Court. Appeals of decisions by Municipal Water Boards are generally to a Water Court.

(d) Penalties

Provisions regarding the payment of penalties for violations are found in the Water Act. These penalties include fines or short periods of imprisonment. Criminal cases which arise under the Act can, in some situations, be handled in the courts of general jurisdiction 103/.

102/ Water Legislation and Supervision, 1976, p. 7.

103/ Water Act 15:5.

THE NETHERLANDS 1/

I. INTRODUCTION

The Kingdom of the Netherlands is situated in Western Europe on the estuaries of the Rhine, Maas and Scheldt rivers. It is bounded to the East by the Federal Republic of Germany and to the South by Belgium. Its Northern and Western shores are washed by the North Sea. The irregular outline of the country encloses some 41160 square kilometers, of which about 7770 km have been wrested from the sea by a process of careful water management, drainage and reclamation, which dates back to the 12th century, although the larger schemes were initiated in the 20th century.

The landscape of the Netherlands is almost entirely flat. It is characterized by dunes and dikes, protecting the most densely populated part of the country, which would otherwise be inundated 2/. Indeed, 38 percent of the country would be swallowed by the sea if there were no man-made dikes. About half of the land area consists of polders, land surrounded by dikes and artificially drained, which intensifies the flat appearance of the country. There are several hundred polders, some made possible by the operation of windmills, which, despite their limited power, carried out drainage in earlier times. The larger polder areas, such as those of the IJsselmeer, have been created by steam, diesel and electric pumps. Some polders above sea level, created by silting, are drained of excess water by sluice gates at ebb tide. Limburg, in the border zone of the Ardennes, is the only area that is not part of the lowland.

The Zuiderzee was originally an estuary of the Rhine. It became a shallow inland sea and eventually was hollowed into an almost circular shape by the action of winds and tides. Only in 1932 did the barrier dam, running north-eastward to connect the province of Noord-Holland with that of Friesland, finally divided the sea into outer Waddenzee and the inland IJsselmeer. In the latter, four giant polders were constructed around a freshwater basin, fed by the IJssel River and linked with the sea by sluices. Ninety percent of the land thus reclaimed is arable, and is parcelled out in large plots that are rented to farmers.

The climate is temperate, with gentle winters, cool summers, and rainfall in every season. Southern and western winds predominate, and the sea moderates the climate through onshore winds and the effect of the Gulf Stream. The position of the Netherlands makes the country an area of collision between warm and polar air masses in the summer, thus creating unsettled weather. In springtime northern winds often cause night frosts; which averages 60 days per year. Rainfall averages 790 millimeters, with only about 25 clear days per year. The average rainfall is the highest in summer and autumn, and lowest in springtime. The country is known for its heavy clouds, and on an average three-fifth of the days sky is clouded.

1/ Prepared for the FAO Legislation Branch by Miss Edmée E. Röell from the Netherlands and reviewed by J.H.A. Teulings, Directorate General of Water Affairs; State Water Authority, in 1983.

2/ See Encyclopedia Britannica, Vol. 12, 1975 ed., p. 1059.

Providing a historical sketch of “the Netherlands” encounters some difficulty because the area now known under that name was not a self-contained political entity until the 16th century. However, schematically, few broad developments over the period, lead the general area, known as the Low Countries, to be recognized.

The Roman period (until approx. 400 B.C.) saw the establishment of early administrative organizations south of the Rhine where farming was practiced in the Gallo-Roman fashion, in contrast to fishing and cattle raising, which were more the means of support of the northern regions. The extent of early Roman influence is still reflected by linguistic frontier crossing the Low Countries. Upon ouster of the Romans by Germanic tribes, the region became part of the Frankish Kingdom (400-850 approx.). Supreme administrative and judicial authority, vested with the King, who could delegate this authority to appointed courts. Charlemagne (768-814) appointed groups of permanent judges, who under the direction of the court “found” the law and applied it. Carolingian Europe went into decline in the middle of the 9th century; repeated internal wars lead to the partition of the empire, while at the same time, the Low Countries came under increasing attacks of invading Vikings. Threats from the North and lack of strong control and protection from the South, gave rise to the emergence, growth and eventual independence of a number of secular and ecclesiastical territorial principalities (825-1350 approx.). The territorial princes and courts set up administrative systems, in part necessitated by the reclamation of land from the sea, marsh and wasteland in the coastal area, which began in the 11th century. Such activities, amounting to internal colonization, were necessitated by the growth of the population.

The struggle against the sea and inland waters was so noteworthy that it led to the foundation of water boards, which in the 9th and 10th centuries were amalgamated to form higher water authorities (the hoogheemraadschappen). Mastery over water had to be on a large scale and in an organized fashion. Thus, various organizations emerged, acting independently in the field of building and maintaining dikes and canals; the dike reeves at the head of these organizations were also the court's bailiffs and were delegated the duties of supreme judge and administrator within their jurisdiction.

The period 1380-1600 (approx.) showed the growing influence and control of Burgundian and Habsberg dynasties, including efforts to centralize government through the establishment of a new ecclesiastical hierarchy, to the detriment of the relative independence of territories which by now became known as the Netherlands. Growing resistance led to open revolt and to the Eighty Years War with Spain. Several territories entered into an agreement (the Union of Utrecht, 1579) which in fact became the foundation of a new state.

Inspite of numerous wars, principally with its former feuder principals and trade competitors, the 17th century saw dramatic improvement in the fortunes of the Netherlands; this “golden age” was a unique era of political, economic and cultural greatness, during which the little nation on the North Sea ranked amongst the most powerful and influential nations of Europe and the world. The 18th century, on the other hand, brought a period of stagnation and internal instability. New foreign intervention came after the French revolution and, in a variety of arrangements, the French ruled the Netherlands from 1795-1813. Rapid modernization of the country took place after 1814 with the gradual development of a constitutional monarchy with liberal parliamentary form of government. The economic base of the country was transformed with industrialization (textiles, electronics, petrochemicals); international trade and shipping were also revived in the face of fiercely competitive conditions.

The ordinary administration of justice in the Netherlands is entrusted exclusively to appointed judges. There are 62 cantonal courts with jurisdiction over a range of minor suits. More important cases and appeals of cantonal court decisions, are handled by one of the 19 districts courts. Appeals to the decisions of the districts courts are heard by one of five courts of appeal. The Supreme Court ensures a uniform application of the law, but it cannot suspend a law as being contrary to the constitution. In the legislative process, the government and the parliament together determine the constitutionality of a bill under consideration. Laws which are contrary to an international agreement, to which the Netherlands is a party, can be abrogated by the courts.

II. LEGISLATION IN FORCE

A distinction should be made between a) direct statutory law regarding water law; and b) law which in a wider sense is generally important to water law.

A. Statutory Law

1. "Waterstaatswet 1900" Act of November 10, 1900, Staatsblad (Stb.) 176 3/.
2. Act on the Competence of Waterboards of May 17, 1978, Stb. 285.
3. Act on Waterboard Ordinances (Keurenwet) of July 20, 1895, Stb. 285.
4. Act of February 28, 1981, Stb. 69, which serves as an overall legal basis for the following general decrees, dealing with the safe and effective use of state managed waterways and dikes, sluices, etc.
 - a) General Decree on River and State Canals of November 24, 1919, Stb. 765.
 - b) Decree on Dredging of November 3, 1934, Stb. 562.
 - c) Decree on State River Dikes of July 28, 1937, Stb. 576.
5. Rivers Act of November 9, 1908, Stb. 339.
6. Act on the Undertaking of Reclamation and Diking of the Sea 4/.
7. Delta Act of May 8, 1958, Stb. 246 5/.
8. Surface Pollution Act 6/ of November 13, 1969, Stb. 536.
9. Seawater Pollution (Anti-Dumping Act), 5 June 1975, Stb. 352.

3/ "Waterstaat" is a general term and is difficult to define. It comprises in the Dutch law system all infrastructural matters connected with water-management, transport and navigation facilities. This law refers to the responsibilities of three administrative subordinate levels of central government, province and waterboards.

4/ Refers to some parts bordering the main land which stay dry at ebb-tide specially in bays. A special act was passed at the time for the reclamation of the Zuiderzee (now IJsselmeer Lake: Act of June 14, 1918, Stb. 354).

5/ Refers to the seclusion of river-arms of the Rhine and Scheldt Estuary after the flooding of 1953.

6/ This act underwent a number of substantial changes and enlargements, last time by the act of June 14, 1981. The full text is now published in Stb. 571, 1981.

10. Act on groundwater Extraction for public water supply of July 21, 1954, Stb. 383 7/.
11. Act on the protection of dikes, sluices and waterworks in Time of War of June 23, 1952, Stb. 367.
12. Act on Wrecks of July 9, 1934, Stb. 401.

B. Law

1. Constitution of 1983.
2. Civil Code.
3. Penal Code.
4. Provincial act of January 25, 1962, Stb. 17.
5. Municipal Act of June 29, 1851, Stb. 85.
6. Town and Country Planning Act of July 5, 1962, Stb. 286.
7. Chemical Waste Matter Act, of February 11, 1976, Stb. 214.

III. OWNERSHIP OF WATER

The prevailing doctrine recognizes only one kind of ownership for all waters 8/. It concedes, however, that in some cases restriction of the ownership rights the law conveys, can result from the allotment of water for a public use by law or custom. Such restrictions should not be confused with those which can be imposed by the State on all property, exercising the general legislative powers accorded to the State under the Constitution. Much of the following is based on general jurisprudence and legal doctrines, and has been assimilated in the new Civil Code, to be introduced within the next few years.

(a) Surface Water

Surface water bodies can be divided into two main categories:

1. Privately owned water bodies and water bodies owned by one of the various state administrative units (the central government, the provinces, the municipalities, the waterboards) not allotted to public use.

Ownership of water in a water body is only possible when the water is completely enclosed on a single piece of property 9/. As soon as the water circulates freely it is no longer amenable to property rights and is considered res nullius. Through by extraction of a certain quantity of water from the circuit one becomes owner

7/ This law will be abrogated probably in the autumn of 1983, as soon as the Groundwater Act (law on the management of groundwater resources and the replenishment of groundwater by infiltration) of May 1981, Stb. 383, is in force.

8/ Civil Code, Art. 625.

9/ Court of Cassation, The Hague, 14 November 1973, N.J. 1974; new Civil Code Art. 5.3.1. d.

of only certain amount. Where the water body is privately owned and has not been acquired for public use, the owner enjoys full proprietary rights, as accorded by the Civil Code, i.e.: the right to have the free enjoyment of the water and its disposal provided no prejudice is caused to the rights of others and does not contravene regulations issued by competent authorities. The regulations may not impede private ownership in such a way that it becomes illusory.

2. Privately owned water bodies and water bodies owned by state administrative units for public navigation (“navigable and floatable rivers, streams, lakes and canals”) 10/.

The proprietary rights of a private owner of a water body having the status of a public fairway, are restricted in so far, that he must tolerate unconditionally the use of his water body by normal traffic, and may not do anything which will obstruct it. Impliedly, he may not interfere with state maintenance, management and regulation and ensure its navigability. The proprietary rights of the state owner are restricted in the same way as those of the private owner. The use of the water body for navigation must be permitted. Any competence under public law to regulate the way in which the use is made, is however retained. There is no prescribed form by which the status of a public fairway is conferred on a water body; in cases of doubt, reference is either made to custom or the actual state of affairs. The Supreme Court requires use of economic transportation of goods and persons of a certain frequency and durability 11/.

(b) Underground Water

Groundwater as such is considered to be a res nullius (although it falls within the perview of natural richness of the subsoil, thereby attracting the Mining Act that the Mining Act is not applicable). The owner of overlying land has the right to use groundwater as well 12/. Ownership of the water is not acquired until it reaches the surface by natural or mechanical means 13/.

(c) Modes of acquisition

The ownership of surface water bodies and land (which includes the right to use groundwater resources as well) can be acquired by a transfer of proprietary rights, by acquisitive prescription, inheritance 14/ and re-allotment 15/. In the case of the State and private persons or institutions working for the public benefit, ownership can also be acquired by expropriation.

IV. THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Modes of acquisition

The right to use a surface water body for all purposes (water discharge, extraction, fishing, navigation, etc.) is primarily vested in the owner, whether state

10/ Civil Code (rivers and streams) Art. 577 and Supreme Court Decision of 5 January 1917 (lakes) and 21

11/ Supreme Court, 12 June 1951, N.J. 1959, No. 616.

12/ Civil Code, Art. 626.

13/ Ibid., Arts. 639 and 625.

14/ Expropriation Act, Art. 1.

15/ Civil Code, Arts. 625, 626. 641.

or private person or body. When making use of a water body, the owner must take care not to prejudice the rights of use of others and may not encumber surrounding property unless, in the case of public fairways, the encumbrance is caused by better adaptation to public use 16/. The right of use of the owner can be restricted by state regulations to the point of requiring a permit for the exercise of right with regard to certain specified manner.

As a rule, third parties require permission of the owner in order to make use of the water body. However, no authorization of the owner of the water body is required, for making the public use allotted to it, i.e. for navigation on public fairways, or fishing with one rod 17/. Joint ownership of a water body by the owners of the riparian land on either side gives both, the right to make use of the whole 18/. If the water belongs to others than the owner of the riparian land, the riparian nevertheless has a right to use the water for limited purposes (watering of the land, providing drinking water for his cattle, household uses) without the consent of the owner 19/. The present Civil Code does not confer this limited right of use when the land borders on a public fairway. The new Civil Code withholds the right only if in a certain case, it would not be compatible with the public use.

A right to make use of a water body can also be acquired by contract; and, for the benefit of land situated in the vicinity of the water body, by settlement or acquisitive prescription of a servitude 20/. However, if the water body is allotted to public use, a right of use can only be acquired if compatible with that allotment.

The right to use groundwater vests with the owner of the land 21/. Third parties can acquire it by contract.

In many cases the extraction of groundwater causes the level of the groundwater under adjacent ownership to drop. Causing damage to other property in this way is considered unlawful, and consequently the injured parties can cause the extraction to be stopped 22/. However, if the extraction is made for the public water supply, a declining aquifer must be tolerated, although any losses are indemnified 23/. Under the Groundwater Act, this will apply to all extractions and infiltrations (for replenishment) 24/. Moreover, if the diminished aquifer creates a situation whereby the overlying property can no longer be used according to its original purpose or that by any other cause it has become of too little use to the proprietor, the latter can claim that the extractor (permit holder) must purchase his propriety rights in lieu of full compensation to be calculated in accordance with the same standards which would apply in the case of expropriation (compulsory purchase) 25/.

16/ Civil Code, Art. 625.

17/ Fisheries Act, Art. 21, subpara. 2d, where freedom can be cancelled for specific water areas by Royal Decree.

18/ Civil Code, Art. 709.

19/ Ibid., Art. 676.

20/ Ibid., Art. 744.

21/ Ibid., Arts. 626 and 674.

22/ Ibid., Art. 1401.

23/ Act on Groundwater Extraction for the Public Water Supply, Art. 6.

24/ Groundwater Act, Art. 33.

25/ Ibid., Art. 38.

(b) Water Use Authorizations, Permits and Concessions

Authorization for the use of state property is granted by the Ministry of Finance for which a special agency "Domlinen" is acting; by the provincial deputies 26/ in the case of provincial property; by the College of the Mayor and Aldermen acting on a decision of the Town Council 27/ in the case of municipal property.

1. Permits for surface water abstraction

For the abstraction of surface water from water bodies administered by the Central Government, a permit is required only in the case of canals 28/. In practice however the amount of water extraction from rivers is limited by the conditions attached to the permit for the construction of the extraction works in the waterbed 29/. The permit is issued on behalf of the Minister for Transport and Public Works by the head of the unit of the Public Works Department (Rijkswaterstaat) responsible for the region concerned. For the extraction of water from other bodies a permit is sometimes required.

2. Permits for groundwater abstraction

Under the prevailing system or as long as the Groundwater Act is not in force, which will probably not be until the end of 1983, permits for the abstraction of groundwater are issued by the Minister for Land Use Planning, Housing and Environmental Hygiene if it is for drinking water supply 30/ and by provincial deputies in other cases 31/. Permits, however, are only required if the extraction exceeds the amount which is fixed in provincial regulations. This amount as a rule is 15 m³/hour. The application for a permit (or the modification of an existing one) is presented to the provincial deputies of the province where the intake is projected 32/, accompanied by maps on which the extraction facilities are shown, a description of the establishment, a statement of the maximum amount of water which will be extracted per hour, day, month and year, and information on the geophysical condition and the groundwater level of the surrounding area 33/. The provincial deputies submit the application to a commission of experts (the Commission for the Act on Groundwater Abstraction for the Public Water Supply 34/ or a provincial commission for groundwater management 35/) for a report and then send both the application and report to the municipalities and waterboards in the area which will be affected by the abstraction 36/. For two months the application and the report are open to general observation in the town clerk's office of the different municipalities and written objections can be presented to the College

26/ Provincial Act, Art. 105.

27/ Municipal Act, Art. 209, subpara. 1 and Art. 172.

28/ General Decree on Rivers and Central State Canals, Art. 87, Subpara. 1.

29/ Such a permit is required by the Rivers Act, Art. 5.

30/ Act on Groundwater Extraction for the Public Water Supply, Art. 2.

31/ Provincial regulations on groundwater quantity management.

32/ Act on Groundwater Extraction for the Public Water Supply, Art. 8, subpara. 1.

33/ Royal Decree of 22 February 1955, Stb. 63.

34/ Act on Groundwater Extraction for the Public Water Supply, Art. 8, subpara. 2.

35/ Provincial regulations (Groundwater Act, Art. 117, subpara. 1; Technical Commission for Groundwater Management).

36/ Act on Groundwater Extraction for the Public Water Supply, Art. 9, subpara. 1 (Groundwater Act, Art. 18, water supply companies and the Agricultural Board are also notified).

of the Mayor and Aldermen. This College then returns the application together with the objections and their own recommendations to the provincial deputies 37/. A public hearing is held by a provincial deputy at which the applicant and various experts are present 38/. If the application concerns a public water supply, the whole file and the advice of the provincial deputies are then submitted to the Minister of Land Use Planning, Housing and Environment who makes a considered decision after consultation with the commission of experts 39/. In other cases the provincial deputies decide after consultation with the provincial groundwater commission. A written statement of the decision is sent to the applicant and those who have lodged complaints within the stipulated time period 40/. An appeal to the Crown can be made by those concerned within thirty days of the decision 41/. The issuance (or modification) of a permit is published in the State and provincial gazettes and one or more local newspapers 42/. Permits specify the conditions with which the holder must comply 43/ and can be issued for a trial period (maximum trial period: 10 years) 44/. They may be passed to assignees of the holder 45/. The Act on Groundwater Extraction for the Public water Supply allows revocation of the permit only in the case of non-use 46/. Modification of the conditions under which the permit was issued is, however, possible 47/. The Groundwater Act will permit revocation as a penalty for non-use or misuse and also when extraction of groundwater is no longer compatible with other interests 48/. This implies also that the quantity of groundwater the permit holder has the right to extract can be diminished in the interest of another permit holder, in which case the obligation to indemnify is imposed by law on the latter as the beneficiary. It should be noted also that all decisions of this kind can be brought before the highest administrative court (the Crown).

In addition, some explanatory observations should be made on groundwater management as a subject which is part of water resource control. Under the Act on Groundwater Extraction for public water supply, permits for extractions are issued by the Minister for Land Use Planning, Housing and Environment. Before deciding on an application, all interests are weighed. On one hand are the interests directly involved in providing a water supply, on the other hand are the interests which may suffer harmful effect from a lowering of the groundwater level (temporarily or permanently). But if at last the permit is granted, after all these different interests have been taken into account, those who suffer damage have to tolerate the extraction. They only

37/ Act on Groundwater Extraction for the Public Water Supply, Art. 10 (Groundwater Act, Art. 10, public inspection period one month).

38/ *Ibid.*, Art. 11 (Groundwater Act, Art. 20).

39/ *Ibid.*, Art. 12.

40/ *Ibid.*, Art. 12, Subpara. 3 (Groundwater Act, Art. 23, Decision also sent to municipalities, waterboards, water supply companies and agricultural boards).

41/ *Ibid.*, Art. 17 (Groundwater Act Arts. 43, 44 and 45).

42/ *Ibid.*, Art. 13, Subpara. 4 (Groundwater Act, Art. 23, subpara. 2).

43/ *Ibid.*, Art. 12, Subpara. 4; Art. 13, Subpara. c (Groundwater Act, Art. 14, subpara. 2 and 3).

44/ *Ibid.*, Art. 14 (Groundwater Act, Art. 22).

45/ *Ibid.*, Art. 13, Subpara. 1 (Groundwater Act, Art. 14, Subpara. 4).

46/ *Ibid.*, Art. 16.

47/ *Ibid.*, Art. 15.

48/ Groundwater Act, Arts. 25 and 26.

have a claim for compensation. This means that the permit holder first has to take all reasonable measures which will minimize the harmful effects. Only if such measures are not possible or if they prove to be ineffective - so that agriculture or buildings are damaged - can the permit holder demand to be paid in money. As it is rather difficult to state to what extent damage is caused by a particular extraction (other causes such as the amount of rain and other extractions - for instance by industries - also have to be taken into account) a special committee of experts is set up which can do all necessary investigations and calculations. The committee is free of charge to the claimants. If the committee reaches the conclusion that in fact damage is caused by the extraction, it makes a proposal to both parties for a settlement. The permit holder may refuse, however, he will almost certainly be liable to pay for the damage, according to civil law, by a decision of a district court.

Under the new Groundwater Act, which covers all extractions both for public water supply and industrial purposes, no distinction whatsoever will be made between extractions. Thus, the above-mentioned special regime will come into effect also for industrial extractions. The Act also covers the infiltration of surface water as a means for replenishment and recharge of groundwater resources in order to make extraction possible or to increase existing extractions.

While the new groundwater management procedure will not itself undergo essential changes, attention should be drawn finally to one important additional alteration which the new Act makes in the existing regime. *Inter alia*, competence on groundwater issues as a whole has been decentralized to the provincial level as part of the government policy to enlarge and broaden the task of provincial governments. Each province is thus required to lay down the principles of its groundwater policy - in a provincial plan - in close connection with the policy on water management (water quantity, watersupply) and water pollution (sewage, purification). Provinces have to take into account their provincial plan when granting permits. The plan does not require the approval of any state authority but the central government (minister of transport and public works) has the power to demand specific alterations in view of government policy, e.g. if a matter of national interest is at stake, for instance the realisation of a national project which needs a certain amount of watersupply or the opposite - the maintenance of a water level in view of the preservation of nature.

3. Permits for the discharge of waste water

Permits for the discharge of waste water are issued by the State authority responsible for water quality management of the water bodies into which the waste water will be discharged. For waters under management of the central government, these permits are issued on behalf of the Minister for Transport ^{49/} and public Works by the head of the unit of the Public Works Department responsible for the region concerned; in other cases the permits are issued either by provincial deputies ^{50/} or by the governing body of a water or purification board ^{51/}. Typically, the application is presented

^{49/} Surface Water Pollution Act, Art. 3, Subpara. 1.

^{50/} *Ibid.* Art. 3, Subpara. 2.

^{51/} *Ibid.*, Art. 6, Subpara. 1.

along with all relevant information 52/. The concerned authority then consults an advisory technical agency such as the Government Institute for Waste Water Purification 53/. This agency gives advice on the technical aspects of requirements to restrict as much as possible the discharge of heavy metals and toxic substances in waste water. Inter alia, the advice may include proposals for adaptation or other changes in the technical process of an industry or in its installations.

In considering the application to discharge the competent water authority has to take into account the “water quality plan”. To that end, the obligation to follow the plan is compulsory upon every authority for the region which is covered by the plan 54/. Consistently, the decision of the Minister or authority upon the discharge application must be a considered one and will be sent to the applicant, to those who have submitted a protest and to the public health inspector for environmental hygiene responsible for the region concerned 55/. Notice of an opportunity to examine an issued or modified permit is announced to the public in a local newspaper - and if the permit concerns national waters, in the State Gazette - and lasts thirty days. The party concerned or the Public Health Inspector may present an appeal to the Crown, or to the provincial deputies, if the decision issues from a water board, within thirty days after the decision has been made known. If the appeal is presented first to the provisional deputies, their decision on appeal is in turn appealable to the Crown 56/. Each permit outlines the conditions under which the waste water may be discharged and can be modified or revoked if the pollution caused by the discharge is no longer tolerable. If not brought about by his own misconduct, the losses suffered by the holder on account of the modification or revocation of his permit will be compensated to some extent by the State 57/, according to the principles “égalité devant les charges publiques”.

4. Fishing Permits

Except when fishing takes place in an enclosed property not connected to other water bodies suitable for the circulation of fish 58/, a permit is required for

52/ Such information includes, inter alia, a description of the device used for the discharge, the capacity of the facilities and emergency outlets, the installation to be used to purify the water to a greater or lesser degree, in the case of sewerage works the number of dwellings and industries connected to the sewerage system; in the case of an industrial discharge information about the type, size and build up of the factory, a description of the way in which pollutants will be collected and removed, the characteristics of the pollutants and the quantity of these to be discharged as well as diagrams and drawings. See also, the Royal Decree on Pollution of Central State Water, Art. 7. The implementing regulations of the lower water quality authorities demand similar information.

53/ Royal Decree, Art. 8.

54/ Arts. 11-15. Act on Surface Water Pollution. This paragraph is a result of the implementation of EEC Guidelines on water pollution and water quality standards. Since 1979 the rules of procedure in environmental law, which cover the aforesaid act have become standardized in order to achieve uniformity; see Act of 13 June 1979, containing General Rules on Environment (Stb. 1980, 757).

55/ Surface Water Pollution Act, Art. 9, Subpara. 1 and 4.

56/ Ibid., Art. 13, Subpara. 3.

57/ Ibid., Art. 9, Subpara. 3.

58/ Ibid., Subpara. 1 and 7a.

fishing with more than one ordinary rod 59/. For fishing with one special rod, or with more than one ordinary rod or with a bobbin, a “small” permit is sufficient 60/; in other cases a “large” permit is required 61/. The permits are issued on behalf of the mayor 62/ by the state postal service or the clearing bank of the Amsterdam municipality. They are valid for one year (from the first of June till the 31 of May) 63/ and are personal. The permit loses its validity and no permits can be issued when the holder or the prospective holder has been denied the right to fish by judicial decision after infringement of certain provisions of the Fisheries Act. The maximum duration of this penalty is three years. The decision is made known in the State Gazette and the General Police Journal 64/.

V. ORDER OF PRIORITIES

Although there are few legislative provisions which accord priority to particular uses of water, an increasing number of provisions demand a weighing of conflicting interests before permission for a certain use of water is accorded by a state authority. This process opens up the possibility of attaching conditions to the permit in order to protect other interests 65/. To ensure that the issuance of permits is based on an adequate balancing of interests, various legislative provisions demand policy plans, such as the above-mentioned plans for water quality and for groundwater management to be prepared in consultation with a wide range of experts and representatives of possible conflicting interests 66/. Many legislative provisions also require the consultation of such a group before the decision to grant a permit is made in a specific case 67/.

The legal basis for an overall planning process which - when combined with already existing acts - will assure equitable treatment of competing interests, is currently being prepared by the Ministry of Transport and Public Works. It deals primarily with water-quantity. This is very important because on the one hand maintenance of water level is essential for navigation in waterways, for water distribution between different regions and intake for water supply and irrigation, while on the other hand water-quantity is an instrument in the permanent struggle against pollution and salinity. Such salinity, it should be noted, not only comes from the sea but also results from the poor quality of the Rhine river, for which sources in other riparian states are mainly responsible.

59/ Surface Water Pollution Act, Subpara. 1 and 7a.

60/ Ibid., Subpara. 2a.

61/ Ibid., Subpara. 2b.

62/ Ibid., Subpara. 4.

63/ Ibid., Subpara. 5.

64/ Fisheries Act, Art. 57.

65/ Act on Groundwater Extraction for the Public Water Supply, Art. 12, Supara. 2 and 4; Surface Water Pollution Act, Art. 1, Subpara. 5; Groundwater Act, Art. 14, Subpara. 2.

66/ Surface Water Pollution Act, Arts 11-12; Groundwater Act, Arts. 8 and 9.

67/ Act on Groundwater extraction for the Public Water Supply, Art. 12, Subpara. 1; Groundwater Act, Art. 21. All provincial acts have rules of a similar nature.

Presently, decisions about waterlevels of rivers (some of them are divided into sections in which a separate level is maintained by the use of barrages) as well as decisions about distribution and reservation of water are made autonomously by competent state authorities. Under legislation being considered, however, this will no longer be considered to be in agreement with the legal practice and procedures that are to be followed when a variety of conflicting interests (different uses of water, different regions that are interconnected by the Dutch waterway system) are at stake. The Act on Water Management, which is now in discussion in Parliament, provides for an overall planning system. Plans will be prepared with participation of all parties (state, provinces, waterboards, chamber of commerce, watersupply-companies, environment groups, etc.) and will be published.

Under the proposed Act on Water Management the country will be divided into different basins which are internally interrelated

- (1) by the system of main rivers, canals (and other basins to which all respective regions must look for their watersupply), and
- (2) by operating waterworks (barrages, pumps and sluices) as instruments to distribute water.

In addition, regional plans will regulate the sharing of water among the different water management units and uses in each hydrological region, making allowance for the water resources already present in the region. Under the proposed legislation, water management plans will have to be revised every ten years. Their preparation, moreover, will be in the hands of commissions whose composition will include central ministries, provincial authorities, waterboards, representatives of various interests and environmental groups. The most important aspect of their task will be the balancing of the different interests in water.

VI. LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic and Household Uses

Water for household uses is supplied by public water supply companies. Prospective users acquire the right to the delivery of water by subscription. Some companies place watermeters in the dwellings, other deduce a fixed rate from data such as the number of rooms, bathroom facilities and the size of the garden.

A very small percentage of dwellings in rural areas are not connected to the public water supply system and obtain water for household uses by extraction from surface water bodies or from underlying groundwater sources. Riparian owners do not need the consent of the owner of the water body for such use ^{68/}. For mechanical groundwater intake, a permit of the provincial deputies is only required if the rate of intake exceeds 10 m³ per hour (in some provinces 30 m³).

(b) Municipal Uses

Water for municipal uses comes from the public water supply companies. If a municipality does not operate such a company itself it obtains the necessary water by contract.

^{68/} Civil Code, Art. 676, Supreme Court, 19 March 195, N.J. 1915 No. 691.

(c) Agricultural Uses

Riparians have the right to abstract or divert water for the watering of their land and animals without the consent of the owner of the waterbody. Others can obtain the right by (personal) contract, and as long as their land is situated in the vicinity of the waterbody, by settlement or acquisitive prescription of a servitude 68/ In some areas a permit from the surface water quantity manager is required for the intake.

Some of the servitudes which can be acquired for the benefit of agricultural land are specified in the Civil Code. These include the right to discharge waste water 69/ or clean water 70/ on the servient land and the right to conduct the course of water from or over 71/ the servient land. The list is not intended to be exhaustive. If groundwater is extracted, a permit of the provincial deputies must be procured if the intake exceeds 10 m³ per hour (30 m³ per hour in some provinces).

(d) Fishing

For fishing with more than one ordinary rod in waters other than those completely enclosed, a fishing permit is required 72/ and a fee must be paid towards the improvement of inland fisheries 73/. The Minister of Agriculture and Fisheries can grant exemptions for fishing in a hatchery or for fishing for scientific purposes 74/. Permits and proof of payment of the contribution are issued by the State Postal Service and the clearing bank of the Amsterdam Municipality 75/. In addition to the foregoing requirements, fishing vessels used for professional fishing in lakes, the open sea and coastal areas must be registered in their home municipality 76/. Fishing permits are valid for one year from the date of issue 77/. With some exceptions such as fishing with one rod in a public fairway 78/; it is forbidden to fish without a written authorization from the rightful claimant of the fishing right 79/. The rightful claimant is either the owner 80/ of the waterbody or a person who has acquired the right to fish by usufruct 81/ by longlease 82/ of the waterbody or by renting the right 83/.

68/ Civil Code, Art. 744.

69/ Ibid., Art. 730.

70/ Ibid., Art. 730.

71/ Ibid., Art. 729.

72/ Fisheries Act, Art. 10.

73/ Ibid., Art. 15.

74/ Ibid., Art. 10, Subpara. 10, and Art. 15, Subpara. 3.

75/ Decision of the Minister for Agriculture and Fisheries, 15 March 1977, Stc. 56 and 9 January 1976, Stc. 8.

76/ Fisheries Act, Art. 3 and Royal Decree on the Registration of Fishing Vessels of the 27 April 1964, Stc. 143.

77/ Fisheries Act, Art. 10, Subpara. 5, and Art. 12, Subpara. 1.

78/ This freedom can be cancelled by Royal Decree for specific water areas/ Fisheries Act, Art. 21, Subpara. 1d.

79/ Fisheries Act, Art. 21.

80/ Civil code, Art. 641.

81/ Ibid., Art. 821.

82/ Ibid., Art. 768.

83/ Fisheries Act, Art. 23.

With some exceptions, no licence may be granted without permission of the Chamber for Inland Fisheries 84/ and the transfer of the fishing right must be submitted to the Chamber for approval 85/. The surveillance of the Chamber over these licenses is aimed at assuring adequate fishing stocks and the protection of professional fishermen from low prices. The decision of the Chamber in these matters can be appealed to the Crown 86/.

Fishing with more than two ordinary rods in coastal waters is subject to a permit of the mayor 87/, and a written authorization by any other rightful claimants to the fishing right (unless a Royal Order decrees otherwise) 88/.

All fishermen must comply with the different rules on minimum sizes, forbidden species, fishing gear and closed fishing seasons set by Royal Decrees 89/.

(f) Industrial uses

Part of the water for industrial uses comes from public water supply companies; the rest from direct intakes of surface and groundwater. The water from the water supply companies is acquired by subscription. For some industrial uses, water of a lesser quality is supplied by contract. For the intake of groundwater a permit is required if the intake exceeds 10 m³ (or 30 m³ in some provinces) per hour; for surface water a permit is required only insofar as it is required by the regulations of the competent water authority in a specific area. In all cases, a permit is needed to extract water from state canals 90/. The same applies to extraction from rivers.

(g) Transport

Navigation on public waterways is free, as long as there is compliance with the safety rules of conduct set by the authority managing the waters 91/. Each ship must have a copy of these rules on board 92/. To dock in places other than designated landing areas, an authorization of the water authority is required 93/. In order to control the transport capacity of inland waters the transportation of goods from one inland port to another has been subjected to licences issued by the Commission for transport licences 94/, and to registration under supervision of the inspector for transport responsible for the area in question 95/.

84/ Fisheries Act, Art. 22.

85/ Ibid., Arts. 26 and 36.

86/ Ibid., Art. 37.

87/ Ibid., Art. 6.

88/ Ibid., Art. 7.

89/ Ibid., Art. 9 and Art. 16, e.g. Royal Decree on Inland Fisheries of 21 May 1964, Stc. 168.

90/ General Decree on Rivers and Canals, Art. 81.

91/ Provincial regulations on navigation usually cover all navigable water areas in the province except those managed by the Central State. Waterboards and municipalities retain the competence to issue supplementary regulations on navigation in the water bodies managed by them.

92/ E.g. General Decree on Rivers and Central State Canals, Art. 4, Subpara. 2.

93/ Ibid., Art. 8.

94/ Act on the Transport of Goods in Inland Waters, Art. 4.

95/ Ibid., Art. 7.

The owner of property cut off from a public fairway by land belonging to others can assert an easement to the fairway on payment of compensation for damage 96/. Ordinarily, such an easement must follow the shortest and least damaging route 97/.

Although the exploitation of a ferry cannot be subject to a previous licence 98/, provinces and municipalities can issue regulations to ensure safety of the passengers and timely announcement of the rates and timetable 99/.

(h) Medicinal Uses

In 1973 the Supreme Court of the Netherlands ruled that, insofar as drinking water supplies are concerned, the addition of substances other than those required for the preparation of the water for drinking purposes is permitted only by statute or if an adequate alternative supply is provided 100/. As a consequence, the practice of many water supply companies of adding fluoride to drinking water stopped. To provide a legal basis for fluoridation, a draft amendment to the Water Supply Act was submitted to parliament by the Minister of Public Health and Environmental Hygiene 101/. It encountered so much opposition in the Lower House, however, that it was withdrawn.

(i) Recreational Uses

The preservation of water areas for recreational purposes is achieved by municipal "land use" plans 102/ and supplementary municipal or provincial regulations 103/. Municipal or provincial regulations stipulate the conditions for use (entrance fee, etc.). In some areas such regulations have been enacted by special "Recreation boards", comprised of representatives from provinces, municipalities and private organizations in the field of recreation (e.g. organizations of fishermen) 104/.

Also, for recreational purposes, indoor swimming facilities are generally provided by municipalities. Because of their public nature, they must comply with the provisions of the Act on the Hygiene and Safety of Public Baths.

VII. LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood Control, Overflow and Bank Protection

Activities concerning protection of land from both seawater and freshwater intrusion are conducted at three different administrative levels. The management of protection structures is principally in the hands of water boards and the Central

96/ Civil Code, Art. 715.

97/ Ibid., Art. 716.

98/ Ferry Act, Art. 1.

99/ Ibid., Arts. 2 and 4.

100/ Supreme Court, 22 June 173, N.J. 306.

101/ Parliamentary Reports of the Second Chamber 1973-1974, No. 12738.

102/ Act on Land Use Planning, Art. 10.

103/ Ibid., Art. 72.

104/ Act on Cooperative Regulations of 1 April 1950, Stc. K120, Art. 41; Constitution, Art. 162.

Government. The division between both is still largely based on historical grounds and dates from the pre-Napoleon era when the central government had little to do with this subject-matter. The provinces, however, manage some dykes, and a few water protection structures - generally in local harbours - are managed by municipalities. Water level regulation to prevent floods in lower parts of the country is usually under the jurisdiction of the water boards, but again, the provinces provide occasional direct management of some water areas and municipalities also participate to some extent, particularly in the management of local canals. The Central Government manages the main rivers, and through a licence system, ensures their capacity to remove high surface water 105/.

Due to their vital importance, works to protect against water from the sea, including Lake Yssel and the main rivers, have been placed under the special supervision of the Crown and the provincial government. After the extensive floods of 1953 it was decided that these dykes needed to be raised considerably to bring down the risk of flood occurrence to once in two thousand years. An enormous effort was thus required and, since those waterboards immediately responsible for implementation could not bear the extra financial burden, a special act 106/ was passed to provide for contribution of the financial means from the state budget. Apart from this unusual project, new works for the seclusion of the sea arms in the South Western part of the country, the so-called delta region, are also to be carried out by the state authority. To ensure its control over these important works, the Crown appoints the governing body of the waterboards which actually manage these works 107/. In addition, plans for the construction of new water protection structures or the alteration of existing ones must be submitted to the Crown in the case of provincial works or to the Provincial Deputies in all other cases 108/.

The Water Management Act and the Act on the Authority of Waterboards supply the responsible authorities for water management with extraordinary powers in the case of imminent or realized floods. The Expropriation Act, for example, provides for the summary expropriation of land in such emergencies 109/. If floods are threatened as a result of high surface water or ice in the main rivers, the Minister of Transport and Public Works may proclaim a state of heightened vigilance 110/. Where such a condition prevails, the managers of the dykes in the region must furnish posts along the dykes people who will pass on relevant flood information to the functionary of the Public Works Department in charge of the area 111/. The Public Works Department, in turn, can issue direct commands on measures for the protection of the dykes and embankments required for the abatement or prevention of flooding 112/. In other cases of impending or realized overflow or rupture of a dyke or dune, the provincial deputies (and the fonctionnaires of the provincial water management service to whom they have delegated authority) are empowered to issue commands to municipalities and waterboards responsible for the management of these works 113/. Where it deems it appropriate to do so, the Crown can overrule the provincial government and charge the Public Works Department with supervision 114/.

105/ Rivers Act, Arts. 4 and 5.

106/ Delta Act, Art. 5.

107/ Water Management Act, Art. 15.

108/ Ibid., Art. 33

109/ Expropriation Act, Section III.

110/ Water Management Act, Art. 70.

111/ Ibid., Arts. 75 and 78.

112/ "Water Staatswet 1900", Art. 83.

113/ Ibid., Art. 81.

114/ "Water Staatswet 1900", Art. 84.

In case of emergency, the governing bodies of waterboards can summon all the inhabitants of their region to form a “dyke army” to protect the menaced dyke and assist in case of rupture 115/. Further, they can requisition the animals, vehicles, instruments and materials needed for protection 116/ and summarily expropriate the necessary land 117/. No excavation permits are needed for the digging up of soil necessary to strengthen and protect the dykes and dunes in case of floods, and the “construction permit” often required for the execution of waterworks by municipal land use laws can be dispensed with 118/.

(b) Soil Erosion and Siltation

No special legal provisions have been enacted to prevent the harmful effects of soil erosion and siltation. Their abatement is part of the general obligation of the state authorities responsible for water quantity management. In addition, provincial regulations, and waterboard ordinances may oblige private owners to remove silt and generally keep water sources in good order.

Generally, the Civil Code regulates the question of ownership when siltation causes a change in the embankment of a waterbody or the emergence of an island. The general rules are that except in the case of ponds 119/, the property line follows the bank of the waterbody 120/ and that islands become the property of the owner of the waterbody 121/. Where there is joint ownership of a waterbody by riparians, any islands therein belong to the owner of the land on whose side they have emerged 122/. Different rules apply if the added land is the result of central state works in the main rivers 123/.

(c) Drainage and Sewerage

The dewatering of land is largely within the domain of the local waterboards, although in many municipal centers the task has been assumed by the municipalities themselves who typically combine it with the management of the sewerage system. Under the Civil Code, lower land is obliged to receive any water that flows down naturally from higher ground 124/ and the owner of the lower land is not allowed to construct dykes or dams to prevent it. The owner of the higher land on the other hand must refrain from aggravating the flow 125/. To the owner of a flooded plot,

115/ Act on the Competence of Waterboards, Art. 1, Subpara. 6.

116/ Ibid., Art. 1., Subpara. 6.

117/ Ibid., Subpara. 15.

118/ Act on Land Use Planning, Art. 66, Subpara. 1.

119/ Act on the Competence of waterboards, Art. 1, Subpara. 6.

120/ Ibid.

121/ Ibid., Art. 1, Subpara. 5.

122/ Civil Code, Art. 644.

123/ Rivers Act, Art. 19.

124/ Civil Code, Art. 673, Subpara. 1.

125/ Ibid., Subpara. 2.

the Crown can issue a command for drainage or for the land to be surrounded with a dyke if such is required in the public interest or for the benefit of the surrounding area, and is feasible 126/. If the owner refuses to comply, his land can be expropriated and the value of the land will be determined as flooded.

Land reclamation is a special form of drainage. Undertaken on all three administrative levels, a concession of the Crown is required for the works leading to reclamation unless they are performed by the Central State or a local waterboard established pursuant to provincial law 127/. Due to the magnitude of the works ordinarily involved in reclamation, the granting of a concession is preceded by a procedure which involves a public inspection of proposed plans and a public hearing 128/. Plans for Central State works as well as local works must also undergo this scrutiny 129/.

The operation of sewerage systems is considered to be one of the general duties of municipalities. Most dwellings are automatically connected to such a system; special authorization of the College of the Mayor and Aldermen being required for some larger (industrial) discharges. For industrial discharges into a municipal sewerage system the authorization of the College of Mayor and Aldermen is required. For direct discharges into surface water, a permit of the water quality manager must be procured 130/. In most cases the permits are granted under conditions which require in-plant purification measures 131/. The cost of these measures must be borne by the industry concerned, although subsidies may be granted by the water quality manager from the revenue of the pollution levy 132/, and by the Central State which grants subsidies towards purification of discharges into other water areas than those managed by it 133/. The discharge of oxygen consuming substances and some heavy metals is subject to a levy, paid either directly to the water quality manager 134/ or to the manager of the sewerage system who uses it to recover the expenses of any purification measures and the levy required of him 135/. These discharges are also subject to a tax 136/.

To cover the cost of any discharge levy (for the direct discharge of oxygen consuming substances) to which he may be subjected by the water quality Manager as well as the expense of any purification measures, the manager of a sewerage system can demand a contribution by those connected to it 137/. However, if the sewerage system is by-passed without treatment, water quality authorities also usually by-pass the sewage system operator and collect their discharge levy directly from those making the discharge 138/.

126/ Civil Code, Art. 649.

127/ Act on the Undertaking of Land Reclamation or Endykements, Art. 1.

128/ Ibid., Arts. 3 and 4.

129/ Ibid., Art. 1.

130/ Surface Water Pollution Act, Art. 1, Subpara. 1.

131/ Ibid., Subpara. 5.

132/ Ibid., Art. 23, Subpara. 1 c.

133/ Ibid., Subpara. 3.

134/ Ibid., Art. 17, Subpara. 1.

135/ Ibid., Subpara. 2 and 3.

136/ Ibid., Art. 17, Subpara. 2 and 3.

137/ Ibid., Art. 17, Subpara. 2 and 3.

138/ Ibid., Art. 17, Subpara, 1.

(d) Salinization

An important contribution towards the reduction of the salt content of inland waters was the construction of the dams closing the Zuider Sea and the estuaries of the Zeeland Delta by the Central State. Salt stores in the subsoil also cause salinization which can to some extent be kept in check by the waterboards, provincial deputies and Minister for Transport and Public Works through conditions imposed on permits required for excavation 139/. Also, with a view to the abatement of one of the main sources of salinization - the salt content of Rhine water - the Central Government recently concluded an international agreement with the other countries bordering the Rhine. In addition, the Dutch government has recently contributed 34 percent of the costs of storage, in the ground, of salt emanating from potassium mines in France, which are being discharged into the Rhine.

VIII. LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

The Act on Water Management described hereinabove in Section V dealing with priorities, will provide the legal system for the distribution of available water resources in different areas and between different uses. Under the proposed Groundwater Act, a permit for groundwater abstraction will have to state the use for which water is intended 140/. If other use is made the permit can be revoked 141/.

(b) Recycling

On a small scale, recycling has been resorted to by industrial users of water. Although the initiative was in part self-generated, compulsion also existed in the form of high taxes demanded by the State for the discharge of oxygen consuming waste water.

The treatment of waste water which is being conducted on an increasingly larger scale since the introduction in 1970 of the Surface Water Pollution Act, can also be seen as a form of recycling.

(c) Health Preservation

Water which is delivered from the public water supply companies must be of sufficient quality and quantity and under the pressure necessary to satisfy the demands of public health 142/. A Royal Decree based on the Water Supply Act fills in the details of this obligation 143/.

139/ Excavation Act, Art. 3.

140/ Groundwater Act, Art. 14, Subpara. 3.

141/ Ibid., Art. 25, Subpara. 2c.

142/ Water Supply Act, Art. 4, Subpara. 1.

143/ Water Supply Decree.

To ensure compliance, the water supply companies have been placed under the strict supervision of medical inspectors of the Ministry of Public Health and Environmental Hygiene 144/. The owner of the company must supply all relevant information 145/ and cooperate when an investigation is made 146/. Further, the owner must carry out any measures deemed necessary by the inspector to guarantee the quality and continuity of the supply of water 147/. The health of certain members of the staff must be frequently checked 148/, and strict hygienic rules must be observed to prevent contamination of the water with infectious diseases 149/ and ensure that no pollution occurs 150/. Among other things this entails the checking of home installations to make sure that these do not cause pollution of the distribution network. The owner of the company must also see to it that tests of the bacteriological and physical/chemical condition of raw surface and groundwater, the water in different stages of preparation, and the distributed water are performed at regular intervals by laboratories designated by the Minister of Planning, Housing and Environment 151/. An appendix to the Decree states in detail how the analysis should be conducted. Once a year samples of the unprepared and distributed water are tested by the Government Institute for Public Health.

For the sake of preventing the contamination of waters used for public water supply, catchment areas around pumping stations are often protected by means of municipal land use plans 152/ and supplementary local or provincial regulations 153/. The protection of public indoor swimming facilities is ensured by provisions of the Act on Hygiene and Safety of Public Baths with which the institutions operating public indoor swimming pools (usually municipalities) must comply.

(d) Pollution

The fight against surface water pollution is pursued on three administrative levels. The Central Government, which has entrusted most of its task to the Public Works Department, is responsible for the quality management of the larger water areas (such as, the Rhine, Meuse, Scheldt, Lake Issel and the Wadden Sea) 154/.

The provinces are responsible for all other water bodies 155/; in eight provinces the quality management has been entrusted by the provincial governments to waterboards. Both the Central Government and the provinces enact regulations which provide the detailed structure for water quality management in the water areas for which they are responsible 156/. Provincial regulations adopted for this purpose must be approved by the Crown. Waterboards can issue supplementary provisions.

144/ Water Supply Decree, Art. 2.

145/ *Ibid.*, Art. 5, Subpara. 1a and Art. 6.

146/ Water Supply Act, Art. 5, Subpara. 1b.

147/ *Ibid.*, Art. 7 and 13.

148/ *Ibid.*, Art. 9.

149/ *Ibid.*, Art. 11 and 12.

150/ Water Supply Decree, Art. 5.

151/ *Ibid.*, Arts. 6 and 10.

152/ Act on Land Use Planning, Art. 10.

153/ *Ibid.*, Art. 72.

154/ Surface Water Pollution Act, Art. 3, Subpara. 1.

155/ *Ibid.*, Subpara. 2.

156/ *Ibid.*, Art. 6, Subpara. 1.

The discharge of waste matter, pollutants and harmful substances into surface water by means of an appliance intended for that purpose is prohibited without previous licence 157/. The granting of permits must be in accordance with the water quality plan 158/ that is applicable in the waterbasin (river, lake, canal, sea, sea-arm, etc.) in which the discharge will take place. Such plans set forth specific target of water quality standards for specific water bodies. In turn, the standards serve a specific aim (bathing, drinking water supply, etc.). Apart from these so-called “immission” (ambient) limits, there is also an “emission” limit 159/, i.e. the level of harmful polluting substance which is allowed in the discharge of waste water. For both, immission and emission, general standards are established by ministerial decision if the intent is to comply with EEC directives, or by royal decree if no directives for the particular substance have been agreed between EEC member states. As of 1983, only the standard for quicksilver discharge had been fixed.

In general, the water quality control authorities ensure observance of the foregoing rules, issue permits, and see that permit conditions are adhered to. In the case of industries, such conditions often entail in-plant purification measures. In addition to this “passive” management, waterboards - and some towns - construct and run water treatment plants. To cover the cost of their various activities, the authorities can subject all those who discharge oxygen consuming substances and certain heavy metals to a levy 160/. The Central Government uses the revenue of the levy for reimbursement to those authorities that undertake purification measures designed to mitigate such discharges into central government water areas 161/.

Water quality managers who do not perform their task in a satisfactory way can be presented with a “declaration of insufficiency” 162/ on the request of a quality manager of the water body which receives insufficiently treated water. This means that the erring water quality manager can be charged the extra costs involved in purifying receiving waters 163/. However, in practice this appears to be a relatively theoretical and not very practicable solution. Since 1976, when the Act became “operational”, this provision has never been applied.

To ensure coordination and uniformity of practice with regard to planning, granting permits and levying charges, the Minister for Transport and Public Works issues a national program every five years in coordination with the Minister for Public Health and Environmental Hygiene 164/. The program is drafted by the Government Institute for Waste Water Purification, in consultation with regional water authorities. Its recommendations and objectives are intended to serve as guidelines for regional plans. Coordination is also promoted by the Coordination Commission for Implementation of the Surface Water Pollution Act, on which body different ministries, the provinces, the waterboards and the purification boards are represented.

157/ Surface Water Pollution Act, Art. 1.

158/ Ibid., Arts. 11-12.

159/ Ibid., Art. 1b.

160/ Ibid., Art. 17, Subpara. 1.

161/ Ibid., Art. 23, Subpara. 1c.

162/ Ibid., Art. 2, Subpara. 1.

163/ Ibid., Art. 17, Subpara. 1.

164/ Ibid., Art. 33.

Discharges into the territorial sea 165/ and into the open sea when made from land, are under the aegis of the Surface Water Pollution Act 166/, and required permits are issued by the Public Works Department. Pollution of the sea by dumping from or incineration on ships is controlled under the Sea Water Pollution Act 167/ as a result of both the Oslo (1972) and the London Convention (1973) on sea pollution.

Although some provinces have issued specific groundwater quality regulations, pollution of groundwater is usually dealt with as part of pollution of the ground itself. A Soil Protection Act is being prepared for general quality management since existing laws mainly protect the soil against pollution only by certain specific substances or activities. The Waste Matter Act prohibits the placement of household refuse in or on the soil without a permit issued by the provincial deputies 168/. The Nuclear Power Act does the same for radioactive matter by requiring a permit from the Minister for Public Health and Environmental Hygiene and Economic Affairs 169/. The Chemical Waste Matter Act prohibits the removal of chemical waste and used oil by burying it in or placing it on the soil except pursuant to an exemption granted by the Minister for Public Health and Environmental Hygiene 170/. The Pesticides Act is also relevant to both groundwater and surface water. The use of pesticides is subject to the approval of the Minister for Public Health and Environmental Hygiene 171/, and an approval will not be given if harmful side effects for soil and water are anticipated 172/.

(e) Environmental Protection

When issuing permits for groundwater abstraction or waste water discharge, the authorities must take the consequences for the environment into account; indeed, damage to the environment by itself can be a reason for refusing a permit or issuing it under strict conditions.

IX. LEGISLATION ON GROUNDWATER RESOURCES USE

(a) Drilling Licences

Under existing legislation, local governments can demand a licence for activities such as drilling and sinking wells in order to protect and ensure maximum use of certain areas as laid down in municipal land use plans 173/. In some cases the installation of permanent pumps and other abstraction appliances is also subject to a licence under the Nuisance Act. This Act contains provisions to prevent danger, damage and nuisance to the surrounding area by the operation of certain equipments 174/ including electrical motors of more than 2 H.p. and combustion motors of more than 0.25 H.p. 175/. The permits are generally issued by the College of Mayor and

165/ Surface Water Pollution Act, Art. 3, Subpara. 1.

166/ Ibid., Art. 1, Subpara. 4.

167/ Ibid., Arts. 3 and 4.

168/ Waste Matter Act.

169/ Nuclear Power Act.

170/ Chemical Waste Matter Act, Art. 31.

171/ Pesticides Act, Art. 2.

172/ Ibid., Art. 3.

173/ Act on Land Use Planning, Art. 14.

174/ Nuisance Act.

175/ Nuisance Decree.

Aldermen 176/. It should be noted that the Nuisance Act is not applicable to abstraction appliances for public water supply 177/. The proposed Groundwater Act will exclude danger, damage, and nuisance caused by effects on groundwater resources by abstractions or infiltrations for which permits have been issued, from applicability of the Nuisance Act 178/.

Apart from the above licensing requirements, an excavation permit issued by a waterboard, the provincial deputies or the Minister for Transport and Public Works 179/, is required for the digging of a water well if it exceeds the minimum dimensions laid down in the Royal Decree 180/ and provincial regulations implementing the Groundwater Act.

(b) Exploration Licences

To obtain the necessary information relating to an application for a permit for groundwater abstraction by a public water supply company, exploration must be made on the property of others, the Minister of Public Health and Environmental Hygiene can oblige the users or owners to endure these activities; compensation for damage to the land may be required.

(c) Groundwater Resources Protection Measures

As already stated in preceding paragraphs on permits for the use of groundwater, the new Groundwater Act will provide the framework for integrated groundwater management at the administrative level of the provinces, thus bringing to an end the rather scattered system of rules for extraction of groundwater for public water supply and provincial regulation for extraction by industries. As noted, that system gave no solution to the scarcity problems that, at least in some regions, arose because extraction permanently exceeded the amount replenished by rainfall 181/.

Finally, protection of the quality of groundwater resources is effected partly by means of provincial regulations on quality management of the soil and groundwater and partly by means of Acts which control pollution of the soil by specific substances or activities 182/. Similarly, groundwater catchment areas are often protected by municipal land use plans 183/ and supplementary provincial regulations.

176/ Nuisance Act.

177/ Act on Groundwater Extraction for the Public Water Supply, Art. 30.

178/ Nuisance Act.

179/ Groundwater Act, Art. 60.

180/ Central State Excavation Decree, 17 August 1971, Stb. 518, Art. 2, Subpara. g.

181/ Nevertheless since 1975 provincial regulations have been useful in providing some control in the absence of a general groundwater law.

182/ Waste Matter Act; Chemical Waste Matter Act; Nuclear Power Act; Pesticides Act.

183/ Act on Land Use Planning, Art. 10.

X. LEGISLATION ON THE CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

Various acts in the field of water management contain provisions which require the owners and users of property to tolerate activities required for the construction, maintenance and control of waterworks and waterways 184/. They may be required to allow measuring, exploration, drilling, the placing of signs, transportation and temporary deposit of construction materials and also - with compensation for any damages incurred - the permanent alteration of their property. A general authority to impose works on property owners, if it is in the public interest, is provided by the Act on Impediments. If permanent use of the whole or a large part of the property must be made, it can be expropriated. The Expropriation Act provides a simplified procedure for expropriation to erect dykes and other water structures, both for public water supply purposes and to prevent or contain floods 185/. If necessary activities are prohibited by regulations issued by a lower state authority and this authority refuses to grant an exemption or a permit, provincial deputies (waterboards, municipalities) or the Crown are competent to override such refusals 186/.

To ensure the execution of necessary activities in the field of surface water management and to prevent undesirable works, special authority has been granted to the Minister for Transport and Public Works and the provincial government. If necessary work is not performed, a directive to do so can be issued by the provincial deputies (to waterboards, municipalities, and private persons responsible for the maintenance of waterworks or waterways) or the Minister for Transport and Public Works (to provinces and the other authorities if the provincial deputies fail to issue the directives) 187/. Objections to the necessity of the work may be submitted to the Crown 188/; objections to the responsibility for the work must be brought before the Court of Justice 189/. An adamant refusal to comply with a directive can lead to performance of the work by the authority which issued the directive; the expenses being recoverable from the negligent authority 190/. On the other hand, should waterworks be erected contrary to the public interest, the provincial deputies and the Minister for Transport and Public Works can order them to be stopped 191/. Such an order can be appealed to the Crown. Continuation of activities can lead to demolition of the works at the expense of the defaulting authorities 192/. Similar abatement authority is given by other Acts in the field of water management to the authorities responsible for enforcement should activities be performed in violation of the Act, its accompanying regulations, the conditions of permits issued pursuant thereto or in contravention of a water management plan.

Should the performance of work require the excavation of grounds on the bottom of a waterbody, in principle, an excavation permit must be obtained 193/. Depending on whether the excavation will be undertaken on land or in a waterbody these permits

184/ Water Management Act, Arts. 9 to 12 b; Rivers Act, Arts. 15 to 18.

185/ Expropriation Act, Sections II, IIa, IIb and III.

186/ Act on Impediments by Regulations, Arts. 3 and 8.

187/ "Waterstaats" Act, Arts. 38 and 39.

188/ Ibid., Art. 40.

189/ Ibid., Art. 41.

190/ Ibid., Art. 42.

191/ Ibid., Arts. 37 and 39.

192/ Water Management Act, Art. 42.

193/ Excavation Act, Art. 3, Subpara. 1.

are issued by or on behalf of the Minister for Transport and Public Works, the provincial deputies or the governing body of a waterboard 194/. As a practical matter, however, regulations issued by the Crown and the provinces to implement the Act exempt most excavations from the obligation to obtain a permit (excavations on behalf of water structures controlled by the Central State; excavations for the lay-out, maintenance, widening and deepening of waterways within certain limits; excavations for the construction and maintenance of structures for water restraint, drilling, the placing of pipes, the digging of water reservoirs and basins within certain dimensions are all exempt) 195/.

(a) Waterworks Construction

1. Permits for the construction of specific waterworks

Before construction is undertaken on new structures for sea defence or for containment of the water of Lake Yssel and high surface water of the main rivers and estuaries, or before existing structures are altered, plans must be submitted for approval to the Crown if a province will undertake the construction, and to the provincial deputies in all other cases 196/. Managers of waterworks, the authority undertaking the construction, the head of the unit of the Public Works Department in the region where the works will take place and the interested municipalities can all appeal the decision of the provincial deputies to the Crown 197/. In cases of emergency, approval is not a condition precedent; however, the commencement of activities must be immediately announced to the authority whose approval is required 198/.

For works leading to land reclamation or the permanent protection of grounds or a waterbody from inundation, a concession of the Crown is mandatory unless the works are executed by the Central Government or by a waterboard by virtue of a provincial law 199/. To enable the public to express its views, the application for the concession is deposited, with all relevant information, in the provincial clerk's office and in the clerk's office of one of the municipalities in which the grounds are situated, for thirty days 200/. Subsequently, written objections presented to the Provincial Deputies can be discussed at a public hearing 201/. Plans for the Central Government works must follow the same procedure 202/, and the recommendations of the provincial deputies must be taken into account when a decision on the works is made 203/. The concessions are granted under necessary conditions to protect interests which can be prejudiced by the undertaking. Further, a security deposit can be required to finance the abatement of harmful effects if the works are performed in a faulty way 204/.

194/ Excavation Act, Art. 8.

195/ Central State Excavation Decree, 17 August 1971, Stb. 518, Art. 2. Provincial Regulations on Excavations in Groningen Province, Pbl. 1959, No. 40, Art. 3.

196/ "Waterstaats" Act, Art. 33.

197/ Ibid., Art. 35.

198/ Ibid., Art. 33, Subpara. 2.

199/ Act on the undertaking of Land Reclamation and Endykement, Art. 1.

200/ Ibid., Art. 3.

201/ Ibid., Art. 1.

202/ Ibid., Art. 1, Subpara. 4.

203/ Ibid., Art. 5 and Art. 1, Subpara. 1.

204/ Ibid., Art. 6.

The works constructed to close Lake Yssel and reclaim the land within it (Zuyder Sea Works) as well as the works constructed to close the estuaries between the Westerschelde and the Rotterdam Waterway (Deltaworks) were considered to be of such vital importance and were expected to have such far reaching consequences (both for the general management of water resources and for those economically dependent on the waters) that the Central Government did not consider it justifiable simply to comply with the procedures described above. Accordingly, it prepared a special legal authorization for the works in two Acts 205/ which entailed, among other things, a closer involvement by Parliament in the weighing of the different interests concerned. Supplementary Acts were introduced to provide compensation to those whose occupations were interfered with such as fishermen, mussel and oyster cultivators and shipping companies.

2. Permits for the construction of works in specific areas

In some areas, depending on the municipal land use plan, the construction of waterworks cannot be undertaken without permission of the College of the Mayor and Aldermen. The “construction permit” is required if the activities are inconsistent with the purpose of the land or waterbody as laid down in the land use plan 206/.

Very often the performance of activities in waterbodies or in the vicinity of waterstructures is prohibited without consent of the managing authority. Such prohibitions are created by Acts (e.g. the Rivers Act), Royal Decrees 207/ and provincial 208/, municipal 209/ and waterboard 210/ regulations.

(b) Waterworks Operation and Maintenance

The transfer of waterworks managed or maintained by the Central State to others and vice versa, can only be accomplished by law 211/. The Provinces can bring waterworks managed or maintained by others under their control after consultation with the present managers and with approval of the Crown. In such a case, those divested of the duty to maintain or to contribute to the expenses of the maintenance of the waterworks can be obliged to make yearly payments to the province 212/.

Waterboard ordinances and provincial regulations can also order the upkeep by private persons (users, owners, those profiting from a certain work) of water structures and waterways under their management. In case of a failure to perform such duties, especially after a directive has been issued, the manager can perform the duties himself and the negligent individual is billed for the charges 213/.

205/ Acts on the Closing of and Land Reclamation within the Zuyder Sea and Delta Act, respectively.

206/ Act on Land Use Planning, Art. 44.

207/ Act for the Enactment of Regulations, Art. 1.

208/ Provincial Act, Art. 90.

209/ Municipal Act, Art. 168.

210/ Act on Waterboard Ordinance, Art. 1.

211/ Water Management Act, Art. 1.

212/ Ibid., Art. 2.

213/ Act on the Competence of Waterboards, Art. 1, Subpara. 2.

If wrecks or other objects are found in public waters or are stuck in dykes, they can be cleared by the manager of the waterbody or waterworks, without liability for any damages caused by the clearing, if after due notice, those responsible for the wreck fail to take action 214/. To ensure recovery of expenses, the removal of objects from the wreck without authorization of the water authority is prohibited from the moment the necessity of the clearing away has been announced 215/.

(c) Waterworks Protection Measures

To control the use of water structures and waterways in order to attain their safe use and protection, the Central Government, the provinces, municipalities and waterboards can enact ordinances. Provincial regulations often relate to all water structures of a certain kind (“dyke ordinances”) or all waterways in the province or in a specific region, save those managed by the Central Government. In such cases the waterboard and municipal managers have the right to issue supplementary regulations. Control is achieved mainly through prohibition of certain activities within or in the vicinity of the water structures and waterways without consent of the water authorities and by prescribing rules for the traffic in waterways. The right to impose sanctions for infringement of these provisions may exist if provided for in a relevant Act.

Regulation of the control of water structures and waterways under direct management of the Central government is chiefly effected by the Act of 1891, the Royal Decrees based on the Act, and the Rivers Act. The Act of 1891 provides the framework (sanctions, etc.) for the Royal Decrees. Of these, the most important are the Dredge Decree, which prohibits dredging and other activities which disturb the bottom of the main rivers, Lake Yssel, the Waddensea, the Delta waters and the territorial sea, without a permit issued by or on behalf of the Minister for Transport and Public Works 216/. The Decree on Central State Structures for the Restraint of Seawater and the Decree on Central State Riverdykes in turn, require permit for activities in, against, alongside or in the vicinity of water structures. The General Decree on Rivers and Central State Canals which regulates navigation in the main waterways, requires permits for the abstraction of water and other activities in Central Government-managed canals. Further, various special decrees supplement the General Decree on Navigation in some important water areas. The Rivers Act also deals with protection of the main rivers and estuaries. This is done in the interests of navigation and the removal of high surface water. It is achieved through permits, issued by or on behalf of the Minister for Transport and Public Works, for most activities in the summer and winter beds of the main rivers 217/. Under the Rivers Act, permit applications may be refused, granted conditionally or revoked as required in the interests of navigation or the removal of high surface water 218/. In accordance with the aims of the Act, no permits are required for the elevation and strengthening of dykes and embankments which restrain high surface water 219/.

214/ Water Management Act, Art. 1.

215/ Ibid., Art. 2.

216/ Dredge Decree, Art. 3.

217/ Rivers Act, Arts. 4 and 5.

218/ Ibid., Subpara. 2.

219/ Ibid., Art. 5, Subpara. 2.

A special Act regulates the protection of waterworks in times of war 220/. Special authority is granted to the provincial deputies and the Minister for Transport and Public Works to take all measures which they deem necessary to prevent the harmful effects which can result from damage to and impediments in the use of waterworks due to warlike activities 221/.

XI. LEGISLATION ON THE DECLARATION OF PROTECTED ZONES OR AREAS

Plans formulating desirable developments in certain regions are prepared by the Central Government and the provinces and, to some extent, by the municipalities. The assignment of land and water to a certain use is laid down in municipal land-use plans. These plans come into being for the different parts of the municipality after a thorough procedure which guarantees an opportunity to be heard for all concerned. Since municipal land use plans must be submitted for approval to the Provincial Deputies, and this approval can be annulled on appeal by the Crown, the municipalities must take both Central Government and provincial plans into account when preparing their own land use plans. With regard to the contents of the plans, the Minister of Land Use Planning and Housing can give instructions to the provinces, who in turn can instruct the municipalities. Legal provisions are now being prepared to widen the possibilities of central control and accord the Central Government a direct authority to reserve certain land and water sites for particular ends.

The land-use plans are implemented by a permit system. Permits are required for the construction of buildings ("building" permit) and can be required for other activities which must be listed in the plan ("construction" permits). The permits are issued by the College of the Mayor and Aldermen and may not be granted if the activities are contrary or would be damaging to the use assigned to the land or water body by the plan. The decision of the College can be appealed to the Town Council.

The custom has also evolved whereby policy plans which have some bearing on the use of land and water areas are presented to the Second Chamber of Parliament before they are definitely handed down by the Central Government. This presentation is preceded by ample opportunities to receive the advice of interested parties and the general public. The presentation procedure has been given official status in the note on the Publicity of the Preparation of the Land Use Policy and is applied to plans for the development of a certain area (Note on the Waddensea) as well as to programmes for specific use of land and water (structure schemes). The Central Council on Land Use Planning also plays an important part: it delivers an extensive report on the policy plan after assessing public opinion by means of public hearings and the gathering of written suggestions. In light of the report of the Council, the Central Government generally introduces alterations of the plan before presenting it to Parliament.

If a waterbody (or a piece of land) has special value from a scenic or scientific point of view it can be declared a protected nature reserve by the Minister of Culture, Recreation and Social Work after consultation with the Minister of Land Use Planning and Housing. This declaration results in the prohibition of any activities which may cause damage or disfiguration to the area, without permission of the Minister of Culture, Recreation and Social Work.

220/ Act on the Protection of Waterworks in times of War.

221/ Ibid., Art. 1.

Specially protected areas around groundwater pumping stations can also be created by municipalities through land use plans. However, as the land use planning provisions do not guarantee full protection, some provinces have introduced supplementary regulations to protect these areas. Various provinces have also issued regulations to protect the use of special recreation areas for purposes such as swimming, pleasure boating and fishing. In some regions the regulations are issued by special "recreation" boards in which different municipalities, provinces and waterboards are represented.

With a view towards improvement of the suitability of the land for agriculture, horticulture, cattle breeding and forestry, the Reallotment Act provides for the possibility of reapportioning certain areas. Among other things, reallotment usually involves measures for the improvement of the hydrological state of the region with the construction or amelioration of the drainage and surface water supply system. A request for reallotment can be made either by one fifth of the landowners of the area involved, the Central Government, provinces, municipalities, waterboards or agricultural boards and must be submitted to the provincial deputies. They, in turn, consult the Central Culture-Technical Commission. After a procedure which involves public inspection and comments on the main features of the plan, the provincial deputies lay down a provisional reallotment plan and submit it to the landowners and lessees for voting. The provisional plan is passed if a majority of the landowners and lessees of the area vote in favour of it. The final plan is then prepared by a local commission, appointed by the provincial deputies, of which at least one landowner and one lessee are members. Finally, the provincial deputies adopt the plan, with their decision being appealable to the Crown. A local commission supervises the implementation of the plan.

XII. GOVERNMENT WATER RESOURCES INSTITUTIONS AND ADMINISTRATION

(a) At the National Level

1. The Crown

Together with Parliament, the Crown is responsible for basic legislation (Acts) 222/. The Crown can issue Royal Decrees on all matters; it is dependant upon an Act to provide the basis for penal sanctions, however 223/. The foundation for the Royal Decrees on protection and regulation of the use of waterworks and waterways under direct management of the Central State, for instance, is provided by the 1891 Waterworks Act. In such a case the Act contains only the framework; the issuance of implementing regulation is left to the Crown.

As supreme executive power 224/, the Crown supervises the legislative and executive activities of lower state authorities (provinces and the water boards). Various provincial regulations - those establishing waterboards 225/ and implementing the Surface Water Pollution Act 226/ for instance - must be submitted to the Crown

222/ Constitution, Art. 82.

223/ Ibid., Art. 44.

224/ Ibid., Art. 42.

225/ Provincial Act, Art. 100.

226/ Ibid., Art. 165.

for approval. The Crown may also overrule decisions and provisions of the different provincial bodies 227/ when they are in conflict with an Act or the public interest. Many legislative provisions open the possibility of appeal of the decisions of lower administrative authorities (ministers, provinces, waterboards) to the Crown.

In addition to its direct administrative responsibilities, the Crown nominates the most important executive authorities - Provincial Governors 228/, and Governing Boards of waterboards) - entrusted with duties relating to sea or river defence 229/. Further, the Crown arbitrates disputes between lower administrative units 230/ including provinces and waterboards; and if provinces refuse to cooperate or cannot agree on the provision of a common interest in the field of water management (e.g. establishment of an interprovincial waterboard) the Crown intervenes 231/. supervision of water managers, intervention in cases of neglect, the demolition of undesirable works and intervention in cases of emergency, have been entrusted by law to the Minister for Transport and Public Works.

2. The State Council

The State Council is an advisory body consulted by the Crown on all legislative and supervisory matters. It has independent judicial powers in cases resulting from administrative statutory law. Thus, where legislative provisions have not provided for an appeal to the Crown or a common law court the case can be submitted to the State Council 232/.

3. The Minister for Transport and Public Works

This Minister bears the general responsibility for the policy of the Central Government in the fields of water quantity, quality management and navigation. His duties involve the preparation of Acts and Royal Decrees which establish policy plans such as structure plans for navigable waterways and five-year plans for the combat of surface water pollution. He is often entrusted with legislative implementation of these policy plans and is specifically responsible for the enforcement of those Acts and Royal Decrees concerning waters which are under the direct management of the Central State. The Minister supervises the installation of waterworks by lower level water managers and intervenes in cases of neglect 233/ or the construction of undesirable works 234/. He also has special competency in the event of floods and war 235/.

227/ Provincial Act, Art. 165.

228/ Ibid., Art. 52.

229/ "Waterstaatswet 1900".

230/ Constitution, Art. 136.

231/ "Waterstaatwet 1900".

232/ Act on Administrative Jurisdiction of Government Decisions, Art. 7.

233/ "Waterstaats" Act, Arts. 38 and 39.

234/ Ibid., Arts. 37 and 39.

235/ Ibid.; Act on the Protection of Waterworks in Times of War.

The ministerial department has various divisions, including the Commission for Transport licences (which issues licences for the transport of goods by ship from one inland port to another) and the Directorate General for Navigation and the Public Works Department.

3.1. Public Works Department (Rijkswaterstaat)

This department is the apparatus of the Minister for Transport and Public Works in the execution of his tasks in the field of water management. Among other things, the department acts as the Minister's agent for the management of the larger rivers, estuaries, the territorial sea, shipping canals and Central State waterworks. It issues permits, provides for construction and maintenance and supervises lower level water managers. It is divided into nineteen different regional and functional units, each headed by an engineer-director. The Director General for water management and his staff are in charge of the overall management of the Department 236/. one of the functional units is the Government Institute for the Purification of Waste Water (RIZA) 237/, which is consulted whenever a permit is requested for the discharge of effluent into Central State Waters 238/. The institute conducts research into the quality and control of surface water and possible methods of prevention of pollution and makes recommendations to the various water quality managers on that subject 239/.

4. The Council on Transport and Public Works

This is an advisory body to the Minister for Transport and Public Works on questions concerning water management, this Council was created by an amendment of the "Waterstaatswet" in 1950 240/. Its members are all people of longstanding experience acquired in high ranking positions, such as minister, president of a district court, professor of economics or law provincial deputy, etc. They are appointed by the Crown. The council is assisted in its task by various permanent and special commissions 241/. The Surface Water Pollution Act requires consultation with the Council by the Minister and the Crown on all important matters 242/.

236/ Royal Decree, Art. 4.

237/ Ibid., Art. 7, Subpara. 3.

238/ Royal Decree on the Implementation of the Surface Water Pollution Act on Central State Waters, Art. 7, Subpara. 3.

239/ Surface Water Pollution Act, Art. 32.

240/ Water Management Act, Art. 5.

241/ One of the more important of these is the State Commission for Water Law. Another is the Commission for Water Pollution, instituted in 1968. Besides representatives of different ministerial departments, the Commission includes representatives of the Union of Waterboards, the Society of Dutch Municipalities, provinces, VEWIN, agricultural and industrial organizations, the Netherlands Society for Waste Water Purification and an institution in the field of nature protection.

242/ Art. 4, Subpara. 3 (Preparation of the Royal Decree on implementation of the Act in Central State Waters), Art. 33 (laying down a five-year plan), Art. 15 (Council is heard by Crown when deciding an appeal), Art. 5, Subpara. 3 (Proposals on whether or not to approve implementing regulations of lower quality managers).

5. The Coordination Commission for Surface Water Pollution

Initiated by the Minister for Transport and Public Works, the Coordination Commission was established in 1973 to promote a coordinated approach to implementation of the Surface Water Pollution Act by the different authorities responsible for water quality management. Its members include representatives of interprovincial bodies and the Union of Waterboards.

6. Minister for Land Use Planning Health and Environmental Hygiene

Entrusted with the coordination of government policy concerning environmental hygiene, this Minister is responsible for preparing royal decrees in the area of water pollution, i.e. general standards for the quality of surface water to be used for water supply, bathing and other purposes. The Surface Water Pollution Act calls for consultation with the Minister on all important matters including five-year plans 243/, Royal Decrees and approval of implementing regulations of lower level water quality authorities.

In more general terms, the Minister for Public Health and Environmental Hygiene bears responsibility for assuring the adequacy of public drinking water supplies. To this end, he supervises the preparation of a long term plan ("structure scheme") for an industrial and drinking water supply. The Minister also prepares the Acts and Royal Decrees on the subject of domestic and industrial water supplies and is also entrusted with some legislative implementation. For the supervision of water supply companies, the Minister makes use of regional medical and environmental hygiene inspectors who work for the Director General for Public Health and the Director General for Environmental Hygiene 244/.

7. The Government Institute for Public Health

A third division of the Ministry for Land Use Planning, Health and Environment is the Government institute for Public Health. The Institute among other things, tests samples of unprepared and prepared water of all public water supply companies each year.

8. The Government institute for the Public Water Supply

Besides the preparation of legislation and policy plans the Institute (which was founded in 1913 to promote water supply in highly populated areas) is engaged in research, and advises both the Minister and the water supply companies on questions relating to water supply.

Legislation and long term policy plans in the field of public water supply are prepared by the Government Institute for the Public Water Supply, which is placed under the Directorate General for Environmental Hygiene. This same Directorate bears the main responsibility for the promotion of water supply interests in the ministerial department. The director of this section is also director of the Government Institute for Public Water Supply.

243/ Surface Water Pollution Act, Art. 33, Subpara. 3 and Art. 5, Subpara. 3.

244/ Water Supply Decree, Art. 2.

9. Commission for the Act on Groundwater Extraction for the Public Water supply

A commission of experts in the field of water management, geohydrology, agriculture, forestry and land and nature conservation appointed by the Crown, it is consulted by the Minister for Land Use Planning, Health and Environment on questions relating to extraction of water by public water supply companies 245/. It also issues recommendations on the compensation of damages resulting from such extractions 246/. This function will be fulfilled by a technical commission under the aegis of the new Groundwater Act in 1983.

10. The Minister for Agriculture and Fisheries

The Minister for Agriculture and Fisheries is responsible for the policy of the Central Government in connection with fisheries. He prepares Acts and Royal Decrees on the subject and is entrusted with part of the legislative implementation and the execution of the Fisheries Act 247/, including the preparation and implementation of most of the Ministerial blue prints which set limits and target values for fresh surface water intended for fishing. The Minister for Agriculture and Fisheries is also responsible for the Central Government policy on reallocation of land 248/. Aimed at more equitable use of the land for agricultural, forestry and cattle-breeding purposes 249/, reallocation often involves an improvement of the hydrological state of the reallocated area. The Minister is assisted in this task by the Culture Technical Service of this department.

10.1 The Culture Technical Commission

A Commission whose membership includes representatives of several ministerial departments (Finance, Transport and Public Works, Land Use Planning, Housing and Environment, Welfare Health and Culture, and of Home Affairs and Social Affairs) is charged with the overall supervision of reallocation plans and advises the Minister on related questions (e.g. water management in the interest of agriculture).

10.2 The Chamber for Inland Fisheries 250/

By supervising the transactions which grant a right to fish to others than the owner of the water area, the Chamber ensures adequate fishing in available fishing grounds and protects professional fishermen against high prices. The members of the Chamber are appointed by the Crown from lists of candidates proposed by organizations of professional fishermen, recreational fishermen and the owners of fishing rights 251/.

245/ Act on Groundwater Extraction for the Public Water Supply, Art. 3.

246/ Ibid., Art. 20.

247/ Fisheries Act, Art. 1, Subpara. a).

248/ Act on Reallocation of Land, Art. 1.

249/ Ibid., Art. 2.

250/ Fisheries Act, Art. 45.

251/ Ibid., Art. 47.

10.3 Organization for the Improvement of Inland Fisheries 252/

The task of the Organization is to effect the improvement of inland fisheries by such measures as the breeding, purchase, sale and the planting of fish 253/. Its activities are financed with the proceeds of contributions to the improvement of inland fisheries paid by all those engaged in inland fishing 254/. The governing body of the organization consists of nine members appointed by the Minister of Agriculture and Fisheries, one third of whom are proposed by organizations of professional fishermen, and one third by organizations of recreational fishermen 255/.

11. The Minister for Housing and Land Use Planning

The Minister for Housing and Land Use Planning bears the main responsibility for government policy on land use planning 256/. He prepares national plans on the subject (e.g. Note on the Wadden Sea) and instructs the provinces on the contents of regional plans, and provincial instructions to the municipalities. He can also veto municipal land use plans by instructing regional inspectors for land use planning to appeal to the Crown decisions of the various provincial deputies who grant plan approvals 257/.

He is assisted in his tasks by the Government planning Service 258/ which employs the regional inspectors. He also receives advice from the Central Advisory Council on Land Use Planning 259/, which consists of experts and representatives of interest groups, and the Government Planning Commission 260/ which promotes interministerial coordination in this domain. Beside advising the Minister for Housing and Land Use Planning, the Central Advisory council on Land Use Planning is consulted by the other Ministers on policy intentions which could affect general land use planning policy.

The minister is represented on various commissions 261/ in the field of water resources management and must be consulted by the Minister for Culture, Recreation and Social Work when the latter contemplates the creation of a protected nature reserve.

12. The Minister for Welfare Housing and Environment

This Minister bears the main responsibility of Central Government policy on recreation. To this end he supervises the preparation of a structure scheme on Recreation which could eventually lead to the reservation of water areas for recreation

252/ Fisheries Act, Art, Art. 38

253/ Ibid.,

254/ Ibid., Art. 14

255/ Ibid., Art. 39.

256/ Act on Land Use Planning, art. 2, subpara. 1

257/ Ibid., Art. 29

258/ Ibid., Art. 52.

259/ Ibid., Art. 54.

260/ Ibid., Art. 51.

261/ Ibid., Art. 38.

purposes. He grants subsidies to waterboards and other water authorities pursuing recreational interests. Furthermore, a water body can be declared a protected nature reserve by him. He is represented on various commissions in the field of water resources management.

(b) At the Provincial Level

Within each province, the provincial government can provide for and regulate all matters which have not been provided for by Acts or Royal Decrees 262/. This includes the management of water areas of secondary importance, the construction and maintenance of waterworks and structures (this task can also be entrusted to the water boards) and groundwater quantity and quality management not covered by the Groundwater Act on that subject. Apart from the foregoing, the provinces, are also charged by the Constitution with the supervision of all waterworks in the sector of water management which are not under direct management of the Central State 263/. They are granted the right to establish, abolish and regulate the functions and organization of the waterboards and exercise general supervision over waterboards 264/ and municipalities 265/. An Act is being prepared which will abolish the 11 existing provinces and divide the country into smaller regions. These regions will perform their activities in the field of water management (including the establishment and supervision of waterboards) in teams called watercircles. For the discussion and promotion of issues of common interest the provinces have established the "IPO" (a body whose function it is to promote interprovincial deliberation). Representatives of the provinces and advisory boards to the Central Government are usually appointed by the IPO.

1. Provincial Representatives

This body, chosen by the inhabitants of the province, issues necessary regulations for the benefit of the provincial territory 266/ including the implementing regulations and plans required by different Acts 267/. With the concurrence of the Crown, the provincial representatives establish and reorganise waterboards and regulate their duties, authority and constitution 268/. They are also entrusted with the supervision of waterboards but typically delegate this task to the provincial deputies in most cases 269/.

2. Provincial Deputies

Chosen by the Provincial Representatives out of their number 270/ the provincial deputies are entrusted with the day-to-day management of the province 271/. This includes implementation of the decisions and regulations issued by the

262/ Provincial Act, Arts. 80, 81 and 90.

263/ Constitution, Art. 206, Subpara. 1.

264/ Ibid., Art. 206, Subpara. 2.

265/ Municipal Act, Arts. 184 and 198; Provincial Act, Art. 120.

266/ Provincial Act, Art. 90.

267/ Ibid., Art. 95, Subpara. 2.

268/ Ibid., Arts. 98 and 100.

269/ Ibid., Art. 99.

270/ Ibid., Art. 29.

271/ Ibid., Art. 101.

provincial representatives 272/. Many acts charge the provincial deputies with the execution of their provisions (e.g. issuance of permits, enforcement, etc.); and in some cases, the deputies must base their actions on implementing regulations issued by the provincial representatives. Many legislative provisions entrust them with the revision, on appeal, of decisions of the waterboards and municipalities 273/; in some instances, they are also requested to grant their approval to the more important regulations and decisions of the water boards 274/, and the municipalities 275/. Typically, the Provincial Deputies override waterboard regulations and decisions in conflict with an Act, a Royal Decree, a provincial regulation, the public interest, the provincial interest or the interest of another waterboard 276/. They also bring to the notice of the responsible Minister any regulations or decisions of the Town Council and the College of the Mayor and Aldermen which they consider contrary to an Act in the general public interest 277/. In cases of neglect, they order the execution of necessary waterworks by the authority responsible, and can order the suspension of unwarranted activities. Partly by means of their supervisory powers, and partly by mediation 278/, the Provincial Deputies try to prevent clashes and resolve disputes between waterboards and municipalities. If unsuccessful, the Crown adjudicates.

3. Provincial Governor

The Governor is appointed by the Crown 279/. Besides being the Head of the provincial government, he is also the representative of the Crown and the channel through which supervision by the Crown is effectuated. He brings to the notice of the appropriate minister any decisions of the provincial representatives or deputies which he considers contrary to an Act or the general public interest 280/.

4. Provincial Commissions

To assist them and the Provincial deputies in their various tasks the Provincial Representatives can establish commissions 281/. The most important of these are the Provincial Water Management Services which assist the provincial government in their supervisory task in the field of water management and the execution of works under their direct management. Some commissions are instituted at the direction of an Act.

272/ Provincial Act, Art. 103.

273/ Provincial laws establishing waterboards, provincial regulations, municipal regulations, Art. 12. Surface Water Pollution Act.

274/ “Keukren” Act, Art. 7. Provincial laws establishing waterboards.

275/ Municipal Act, Art. 228; Act on Land Use Planning, Art. 28.

276/ Water Management Act, Art. 22.

277/ Provincial Act, Art. 120.

278/ Ibid., Art. 121.

279/ Ibid., Art. 52.

280/ Ibid., Art. 170.

281/ Ibid., Arts. 64 and 65.

The permanent commissions for advice and assistance required by the Surface Water Pollution Act 282/, and the future Provincial Groundwater Commissions 283/ are examples.

(c) At the Local and Regional Level

1. Waterboards

In the same way that the central government - as a water-authority - bears responsibility for executing activities regarding water quality and quantity, the waterboards at the regional or local level are an essential element in all matters concerning the hydrological system. Provinces are an authority on the intermediate level. However, their role in executing policy is limited because hydrological borders in many respects do not correspond with provincial borders, which have largely developed from territorial inheritances and disputes dating from the middle ages. This disadvantage can be overcome by the establishment of waterboards whose territory is interprovincial. Indeed, there are now about 200 waterboards territories collectively cover nearly the entire surface of the Netherlands.

As was stated earlier, waterboards are in fact the oldest public authorities in the Netherlands, dating back to the 10th century. Since the constitution of 1815, however, when provinces were created, the competence of the waterboards has been constitutionally confined to “waterstaats”, i.e., to all matters dealing with protection against flooding and the drainage-system (water-quantity and water quality). Although the provinces since 1815 bear the primary responsibility for “waterstaat”, they do not fulfill this task themselves, but generally use waterboards as an “instrument”. This use occurs according to the leading principle in the Dutch system of public administration that competence ought to “decentralize” to the level where work can be done best. The advantage of this system is that the distance between the competent authority and those who benefit from it -landowners, farmers, industries and households - is as small as possible. On the other hand, the waterboard can charge for the costs incurred in a specific territory for a specific task (for instance drainage) according to the estimated individual interest of those benefited. In this way, waterboards administer their own tax system, which makes them on the whole self-supporting.

Generally, a waterboard is a representative body whose members are appointed or nominated by election. Voting rights are conferred only to those who are levied upon or to those who are considered to be representative of certain categories of taxpayers. For instance the town council can appoint members representing those who own or rent houses and other buildings. The same applies to the Chamber of Commerce as representative of commerce and industry in the waterboard). The Chamber in most cases is entitled to nominate one or more members of the representative body of the waterboard.

The statute of a waterboard offers the legal basis for the above-mentioned levies and for the enactment of ordinances and the penal sanctions attached to their infringement. All levies and ordinances of the waterboards must be submitted to the province or provinces for approval. The decision to grant or to refuse such an approval can be appealed to the Crown.

282/ Surface Water Pollution Act, Art. 5.

283/ Groundwater Act, Art. 7.

Generally, waterboards have no administrative or legal powers in the field of groundwater-abstraction, although such abstraction may have direct influence upon the drainage-system or may be dependent upon surface water management by the waterboards. Groundwater on the other hand is of vital importance for the environment. Because attention has been drawn to the effects of large scale groundwater-abstraction, provinces have generally assumed this responsibility and have been specifically delegated this authority by the new Groundwater Act. Waterboards are, however, notified of applications for permits, are represented in advisory bodies dealing with such applications and have the right to appeal.

Since 1960, waterboards in most provinces have been entrusted in a more explicit way with surface water quality control and control over purification of waste water. In practical terms this means that they exercise the special executive powers provided by the Surface Water Pollution Act. For reasons of efficiency some new waterboards were created by provinces - the so-called "purification boards" - three of the seven provinces however take charge of this task themselves, not leaving it to the waterboards. The purification-boards often comprise the territory of several waterboards, which are themselves often represented on the purification-boards.

The central government (Minister of Transport and Public Works) as the highest administrative resort in water-law supervises all matters concerning the way provinces organize water management in their territory, including establishing, amalgamating or even abolishing waterboards, supervising water administration on a provincial level and the executing of the provincial legal powers by amending waterboard-statutes. To achieve a greater uniformity and cohesion of provincial policy toward waterboards and to establish the acquired basic principles for waterboards as an institution inherent in the Dutch administrative system, the 1983 Constitution makes it imperative that, parallel to the Provincial and Municipal Law, there will be a Waterboard Law. The preparation of that law is now in full progress.

2. Municipalities

Municipalities do not play a particularly important role in the prevailing system of water law; their task is confined to the construction and maintenance of sewerage systems and the management of harbours. In the past, many town-councils have taken the initiative to construct (or develop plans for installation of) wastewater purification or treatment plants, but the national and provincial policy is now that these municipal activities should be taken over by a waterboard. To a very great extent, this has already been effectuated.

3. Public Water Supply Companies

Public water supply companies are generally organized according to provincial plans made subject to approval by the Crown. The companies are operated by the Central Government, municipalities (73), provinces (1), foundations (5), State limited liability companies (14) and private owners (5). Each water supply company has the obligation to distribute water in the area assigned to it of the quality, in the quantity and under the pressure necessary to satisfy the requirements of public health. Under the Groundwater Act, the companies will be notified of projected intakes and infiltrations in their area.

(d) At the International Level

The regime of international water resources between the Netherlands and the countries situated in her vicinity is regulated by a number of bilateral and multilateral agreements. These provide a framework for cooperation on questions of common interest.

1. Dutch/Belgian Border

There are two international rivers of common interest to both Belgium and the Netherlands: the Maas and the Scheldt. The outlines of the international statute dealing with them is set forth in the Separation Treaty laid down in 1839 and amended several times thereafter. The Maas is essential for navigability of the canal-system in the southern part of the country. The Scheldt is essential for the accessibility of the Port of Antwerpen. Nevertheless, the international regime is insufficient to cope with present day developments, now that public-water supply in the Netherlands has become largely dependent upon the quality of Maas-water. Moreover, the navigability of the Scheldt (Westerschelde) has to be improved in view of extensive planned industrial development in the area of Antwerpen. Although negotiations have been pursued, the achievement of new treaties for both the Maas and the Scheldt remains distant, owing to an internal conflict of interests in the federal structure of Belgium. Since 1975 there has been a deadlock.

In 1978, a Dutch-Belgian Commission was established to study and discuss matters of mutual interest arising from the extraction of groundwater in the frontier zone and the water management of small rivers. The Commission meets every six months.

2. Dutch/German Border

In 1963, a Permanent Boundary Waters Commission was set up under the aegis of the Dutch-German Border Treaty 284/ which contains a general agreement concerning all territorial claims and matters that are subject to close cooperation on a “transfrontier” level between the two countries. The provisions in the chapter “Boundary Waters” 285/. Of that treaty offer a number of advanced rules 286/ international water-law (to compare with the so-called “Helsinki Rules”). For instance, it is stipulated that authorities competent in preparing and carrying out measures in the field of water management shall take into account each other's interest and shall avoid anything which may interfere with those interests. To that end, the other party must be consulted in due time on plans regarding such matters as the hydrological regime of rivers, dewatering of areas in the frontier zone or the closing of canals.

The Treaty also provides for a framework for prior consultation. To establish a forum for talks on water management on a local level, the Permanent Boundary Commission has not less than 15 subcommissions in which the involved authorities are represented.

284/ Dutch-German Boundary Treaty (published in “Tractantenblad” 1961, No. 68, Chap. IV., Art. 66.

285/ Ibid., Chapter IV.

286/ Ibid., Art. 58.

These subcommissions meet at regular times while the Permanent Commission itself meets twice a year to discuss matters that could not be solved on the local level. If a dispute arises, no plan can be carried out and the case has to be brought to a special arbitration court 287/ as provided in the Treaty.

Also under the Treaty, public works such as the improvement or alteration of riverbeds, have to be undertaken cooperatively by those authorities whose immediate interests are involved. Costs have to be shared in proportionally. Another provision of the Treaty states that if one party benefits from a specific measure taken by the other party on its own territory the latter is entitled to a reasonable contribution.

It should be noted further that public authorities - provinces, waterboards - have the right 288/ to conclude agreements with their German or Dutch Counterparts, for the implementation of the principles of water-law set forth in the Treaty. Those agreements are prepared in the aforesaid subcommissions. To enter into force the agreements need the approval of both national governments on an advice of the Permanent Commission. This has proved to be a highly efficient procedure, and some 20 agreements now exist.

Finally, although groundwater-management is stricto sensu beyond the commissions' competence, plans for extractions that can be of considerable influence on the groundwater level on the other side of the border and cause transfrontier damage, are put on the agenda by common consent.

3. Rhine

In 1950 the four countries bordering the Rhine and (Luxembourg) 289/ established an International Commission for the Protection of the Rhine against pollution. It was given legal authority by a Treaty signed in 1963 290/. Recently the activities of the commission were enhanced by the completion of three treaties in Bern on 3 December 1976, signed by the five border countries, and the EEC. The first of these treaties supplements the 1963 Treaty 291/, the second is aimed at protection of the Rhine from chemical pollution 292/ and the third at lowering the salt percentage of the water 293/. The International Commission is charged with drawing up permit and discharge standards, and will fix the maximum tolerable levels of pollution. It is expected that national programmes will be harmonized by deliberation within the Commission, when the treaties are ratified.

Freedom of navigation on the Rhine is guaranteed by the Revised Treaty on the Navigation of the Rhine signed by interested countries in 1868 in Mannheim 294/. The treaty obliges border countries to ensure the navigability of the river 295/. To control and regulate navigation, to deal with complaints and to adjudicate

287/ Dutch-German Boundary Treaty (published in "Tractatenblad" 1961, No. 68, Chap. IV., Art. 69.

288/ Ibid., Art. 59, Subpara. 2.

289/ Switzerland, France, Germany, Netherlands, Luxembourg.

290/ Treaty of Bern, Treaty Paper 1963, No. 104.

291/ Treaty Paper 1977, No. 31.

292/ Ibid., No. 32.

293/ Ibid., No. 33.

294/ The Treaty was amended by the Treaty of Strasbourg of 20 November 1963.

295/ Ibid., Art. 28.

disputes arising out of the implementation of the treaty, a Central Commission for Navigation on the Rhine was created. Members of the Commission are appointed by the Different interested countries. The regulations on the Navigation of the Rhine were reviewed in December 1982. They were declared binding over the Dutch section of the river by Royal Decree issued in July 1983.

4. The European Economic Community

Established by the Treaty of Rome of 25 March 1957 to promote the economic interests of its members, the European Community has, since the end of 1973, pursued an active programme on questions concerning the environment. The action programme opens the possibility of creating common quality standards for all member countries. In the field of water management, standards have been fixed for the quality of surface water intended for the production of drinking water supplies 296/, for the quality of open water for swimming purposes 297/ and for maximum tolerable levels of pollution by certain dangerous substances which are being discharged into Community water areas 298/. For the proper implementation of those guidelines (directives) through the Dutch water management system, the Surface Water Pollution Act has been enlarged in accordance with the suggestions of lawyers of the EEC Commission in 1981.

XIII. SPECIAL AND AUTONOMOUS WATER RESOURCES DEVELOPMENT AGENCIES

The Society of Undertakers of Water Supply Companies (VEWIN)

This organization comprises all managers of water supply companies, and it monitors the interests of public water suppliers in the technical, economical and organizational spheres. Its various commissions conduct research, control water meters, organize training courses and hold examinations in the technical science of water supply. The VEWIN was consulted regularly when the Structure Plan (which sets forth general principles for long term planning - 40 years -) for Industrial and Drinking Water Supply was being prepared and it will be charged with the drafting of ten-year plans for the short term implementation of the structure plan 299/. It is represented on various advisory boards to the Central Government. Together with the organizations of water supply branches in other EEC countries, the VEWIN forms EUREAU, a deliberative partner of the European Commission and its organs in the field of public water supply.

The Rhine Commission of Water Supply Companies

A Union of the water supply companies directly or indirectly making use of Rhine water, it was formed with the aim of controlling and, if possible, abating pollution of the Rhine. The Commission cooperates with similar commissions in West Germany and Switzerland.

296/ Directive of 16 June 1975, No. 75/440 EEC.

297/ Directive of 8 December 1975, No. 76/100 EEC.

298/ Directive of 4 May 1976, No. 76/464 EEC.

299/ A structure plan ("structuurschema") has no binding force in terms of law. It indicates the effect for regional development; it is discussed in Parliament where it can be "amended"; and it is to be used as a touchstone for future policy. Therefore it is to be reviewed every 5 years.

The Foundation on Nature and the Environment

Among other things, it reviews government policy in water management in an expert and critical way. It prepares contra-reports and provides expert aid to campaign groups and those wanting to appeal government decisions in this field. The foundation receives grants from the Ministry for Public Health and Environmental Hygiene. It consists of a governing body, a secretariat and environment federations in each province. It is represented in law-based permanent advisory bodies (to the Central government) for policy on both watermanagement and environment.

The Foundation for Pure Water (Rhinewater) and the Rhine Appeal Committee

They both aim at improving the quality of the Rhine's water. They further this aim by, inter alia, stimulating the public interest (for instance, in 1977, a protest cycle tour along the Rhine), encouraging and organizing cooperation between the various national and foreign institutions with authority in the field (they helped to organize the The Hague Rhine Conference in February 1977 in which members of parliament of the Rhine border countries and representatives of the Council of Europe took part) and prosecuting legal actions. The most spectacular of these legal actions is the lawsuit which is being litigated by the Foundation for Pure Water against the potassium mines in France. The competence of the Dutch courts to adjudicate this matter was acknowledged by the EEC Court in Luxembourg in November 1976. However, the case is in 1983 still pending in district-court; the problem being the proof of a direct relationship between discharges and the amount of damage caused to the plaintiff.

XIV. LEGISLATION ON WATER RESOURCES DEVELOPMENT FINANCING

(a) Government Financial Participation and Reimbursement Policies

(i) Central Government

The Minister of transport and Public Works who is responsible for the Central Government's various tasks in the field of water management is empowered to pursue tasks from funds made available through the budget approved by Parliament. An item is included in the budget which enables the Minister to grant subsidies to the waterboards (to bring sea and river dikes to the necessary higher level). For the discharge of waste water into water-areas which are managed by the Central government, a charge is levied. The Central Government does not operate purification-installations itself. Instead, revenue is reimbursed (distributed) among the waterboards which bear direct responsibility for purification and also for discharges (direct or by a sewage-system) into state-waters within their territory 300/. To some extent the Ministry of Agriculture grants subsidies for objects of special interest, i.e. dewatering of areas for farming, and research in the field of groundwater management.

(ii) Provinces

The various provinces finance their tasks in the field of water quality management (including construction, maintenance and control of different waterworks, ensuring the navigability of waterways, etc.) through an annual allowance from the Central Government and from the revenue generated by provincial taxes. Under the

300/ Surface Water Pollution Act, Art. 23.

Groundwater Act, the provinces will be able to subject all those extracting groundwater to a levy to cover the expenses related to exploration incurred by the provinces. To cover the expenses of any measures for the abatement and prevention of surface water pollution, the province also subjects all those discharging oxygen consuming substances and certain heavy metals into water areas to a levy.

(iii) Municipalities

The work of municipalities in the field of water management is in fact limited to construction and maintenance of sewerage systems. This is financed through general municipal means. As in the case of the provinces, these means consist of an annual allowance from the Central Government (Ministry of Welfare Health and Culture) and revenue generated by municipal contributions. 301/.

(iv) Waterboards

The waterboards finance their activities by demanding contributions of those who profit from them. Traditionally, these were the owners of the land (or those who had obtained a right of usufruct or long-lease of the land) situated in the region of the waterboard. Nowadays, however, many waterboards include the owners of buildings in the region in the apportionment system. In some cases, such as the maintenance of dykes of vital importance for protection against the sea, where it is clear that not only land-owners' interests are at stake the waterboards will receive a subsidy from the Central Government (Ministry of Transport and Public Works). In some cases, the subsidies are granted for no other reason than to prevent intolerable increases in waterboard charges. The construction of water works having for their purpose the improvement of agricultural land is subsidized 50 - 60 percent by the Ministry of Agriculture and Fisheries. If a waterboard incurs extra expenses to prevent harm to an area of natural interest or to provide recreation facilities, the Ministry of Welfare, Health and Culture may provide compensation in part.

Under the Surface Water Pollution Act, the costs of water quality management (meaning principally the prevention or abatement of pollution by waste water discharges) are apportioned to those discharging waste water ("polluters pay" principle).

(v) Public Drinking Water Supply

The water supply companies generally finance their own expenses from revenues raised through water rates. However, in densely populated areas, the companies receive subsidies from the Central Government (Ministry of Welfare and Culture), the provinces or municipalities, to make the supply of water possible at reasonable rates.

(b) Water Rates and Charges

(i) Water Rates

Water supply companies either calculate a fixed rate from factors such as the number of rooms, bathing facilities and size of garden or they install water meters. In some cases the diameter of the supply pipe is decisive of the charge. The level of the rate is based on an apportionment of the cost of producing and distributing the water.

301/ Municipal Act, Art. 276.

(ii) Waterboard Levies

In the case of land, the basis of the calculation of the levy is usually the surface area and sometimes the value of the property, in the case of buildings, the value is usually decisive. Many waterboards use a classification system in which properties are placed in units according to their interest in the activities (or each different activity) of the waterboard. This, together with the size or value of the property decides the share of the waterboard expenses which have to be contributed.

(iii) Pollution Levies

The basis for calculation of the levy is the polluting character of the discharge and/or the quantity of the pollutants discharged. The oxygen consuming degree of the discharge typically forms the standard of measurement of the polluting quality of waste water. This degree is expressed in "inhabitant equivalents"; one inhabitant equivalent being the approximate amount of oxygen-consuming pollution caused by the discharges of one person per day. Dwellings are deemed to have a standardized number of "inhabitant equivalents" by the different implementing regulations. At the moment the number is generally 3 for households and 1 for people living alone. The so-called "inhabitant equivalent" is used as the pollution unit for all types of waste water discharge including also those of industrial origin. The number of "inhabitant equivalents" applicable to other discharges is derived either by direct measurement or (only for small discharges) from tables stating the approximate pollution values of discharges by different industries and other activities which are included in the regulations implementing the Surface Water Pollution Act. The levy for the discharge of heavy metals is calculated according to the amount of pollutant discharged in a certain period of time.

So far no special levy has been introduced for the discharge of heavy metals into the main rivers, lakes and other waterways managed by the Central Government.

The amount of the levy is calculated by taking the construction-cost of planned purification-installations, the maintenance cost of the existing ones, and the number of "inhabitant equivalent" to be paid by the dischargers. Tariffs of levies imposed by waterboards (and in some cases by provinces) need the approval of the Central Government. The tariff may vary considerably in the respective areas, depending on such factors as the expenses incurred by waterboards. However, since the Central Government does not operate purification-installations but simply reimburses the funds - derived from levies on discharges to state-waters - to the waterboards in general, there is a uniform tariff for the levy imposed by the state authority. However, the state-levy has to be approved by the Ministry of Finance which has control of the total burden of taxes on the tax-payer. Since 1972, revenue from the levy on discharges to state-waters has been 2 billion guilders (from other discharges more than twice that amount). In the context of the effort to decentralize, the possibility of bringing this task to the provincial level is being closely studied. On the other hand, proposals from industry and consumers to abolish the levy, so that total costs would be borne by the budget, have been without success.

XV. WATER LAW IMPLEMENTATION

(a) Juridical Protection of Existing Water Rights

Juridical protection of the ownership of land and water and the rights attached to or derived from this primary right is provided by provisions in the Civil and Penal Codes. If a dispute arises between the owner of a waterbody and a riparian user of water the Civil Code generally instructs the court to attempt a reconciliation of the interests of agriculture with those of the inviolability of the right of ownership. Important in this context is the provision of the Civil Code which imposes the obligation to compensate any damages caused by an unlawful deed. From unlawful deeds and deeds contrary to the rights of others as determined by law, this notion has been expanded by jurisprudence to cover all acts which are contrary to that which is considered due and owing to other people's property, rights and person. Since 1939, besides compensation for damages, it is possible to request a Court order enjoining damaging or annoying activities.

(b) Modification and Termination of Water Rights and Permits

(i) Water Rights

The modification or termination of rights to use water acquired by personal contract, usufruct, longlease or servitude, is subject to the provisions of the contractual arrangement and the provisions of the Civil Code bearing on the execution of contracts, the termination of usufructs, longleases and servitudes. Unlimited usufruct, for instance, ends at the death of the usufructuary under the Code. Usufruct, longlease and servitudes also terminate when no use has been made of the rights thereunder, for a period of thirty years.

(ii) Permits

Permits issued to water supply companies for the extraction of groundwater can only be revoked if the holder declares in writing that he will make use of the permit no longer. However, the terms and conditions of a permit can be modified. This is part of the (unwritten) principle of Dutch administration law. The same procedure that applies to issuance of a permit must also precede modification.

In addition to the instances just mentioned, permits will be revocable under the Groundwater Act; 1) when the information provided by the applicant is found to be incorrect or insufficient to such an extent that knowledge of the real situation would have led to another decision; 2) when the extracted water is used for another purpose than the one stated in the permit; 3) when the terms of the permit are not complied with and 4) when the extraction is no longer compatible with other vested interests. Strengthening the conditions and terms of the permit will be possible if the protection of other interests so demands; weakening of the conditions will be possible on request of the holder of the permit only if the protection of these other interests allows it.

For the same reasons, permits for the discharge of waste water into surface water bodies can also be revoked or modified. Implementation of the European Guidelines on environment can be an important factor for revision of existing permits and may, in some cases, lead to modification or even revocation. Generally however the permit holder has to change or modify his production or production process within a reasonable time, with maximum allowable periods fixed by law. The decision to modify or revoke is open to appeal.

(c) Water Tribunals, Courts and Other Judiciary Water Authorities

Disputes arising from the use of water or related issues are adjudicated by regular common law courts when questions of civil law are at issue between private parties. Depending on the relevant legislative provisions, disputes concerning water law issues of a public character (i.e. refusal, modification or revocation of a permit) are adjudicated by administrative authorities. If relevant legislative provisions do not provide for the possibility of an appeal of a decision of an administrative authority to the Crown or to a Court, an appeal can be addressed to the section for jurisdiction of the Council of State.

(d) Penalties and other sanctions

The infringement of contractual provisions or the infringement of rights of others generally entails the obligation to compensate resulting losses and damages and can lead to a judicial decree ordering compliance with the relevant contractual or legislative provisions, under threat or forfeiture of a penal sum.

Infringement of the provisions of public water law or infringement of the terms and conditions of permits issued in accordance with these provisions can lead to revocation or modification of permits, to fines and detention. In case of the infringement of legislative provisions or the conditions of a permit or in case of a refusal to comply with an administrative command, all Acts relevant to water empower the implementing authorities to restore the waters concerned to their original state as far as possible and to stop and clear away any offending works or activities. Where specific measures are required of the administrative authority in such circumstances, expenses incurred may be recovered from the erring state or private authority. The recovery of such expenses, the recovery of waterboard charges and the recovery of damages caused to waterworks is often possible without intervention of judicial authorities. Indeed, the state authority may simply issue a warrant and, if the debtor does not comply within a certain period, his goods are sold under execution. The warrant can be appealed to the common law courts. Since 1975, the Economic Crimes Act is applicable to offences against provisions of the Surface Water Pollution Act. In such cases the power to stop offending activities lies not in the hands of administrative authorities but in those of the Prosecuting Officer. Further this Act - the Economic Crimes Act - make it possible to fashion a judicial decree of a much wider extent, e.g. the closing down of a factory if it is proven that the discharge of waste water or dumping of toxic material in the sea has repeatedly occurred. Not only members of the boards of directors but also people directly responsible for the unlawful activities of a company can be prosecuted. In this regard, the maximum sanctions are considerably higher than in administrative law. Moreover in 1975 new articles were introduced into the Penal Code (Article 172), concerning discharges having harmful effects or danger for the population.

(e) Other Water Law Implementation Matters

Each Act specifies the authorities competent to conduct investigations into possible infringements. Besides ordinary policy authorities, these often include the members of the governing body of a waterboard, the members of the provincial deputies or a Minister and his functionaries. The competence to enter houses, enclosed properties and ships, as well as the right to demand samples of water and inspect documents are also derived from the provisions of different acts. Such authority is generally exercised, however, under strict conditions designed to protect individual rights, which are written in the Constitution.

UNION OF SOVIET SOCIALIST REPUBLICS 1/

I. INTRODUCTION

(a) Situation and Population

By area, the Union of Soviet Socialist Republics is the world's largest country, encompassing 22.4 million square kilometers of territory. Geographically, the USSR stretches across a large segment of the Northern Hemisphere for a distance equivalent to a quarter of the Equator. It covers one-sixth of the world's land surface and two-fifths of the Eurasian continent. About 25 percent of the country lies in Eastern Europe; the rest in Northern Asia.

The Soviet Union has the world's longest frontiers, and no other country is bordered by so many other states. Finland, Norway, Poland, Czechoslovakia, Hungary and Romania lie to the West; Turkey, Iran, Afghanistan, China, Mongolia, and the Democratic People's Republic of Korea lie to the South; the Eastern and Northern frontiers are sea frontiers. The Soviet Union is thus a major continental and sea power, with 12 seas, belonging to three ocean basins (Arctic, Atlantic and Pacific) washing its coast 2/. Currently the population of the USSR exceeds 270 million people.

(b) Water Resources

The majority of rivers within the Soviet Union drain to the Arctic Ocean through a 11,705,000 square-kilometers basin. The largest rivers which drain through this basin are the Northern Dvina, Pechora, Ob and Irtysh, Yenisei, Khatanga, Lena, Indigirka and Kolyma. The Pacific Ocean is the recipient of all of the country's far Eastern rivers including the Amur, Anadyr, Penzhina and Kamchatka. The Atlantic Ocean which drains a basin of approximately 1,785,000 square kilometers receives drainage from the following Black Sea Rivers: Danube, Dnestr, Dniepr, Kuban and Rioni. The rivers of the Sea of Azov (principally the Don) and the Baltic Sea (the Neva and the Western Dvina) also flow ultimately into the Atlantic. The Soviet Union also contains an extensive drainage region which encompasses the Eastern Caucasus, part of the Russian Lowland, the Tien Shan mountain region, the Pamirs and the desert and semi-desert regions of Central Asia and Kazakhstan. More than 60 percent of this region is drained by the Volga, Ural, Emba, Kura and Kuma rivers, which drain into the Caspian Sea. Of the world's 15 largest rivers, five (the Yenisei, Lena, Ob, Amur and Volga) are found in the Soviet Union. By volume, the discharge from the USSR's rivers is the largest in the world, amounting to 4714 cubic kilometers in an average year, or approximately 12 percent of the world's total river runoff 3/.

1/ Prepared for FAO by Professor O.S. Kolbasov, Institute of State and Law of the Academy of Sciences of the USSR and registered by O.S. Kolbasov with the Copyright Agency of the USSR.

2/ Soviet Union. Geographical Description. In 22 vols. Vol. 1, 1966.

3/ Bolshaya Sovetskaya Encyclopedia, Vol. 24, Book II, 1977, pp. 42-46, see also: Water Resources and Water Budget of the USSR Area. Leningrad, 1967, pp. 15-29, 32, 35.

In addition to its numerous rivers, the Soviet Union also has an abundance of lakes. Indeed, the number of lakes, reservoirs and ponds of significant size exceeds 2,850,000 4/. This enormous number includes 5 of the world's largest lakes, each with a surface area exceeding 10,000 square kilometers: the Caspian and Aral seas, Lake Baikal, Lake Balhash, and Lake Ladoga. Like other surface supplies, lakes within the Soviet Union are very unevenly distributed. In the wetter areas of Western Siberian steppes and to the Soviet North, they are especially numerous. In the front steppe of the Russian lowland, however, they are almost non-existent. As a rule lakes of the North have a flow of water through them, while in some regions (e.g. Karelia and the Kolsky Peninsula) there are numerous unique lake-rivers that start from lakes, run through lakes and sometimes end their course in lakes 5/. The nonflowing lakes are generally scattered through the Southern portion of the country. Typically, these lakes lie in a hollow from which there is no water discharge.

Apart from their great numbers, lakes within the USSR vary considerably in terms of mineral content. Freshwater, brackish and salt lakes are all found in quantity within the country. In Soviet Asia there are also carbonate lakes which possess a carbonate salt content that is high enough to support the production of chemicals on an industrial scale.

The groundwaters of the Soviet Union comprise a rechargeable volume of 1000 cubic kilometers 6/. Notwithstanding this large volume, the country's groundwaters are not homogeneous, either geographically or by chemical content. Throughout much of the country - from the tundra to the Southern steppes - groundwater has a reasonably high mineral content. Groundwater in these areas is also marked by a substantial discharge to surface supplies; thus the groundwater resource helps to feed resident rivers. In the dry steppes, semideserts and deserts, excessively high salt content renders the water unsuitable for drinking in many places. In the foothill zone of Central Asia, groundwaters are abundant and slightly mineralized.

Finally, marshes occupy approximately 10 percent of the total land territory of the Soviet Union and are an important element of the landscape in some regions. They are found principally in the Northern half of the country, in the forest and tundra zones, where precipitation exceeds evaporation. In some regions of the taiga belt (particularly in Western Siberia) marshes comprise as much as 80 percent of the land area.

Despite this abundance of water resources, a number of areas and cities, industrial enterprises, state farms and collective farms within the USSR experience a lack of water, since water resources are unevenly distributed, seasonally and geographically. Of the total run-off which annually occurs, more than 80 percent is found in economically less-developed districts adjoining the Pacific and Arctic oceans; 60 percent of the annual run-off occurs at flood-times and other high-water periods; and

4/ Bolshaya Sovetskaya Encyclopedia, Vol. 24, Book 11, 1977, p. 45. See also: Water Resources and Water Budget of the USSR Area, pp. 30-31.

5/ Bolshaya Sovetskaya Encyclopedia, Vol. 24, Book 11, 1977, p. 46.

6/ Dolgoplova, K.W., Fedorova E.F. Water - National Property. Moscow, 1973, p. 39.

in steppe zones their proportion is even higher 7/. Under such unfavorable conditions of river discharge, the USSR has nonetheless avoided the problems typically created by an unreliable or insufficient water supply. Indeed, notwithstanding the dislocations of supply which naturally occur, the USSR, during the last 60 years, has developed into an industrially advanced country. To a considerable extent this advance has been accompanied by development and utilization of the country's water resources.

For example, in the USSR, the water mains of towns and large settlements in 1928 supplied the population with 811,000 cubic meters of water per day. By 1968, this figure had increased to 21 million cubic meters per day, a twenty-five-fold increase. In 1978 all water mains within the country supplied more than 350 cubic km of water per day. According to the forecasts of the scientific research institutions of the USSR Ministry of Amelioration and Water Management, water consumption in the country, given the present trends in growth rates, will reach 535 cubic km in 1990 and 750 cubic km by the year 2000 8/. In 1921 irrigated areas in the USSR covered some 2,226,000 hectares, by 1965, this had increased to 10,9 million hectares. By the end of 1975, irrigated areas of the USSR reached 13,250,000 hectares. Following the Guidelines for Economic Development of the USSR for 1981-1985 and for the period to 1990 adopted by the 26th Congress of the Communist Party of the Soviet Union, 3,4 - 3,6 million hectares of irrigated land will be put into operation during the current 5 year planning period 9/.

II. LEGISLATION IN FORCE

The basic texts of legislation referred to in this work are:

1. Constitution of the USSR, 1977, arts. 11, 18 and others 10/.
2. Fundamentals of Water Legislation of the USSR and Union Republics which were approved by the Supreme Soviet of the USSR on December 10, 1970 and put into force on September 1, 1971 11/. Amendments and additions to it were approved by the Decree of the Supreme Soviet of the USSR of January 7, 1980 12/.
3. Water codes in the 15 Union Republics in conformity with the Fundamentals of Water Legislation 13/.

7/ This maldistribution of water is illustrated by the following figures: for each inhabitant of the Ukrainian SSR, river discharge amounts to 1.13 thousand cubic meters (tcm) per year; in Uzbek SSR, the figure is 0,87 tcm; in Turkmen SSR it is 0,24 tcm; while in Moldavskaya SSR, the per capita discharge is 0,23 tcm. For the Soviet Union as a whole the per capita river discharge is 18,3 thousand cubic meters.

8/ Environmental Management in the USSR. Part II. Ten Years of UNEP. Moscow, 1982, p. 32.

9/ Papers of the 26th Congress of the Communist Party of the USSR, Moscow, "Political Literature" Publishers, 1981, p. 167.

10/ "Politizdat" Publishers, 1977. See also: English translation: "Progress" Publishers, Moscow, 1977.

11/ "Vedomosti" of the Supreme Soviet of the USSR, 1970, No. 50, p. 566.

12/ Collected Decisions of the Party and the Government of the USSR on Economic Question, Vols. 1-13. See also: English translation: Proceedings of the International Conference on Global Water Law Systems, Vols. 1-2, Colorado State University, 1976, pp. 433-452.

13/ Water Code of the RSFSR, "Soviet Statutes and Decisions, A Journal of Translations, Vol. IX, No. 2, Winter 1972-73, International Arts and Science Press, Inc., pp. 129-166.

The following decrees of the Soviet Government (Council of Ministers of the USSR) were published in the Collected Decisions of the Party and the Government on Economic Questions, Vols. 1-13:

4. Legislation confirming the statutes of Exploitation Service of land-reclamation and water economy of the USSR (October 15, 1971).
5. Legislation enforcing environmental protection and better use of natural resources (December 29, 1972).
6. Legislation prohibiting pollution of the seas by substances harmful to public health and marine life (February 14, 1974).
7. Legislation strengthening the protection of rare species of fish, sea mammals and invertebrates in Soviet fishing grounds (October 25, 1974).
8. Legislation confirming state regulation and requiring recordation of water use (March 10, 1975).
9. Legislation establishing procedures for partial or complete prohibition of the use of water bodies of particular significance or of special scientific and cultural value (June 11, 1976).
10. Regulations on Health Resorts (September 5, 1979).
11. Sources of Centralized Domestic and Household Water Supply. The Rules to choose and estimate quality (GOST - 2761-57).
12. Legislation concerning the Procedure for Keeping the State Water Register (August 1, 1977).
13. Legislation enforcing the procedure for reimbursing the losses infringed by water economy measures, by termination or changes in water use (April 5, 1978).
14. Legislation on Measures ensuring proper technical condition and improvement of water reservoirs and on implementation of these measures (October 2, 1978).
15. Legislation concerning additional measures for strengthening environmental protection and improving the use of natural resources (December 1, 1978).
16. Legislation on State Control over the use and protection of waters (June 22, 1979).
17. Legislation strengthening the protection of small rivers against pollution and depletion and on rational use of water resources (October 8, 1980).
18. Legislation concerning the compensation of losses caused to the State by violation of Water Legislation (December 30, 1980).
19. Decree of the Supreme Soviet of the USSR regarding strengthening of responsibility for pollution of the sea by substances harmful for people's health and for living resources of the sea (May 21, 1980).
20. Decree of the Supreme Soviet of the USSR regarding administrative responsibility for violation of the water legislation (October 1, 1980).
21. The Main Guidelines of Economic and Social Development for 1981-85 and for the period up till 1990. Approved on May 2, 1981.

III. OWNERSHIP OF WATERS

The Soviet legal system establishes that all water resources are exclusively owned by the State. Nationalization was carried out in conformity with Lenin's Decree "On Land" adopted by the 2nd All-Russian Congress of Soviets on the first day of the socialist revolution on October 26 (November 8) 1917. Article 11 of the New Constitution and Article 3 of the Fundamentals of Water Legislation provide that all waters within the Union of Soviet Socialist Republics are under state ownership, that is to say, they are the property of the whole Soviet people. Under the terms of Article 4 of the Fundamentals of Water Legislation "all waters" comprise the "integrated water resources" of the State.

More specifically, these integrated water resources are defined to include the following resources or parts thereof:

1. rivers, lakes, reservoirs, other surface bodies or water and water sources, and the water of canals and ponds;
2. underground waters and glaciers;
3. internal seas and other internal sea waters of the USSR;
4. territorial waters (territorial sea) of the USSR 14/.

It is characteristic, that the law declares State ownership of water "resources" but not water. The Fundamentals of Water Legislation draw a distinction between the notions of "water" and "water resources" a distinction which is very important for a proper understanding of the law. Water, as a mineral, is a kind of substance which is in continuous motion or circulation, and therefore cannot be an exclusive State property. Water may become a property of individuals and organizations as a result of lawful activities (for example, drinking water of municipal water supply systems). Further, unlike land, which also is in state ownership, but is homogeneous, water resources are characterized by great diversity. To avoid enumeration of the types of water resources when discussing water relations in each particular case, there has been introduced the notion, of a "water body". A water body is a river, lake, sea, glacier or aquifer. The whole complex of these water bodies within the territory of the USSR, is described as the "integrated State water resources". These "resources" then, are subject to ownership and regulation by the State.

Finally, it should be noted that State water resources are described in Soviet Legislation as being "integrated". Soviet legislation does not characterize water resources as those of the Autonomous Republics nor of the national-state formations or administrative units of the USSR. Instead the right of exclusive State ownership of water resources devolves upon only one entity, viz. the Union of Soviet Socialist Republics.

IV. THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of Acquisition

According to statute, only natural sources of water which form part of the integrated State Water Resources may be relegated to use in the USSR. Under the terms of the Fundamentals of Water Legislation, the users of such sources of water may include state owned, cooperative and public enterprises, organizations and institutions as well as citizens of the USSR 15/.

14/ Fundamentals of Water Legislation, Art. 4.

15/ Ibid., Art. 12.

The mode of acquiring the right to use a water source depends to a considerable extent upon whether the intended water usage is classified as “general” or “special”. According to Article 14 of the Water Legislation, general usage is that which is effected without structures and other technical devices affecting the state of the water. Special usage is that which is effected with the help of such structures and devices 16/. Where use of a water source will affect the state of the source, even though no structure or technical devices are involved, the usage may be relegated to “special” rather than “general” 17/.

Under the provisions of the Fundamentals of Water Legislation, general uses of water may be made without permission in conformity with Union Republic legislation 18/ although it is subject to the terms of USSR legislation, including the Fundamentals of Water Legislation 19/. Further, general water usage is gratis 20/. Special water use, on the other hand, may enormously affect the state of water bodies, seas, lakes and rivers and may inflict damage either on the state or to other water users. Therefore, special water use requires, as a rule, the implementation of research project studies, prior coordination of basic conditions for water utilization and systematic control.

Under the provisions of the Fundamentals of Water Legislation, special water use is effected on the basis of permits issued by the agencies in charge of regulating the utilization and protection of waters and - in instances provisioned by the Legislation of the USSR and Union Republics - by executive committees of local Soviets of working people's deputies 21/. Such permits are granted upon agreement with agencies of the State Sanitary Inspectorate and Fishery Protection Service as well as with other agencies concerned. The procedure for reaching agreement and issuance of permits for special water use is established by the Council of Ministers of the USSR 22/. Moreover, unlike general usage, special use of water may incur charges in cases provisioned by the Council of Ministers of the USSR in keeping with procedures established by the Council 23/.

In addition to distinctions based upon general and special use, Soviet water legislation also differentiates between joint and solitary use 24/. In cases of joint use, water sources are utilized by two or more water users, each exercising independent rights, with each user being entitled (provided other legal requirements are observed) to utilize the water resource without any prior permit on the part of other water users. Use by each joint user, nonetheless occurs subject to the condition that the legal rights and interests of other joint users are not infringed. In the Soviet Union, joint use is widespread; particularly in connection with water sources that are large.

16/ Fundamentals of Water Legislation, Art. 14. Such structures and devices include: dams, pumping stations, floating piers, moorages, flood gates, boreholes and so forth. Equipment of a non-stationary type such as moving pumping machines designed for the irrigation of fields are relegated to the “technical devices classification”

17/ Ibid.

18/ Ibid. Art. 15.

19/ Ibid.

20/ Ibid.

21/ Ibid.

22/ Ibid.

23/ Ibid.

24/ Ibid.

Water utilization is considered to be solitary when a water body - lake, pond, a river stretch or part of a drainless water reservoir is provided for the water user and is meant to satisfy the demands of that user. For example, a right to solitary water use is acquired and exercised in instances when river stretches are granted for water transportation undertakings (ports, moorages, logging harbours) or drainless water bodies are granted for the use of collective farms or fish breeding farms. Under the terms of the Fundamentals of Water Legislation, solitary water users are entitled to use the water body to meet their own demands and also may issue permits for water use to other undertakings, institutions, organizations or citizens with the concurrence of those agencies responsible for regulating the use and protection of the water source 25/. In this latter instance, secondary water use relationships are established, with the previously solitary water user becoming a primary water user, and those having obtained a permit, a secondary water user.

(b) Water Use Authorization, Permits or Concession

The actual terms of water use as established in the Fundamentals of Water Legislation, are provided for in plans, project documents and special permits. In general the special use of a water source is granted either for a temporary period or in perpetuity. Water use is deemed to be in perpetuity, if no period is fixed by permit or plan 26/. Temporary water use may be short-term (up to 3 years) and long term (from 3 to 25 years) 27/. Where necessary, the periods of water use may be extended. "General" water use is unrestricted as to time.

Apart from imposing temporal limitations upon certain water use authorizations, the legislation also attaches special significance to the principle of integrated water use. Economical, reasonable and beneficial use of water with a view to meeting various demands of all water users concerned - both the populace and the national economy - is distinguished as integrated water use 28/. Integrated water use takes place in instances when one water body is utilized by a number of water users or, if by one water user, for several puposes. For example, water granted for solitary use by a collective farm may be simultaneously used as a source for irrigation, water-supply and fish breeding.

Integrated water use does not necessarily mean equal satisfaction of all water needs. Indeed, in a majority of instances, where integrated water use is employed, some types of water utilization are given priority on the basis of economical and natural significance 29/.

V. ORDER OF PRIORITIES

(a) Between Different Uses

The Fundamentals of Water Legislation do not give priority of right to water use to enterprises, organizations or citizens, on the basis of who was the first to commence water use. However, the interests of first users are duly taken into consideration, should there arise a dispute over priority of right to water, if new water users emerge, in a particular area (water basin); and as and when necessary, the system of compensation is applied 30/.

25/ Fundamentals of Water Legislation, Art. 14.

26/ Ibid., Art. 16.

27/ Ibid., Art. 16.

28/ Ibid., Art. 17, preamble.

29/ Ibid., Art. 41.

30/ Decree of the Council of Ministers of the USSR on the Procedure for reimbursing losses caused by water economy measures, by termination or changes in water use (April 5, 1978). Collected Decree, Vol. 12.

Although water use priorities are not specifically granted on a first in time or first in right basis, a priority is accorded for meeting the needs of the population for drinking water and household uses 31/. In other words, this means that where a water body is utilized for various needs, water necessary for a drinking water supply or for domestic and household needs is never subjected to restrictions in favour of industrial, agricultural, transportation or other types of water use. To the contrary, in those instances where industrial, agricultural and transportation uses impede the utilization of natural water resources for drinking domestic and household needs, the former uses - not the latter - are subject to restriction.

Apart from the foregoing priority for domestic and municipal purposes, priority is also given to water use necessary to service medical needs in health resort zones 32/. It is also given for fish breeding farms, especially that water necessary for the protection of fish stocks. This priority, however, is extended to commercial fisheries only 33/. Finally, Soviet water legislation accords a priority to certain water sources of special importance to the State or sources possessing special cultural or scientific value 34/. With regard to such sources, the priority is effectuated through a prohibition on other water uses 35/.

(b) Between Different Areas

Under the Soviet legislation priority is not given to water supply depending upon the district. However, with a view to providing a sufficient water supply for districts with highly-developed economies but lacking in water resources, water is transported from districts with surplus water resources. A variety of canals and other water transmission facilities have been constructed for this purpose. Currently, for example, the State is planning to implement such huge hydrotechnic measures as diverting a part of the run-off of certain Siberian and Northern rivers from their natural course to the basins of rivers flowing into the Aral, Caspian and Azov Seas 36/.

VI. LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic, Household and Municipal Uses

The population utilizes water to meet its household and domestic needs, both individually by extracting water directly from rivers, lakes, ponds, streams, springs and other water sources, and by way of centralized water supply with the assistance of various water mains. Waters of a quality which meets established sanitary requirements, can be and are used for drinking, domestic and household needs. The suitability of a

31/ Fundamentals of Water Legislation, Art. 21.

32/ Ibid., Art. 22.

33/ Ibid., Art. 28.

34/ Ibid., Arts. 13, 30.

35/ Ibid.

36/ Main Guidelines of Economic and Social Development for 1981-1985 and for the period to 1990. Moscow, 1981. See also: Statute of the USSR Council of Ministers of December 21, 1978, "On Research and Project Works in Solving the Problem of Diverting a Part of the Run-off of Siberian and Northern Rivers from their Natural Course to the Southern Region of the Country. Collected Decrees, Vol. 12.

water source for water supply is defined in accordance with State Standards 37/. The estimation of water fitness for drinking is determined in conformity with State Standards on “Drinking Water”, involving a complex of requirements pertaining to water quality 38/. Contemporary legal regulation of the utilization of water for drinking, domestic and municipal needs of the population in the USSR is based upon two main principles: first, water resources are available for the general use of all citizens as necessary to meet their personal demands, and second, all necessary measures for protecting the health of the population will be ensured.

In general, the needs of the population for drinking water are met best through extracting underground waters. In light of this, as a rule, the use of underground waters of drinking quality for needs unconnected with drinking or domestic water supply is prohibited 39/. The entities engaged in domestic and household water supply by extracting water from water sources usually operate as self-supporting productive undertakings. Typically, they sell water processed for drinking to consumers in conformity with tariffs established by competent agencies of Union Republics.

(b) Agricultural Use

Agricultural water usage in the Soviet Union is extremely varied. It includes irrigation, land drainage, watering of animals in open water bodies and the provision of a water supply for cattle breeding and other agricultural units.

Large irrigation systems operate in the districts of Middle Asia, Khazakhstan, the Northern Caucasus and Transcaucasus as well as the Volga Basin Region and Southern Ukraine. These irrigation systems work as independent enterprises. However, they differ from enterprises engaged in municipal water supply, since they do not sell water but rather distribute it in accordance with fixed plans 40/. Provision is made for these irrigation systems to be financed at the expense of the State. Typically, the relationship between the independently operated irrigation systems and the agricultural enterprises they serve is regulated directly by rules or mutually coordinated plans for distribution of water within each system.

If an agricultural enterprise undertakes to create a system of centralized water supply for cattle breeding farms, agricultural or industrial units, it is obliged to conform to the rules established for industrial water supply. Inter alia collective

37/ Fundamentals of Water Legislation, Art. 21. See also: “Sources of Centralized Domestic and Household Water Supply. The Rules to Choose and Estimate the Quality. GOST-2761-57.

38/ GOST-2874-73.

39/ Fundamentals of Water Legislation, Art. 21.

40/ Rules of the Exploitation Service of the Agencies of Amelioration and Water Economy of the USSR, 1971. (Collected Decrees of the USSR, 1971, No. 18, Art. 132).

farms, state farms and other enterprises, organizations, institutions and citizens using waters for the needs of agriculture are obliged to observe established plans, rules standards and regimes of water use, to take measures to reduce the loss of water in filtration and by evaporation in drainage and irrigation systems, to prevent inefficient discharge of water from these systems, to prevent fish from fishery waters from entering drainage and irrigation systems, and also to create the most favourable conditions of soil moisture 41/. Irrigation of agricultural land with drainage water is authorized by agreement with the State Sanitary and Veterinary Inspection Service 42/.

(c) Fishing

The Fundamentals of Water Legislation and special laws regulating fishing provide for the use of water resources to meet the needs of the fishing industry. Such special legislation includes the Regulations on Protection of Fish Resources and Fishing in Water Bodies of the USSR approved by the Decree of the Council of Ministers of the USSR on September 15, 1958 and amended in conformity with the Decree of the USSR Council of Ministers on December 10, 1969 "On Measures for Intensifying Protection of Fish Resources in Water Bodies of the USSR". Rules governing fishing in the main water basins of the country were formulated as a continuation of the above Regulations 43/.

Soviet legislation distinguishes between commercial and amateur fishing. The right of commercial fishing is exercised by fishing enterprises and collective farms. Typically these entities are granted solitary water use rights in specified water bodies and special fishery areas. The terms and conditions of such water use are stipulated in agreements concluded between fishing enterprises and fishery protection agencies.

Rights for amateur and sport fishing are granted to all citizens in water bodies authorized therefor and are exercised, as a rule, without any special permit and are free of charge. Exception to this general rule are, water bodies within the jurisdiction of public sport organizations, responsible for developing a recreational fishery. Sport fishing therein is carried out only with a permit and is subject to payment 44/. Sport fishing in some water bodies is entirely prohibited (preserves, fish hatcheries, fish farms). The Rules for fishing define various requirements to be observed in fishing 45/.

41/ Fundamentals of Water Legislation, Art. 23.

42/ Ibid.

43/ Collected Administrative Documents Issued by Fish Protection Agencies, 1974, Vols. 1-2.

44/ Regulations on Protection of Fish Resources in Water Bodies, Collected Decisions of the Party and Government on Economic Questions, Vols. 1-12, September 15, 1958, para. 6.

45/ Collected Administrative Documents Issued by Fish Protection Agencies, 1974, Vols. 1-2.

(d) Hydropower

Water used for hydroelectrical power generation is utilized only after taking into account the interests of other branches of the national economy, as well as the observance of the requirements for integrated utilization of water. The production of hydropower involves as a rule construction of water reservoirs which considerably affect the state of water resources and environmental quality as a whole. Consequently the procedure for construction and exploitation of water reservoirs are detailed in a number of normative acts 46/. The construction of large water reservoirs is subject to confirmation by the USSR Council of Ministers as well as the Councils of Ministers of Union Republics 47/. Generally terms and conditions for the utilization of reservoirs and hydropower stations are published in legislation of the Union Republics. In addition, special rules for water utilization are established for each water reservoir or a series of reservoirs with regard to local conditions. Daily releases of water from reservoirs are effected in conformity with the rules for run-off control 48/.

(e) Industrial Uses

In many instances, the utilization of water for industrial purposes requires the extraction of water from water bodies and the discharge of industrial effluent. There exist two ways to supply enterprises with water for industrial needs: an autonomous way when an industrial enterprise is entitled to construct its own water intakes, and a centralized way, with the assistance of enterprises specialising in water supply or municipal water mains.

The legal relationships and obligations which arise from these two methods of providing an industrial water supply differ substantially and are regulated differently. When water is supplied autonomously by an industrial enterprise which develops its own water source, the enterprise is subject to the duties and obligations imposed upon water users by Soviet water law. When water is supplied in a centralized way, however, the industrial enterprise cannot be legally relegated to the status of a water user, for it does not extract water from natural sources; rather it obtains water by the payment of compensation. In the latter circumstance, the terms and conditions for water supply would be the subject of Civil Law, not Water Law.

Regardless of the source of supply, however, the Fundamentals of Water Legislation require all industrial water users to take measures to reduce the consumption of water and to stop the discharge of effluent by improving production technology and water supply schemes (e.g. by the employment of waterless processes, air cooling, recirculation water, and other technical methods) 49/. Therefore, the Fundamentals orient the industry towards a reduction in water extraction from water bodies; thus resulting in a reduction of discharged effluent and a diminished threat of water pollution. The terms and conditions for discharge of waste are discussed hereinafter.

46/ Fundamentals of Water Legislation, Art. 33. See also: Decree of October 2, 1978 and Decree of February 2, 1976. Collected Decisions, Vols. 1-12.

47/ Collected Decrees of the USSR, 1966, No. 11, Art. 114.

48/ Fundamentals of Water Legislation, Art. 33.

49/ Ibid., Art. 17.

(f) Transportation

The Soviet Union possesses an extensive network of internal waterways. The total length of navigable and logging rivers is some 500,000 km. Additionally, over 2,000 navigable lakes are situated within the territory of the Soviet Union. During the navigable period (May-October) river transport constitutes over 15 percent of the total transportation (in tons) and approximately 12 percent of the total freight turnover on all types of transport. Water transport is particularly important in connection with the movement of bulk freights - timber, oil, coal, minerals, building materials, mineral fertilizers and raw material for heavy industry.

In accordance with the Fundamentals of Water Legislation and Legislation of the Union Republics, rivers, lakes, reservoirs, canals, internal seas as well as territorial waters (or territorial seas) of the USSR, are waterways of general use, except for instances when these purposes are wholly or partially prohibited or when these watercourses have been granted for solitary use 50/.

The procedure for relegating waterways to the category of navigable and logging waterways and for establishing rules for the use of waterways is determined by USSR and Union Republic Legislation. In general, the floating of unrafted logs and the floating of timber in bundles and chained rafts without tugs is prohibited on navigable waterways and on waters listed by the USSR Council of Ministers and Councils of Ministers of Union Republics 51/. Whether such waterways are listed depends upon their particular importance for fishing, water supply, or other purposes of the national economy 52/. Where the transport of timber is authorized, it may occur only in accordance with other water permits issued by agencies regulating the utilization and conservation of waters, after agreement with fishery protection agencies 53/. Logging organizations shall be obliged regularly to clear sunken timber from the logging routes and also from navigable waterways 54/.

(g) Medicinal, Health and Therapeutic Uses

Waters may be classified according to established procedure as medicinal (waters) 55/. If so classified, they must be used first for medicinal and health-resort purposes. In exceptional instances, agencies regulating the utilization and conservation of water may permit the use of water relegated to the medicinal category, for other purposes by agreement with the appropriate public health and health resort administrative agencies 56/. A more detailed procedure, for the use of medicinal waters, is disclosed in the Regulations on Health Resorts confirmed by the USSR Council of Ministers of September 5, 1973 57/.

The use of waters for sport and leisure is allowed without special authorization on an individual basis. The use of waters for mass leisure and sport requires approval of the place of use by the executive committees of appropriate Soviets of people's deputies and agreement from the State Sanitary Inspectorate, fishery

50/ Fundamentals of Water Legislation, Art. 26.

51/ Ibid.

52/ Ibid.

53/ Ibid.

54/ Ibid.

55/ Ibid., Art. 22.

56/ Ibid.

57/ Collected Decisions of the Party and the Government on Economic Questions, Vol. 10, 1973.

protection agencies and the Lifesaving Society 58/. In the case of navigable and logging waterways additional agreement concerning the siting of mass recreational facilities is required from agencies regulating navigation and logging. To ensure the continued well-being of leisure areas and the development of sport, waters may be granted for solitary use to state and social organizations either wholly or in part 59/. On the other hand, the use of waters for leisure and sport may be prohibited or restricted for the interests of health protection and other public demands.

The use of waters for boating in small craft (rowing and motoboats, launches, sailing boats, etc.) is permitted subject to the observance of rules governing the use of small crafts established by Councils of Ministers of autonomous republics and territories and regional Soviets of people's deputies. Small craft must be registered under established procedure 60/.

VII. LEGISLATION ON HARMFUL EFFECTS OF WATER

Prevention and elimination of the harmful effects of water are considered to be important state tasks. Accordingly, enterprises, organizations and agencies are obliged to take measures to prevent and eliminate the harmful effects of water by agreement with agencies regulating the utilization and conservation of water, by agreement with executive committees of local Soviets of people's deputies, and other state agencies concerned, or according to the instructions of duly authorized state agencies 61/. The harmful effects of water specifically made subject to the foregoing requirement include: inundation, flooding and saturation; the breaking of banks, dikes and other structures; water logging and salinization of land; soil erosion, the formation of ravines, landslides, flood streams and "other harmful phenomena" 62/. Urgent measures to prevent and eliminate natural calamities caused by the harmful effects of water are required to be implemented by flood and other special commissions set up by the Councils of Ministers of Union and autonomous republics, or executive committees of local Soviets of people's deputies 63/. The recommendations of these commissions are binding on all enterprises, organizations, institutions, and citizens. Provision is further made for measures to prevent and eliminate the harmful effects of water in state plans for the development of the national economy 64/.

VIII. LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

Article 17 of the Fundamentals of Water Legislation - dealing with the rights and obligations of water users - obliges all users of water to make rational use of water sources and to display concern for the economical consumption of water, the replenishment of water reserves and the improvement of the quality of water. Further, users are obliged by that article to avoid infringing the rights of other users of water

58/ Water Code of the RSFSR, Art. 49.

59/ Ibid.

60/ Legislation strengthening the protection of small rivers against pollution and depletion and on rational use of their water resources (October 8, 1980). Collected Decisions of the Party and the Government on Economic Questions, Vol. 13, 1981.

61/ Fundamentals of Water Legislation, Art. 40.

62/ Ibid.

63/ Ibid.

64/ Ibid.

and to prevent damage to economic objects and natural resources such as lands, forests, animal reserves and minerals. Violation of these general rules as well as the use of water for purposes other than those specified by the terms under which the right of use was granted, constitutes grounds for revocation of the right (except where the right is for drinking and household purposes) 65/.

If revocation is deemed appropriate, the right to use water may be revoked by cancellation of permission for special and secondary use of water or the withdrawal of a water source from solitary use 66/. Where revocation of the right to special use is necessary, the decision to revoke shall be made by the body which has issued the right 67/. Discontinuance of a secondary right is decided upon jointly by the primary user and the body responsible for regulation of the use and protection of water resources 68/. When withdrawal from solitary use is considered appropriate, the decision is to be made with the concurrence of the user and the Ministry or department to which the user is subordinated 69/.

(b) Re-cycling and Re-use of water

The irrigation of field and other farmlands with sewage water may be authorized by agencies responsible for regulating the use and protection of water resources if there is agreement with the state sanitary and veterinary inspection authorities regarding such reuse 70/.

(c) Pollution

All waters in the Soviet Union are subject to protection from pollution, obstruction and depletion which may harm the health of the population, diminish fish stocks, result in the deterioration of water supply conditions or other undesirable phenomena due to:

- changes in the physical, chemical and biological properties of water;
- reduction in its capacity for natural purification; or
- disturbance of its hydrological and hydrogeological regime 71/. Enterprises, organizations and institutions whose activity affects the state of water are obliged to carry out technological, forest-improvement, cropping, hydraulic engineering, sanitary and other measures to ensure the protection of water from pollution, obstruction and depletion and to ensure improvement of the state and regime of the waters. With this end in view, there may be established water protection zones in accordance with USSR and Union Republics legislation.

Measures for protection of waters are provided for in State plans for the development of the national economy.

65/ Fundamentals of Water Legislation, Art. 18.

66/ Ibid., Art. 19.

67/ Ibid.

68/ Ibid.

69/ Ibid.

70/ Ibid., Art. 23.

The discharge of industrial effluent, municipal and other sewage and harmful substances into water bodies is prohibited 72/. If the discharge of industrial effluent, sewage or other deleterious substances is sought, such discharge may be effected only pursuant to a permit issued by agreement with agencies regulating the utilization and conservation of waters and by agreement with agencies of the State Sanitary Inspectorate, the Fishery Protection Service, and other agencies concerned 73/. Such discharge may be permitted only if it will not lead to an increase in pollutant content on above established norms and on condition that the waste is purified by the water user to standards established by agencies regulating the utilization and conservation of water 74/. If the requirements are violated, the discharge of water must be restricted, suspended or prohibited by agencies regulating the utilization and conservation of water even if the individual industrial establishment, workshop, enterprise, organization or institution is compelled to cease operations. In instances where the health of the population is threatened, agencies of the State Sanitary Inspectorate shall have the right to suspend sewage disposal even if this entails a stoppage of the operation of industrial and other pollutant sources. Where this latter action is taken, notification of agencies regulating the utilization and conservation of affected waters is required 75/.

Apart from effluent discharges effectuated pursuant to a permit, the owners of water transport vessels; pipelines; structures on waters; logging organizations; and other enterprises are obliged to prevent the pollution and obstruction of water due to losses of oil, timber, chemicals, petroleum and other products 76/. Enterprises, organizations and agencies are also obliged to prevent the pollution and obstruction of surface catchments, the ice covering of waters, and the surface of glaciers with industrial, domestic and other waste matter, refuse or scrap material, or by petroleum or chemical products which, if washed down, will cause deterioration in the quality of surface and underground waters 77/. Finally, the administrators of state water conservation systems, collective farms, state farms, and other enterprises, organizations and institutions are directed to prevent the pollution of water by fertilizers and toxic chemicals 78/.

IX. LEGISLATION ON GROUNDWATER RESOURCES USE AND PROTECTION

The use of underground waters is strictly supervised by state agencies. The working of boreholes for the extraction of water requires the prior authorization of agencies regulating the utilization of groundwater. The executive committees of the appropriate rural, settlement, or city Soviets of people's deputies issue permits for the use of underground water on the territory of rural population centres, settlements, or cities, without regard to whether the use is facilitated by shaft wells, closed wells, or by catchment of springs. Permits for the establishment of wells and catchments on State reserve lands and State forest lands must be issued by executive committees of district Soviets of people's deputies.

71/ Fundamentals of Water Legislation, Art. 37.

72/ Ibid., Art. 38.

73/ Ibid., Art. 31.

74/ Ibid.

75/ Ibid.

76/ Ibid., Art. 38.

77/ Ibid.

78/ Ibid.

If underground water levels are found in the course of drilling and other mining work connected with the search or prospecting for and exploitation of deposits of gas, petroleum, coal, and other minerals, the organization carrying out the mining operations is obliged to immediately report to the agencies regulating the utilization and conservation of water and must take measures to conserve the underground water 79/. Self-pumping bore-holes are subject to being fitted with regulatory devices, shut temporarily or eliminated in accordance with procedures established by the Soviet legislation 80/.

Finally, water intake systems for underground water which are within the jurisdiction of enterprises, organizations and agencies must be fitted with devices for systematic observation of the water level and with meters to measure the flow in the course of use 81/.

X. LEGISLATION ON THE CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

(a) Waterworks Construction

At the modern level of development of industry, agriculture, hydroelectric engineering, transport, towns and urban settlements in the Soviet Union, water resources are utilized, as a rule through various waterworks structures. Numerous structures for water extraction and discharge of effluent, as well as canals, water mains, hydroelectric stations, moorages, bores, wells and other water works and structures are likely to affect the state of water bodies; to cause considerable change in the quality and quantity of natural resources of water. Moreover, the facilities themselves, their siting, design and construction, could affect the state of waters. Since the efficiency of water utilization is, to a large extent, ensured when waterworks facilities are identified, designed, constructed and put into operation, Soviet water legislation provides for the regulation of such facilities during the design and construction period.

The establishment of sites for the construction of waterworks facilities, structures and other installations affecting the state of water must be agreed to by agencies empowered to regulate the utilization and conservation of water as well as by executive committees of the local Soviet of people's deputies, the State Sanitary Inspection body and those governmental bodies responsible for the protection of fish stocks in keeping with USSR and Union Republic legislation 82/. Similarly, designs for the construction of facilities and structures must be approved by the same agencies. During the process of siting, design, construction of works, technical devices, structures and other objects; likely to affect the state of waters, provision is made for recording the amount of water diverted and the quantity returned to circulation. In addition, measures are required to protect affected waters from pollution, to avoid their obstruction and depletion, their harmful effects on water, to restrict the flooding of land to the minimum level necessary and to protect land from salinization, saturation, or drying out, as well as retaining favourable natural conditions of landscapes 83/. Further, measures to conserve fish and other aquatic plants and animals and to maintain conditions for their regeneration must be implemented in due course in waters used for fishing 84/.

79/ Fundamentals of Water Legislation, Art. 39.

80/ Ibid.

81/ Ibid.

82/ Ibid., Art. 10.

83/ Ibid.

84/ Ibid.

(b) Waterworks Operation

According to existing legislation it also is prohibited to put the following into operation:

- (1) new and converted enterprises, workshops, production units, municipal and other installations not provided with devices to prevent pollution or the harmful effects on water;
- (2) irrigation and water supply systems, reservoirs and canals, before measures provided in the design to prevent flooding, saturation, waterlogging, salinization of land and soil erosion have been realized;
- (3) drainage systems, before water reservoirs or other installations are ready in accordance with their approved designs;
- (4) water intake structures without fish-protection devices provided for in approved designs;
- (5) hydraulic engineering projects, until devices for the passage of flood water and fish are ready in accordance with their confirmed designs; and
- (6) boreholes for water, unless they are equipped with a water-regulating device and, in appropriate cases, unless sanitary protection zones are established 85/.

For the first time, the Fundamentals of Water Legislation also establish that construction, dredging and blasting, the removal of minerals and aquatic plants, the laying of cables, pipelines, and other communications, the cutting of timber, drilling and other work, where the state of water may be affected, shall be permitted only with the agreement of agencies responsible for regulating the utilization and conservation of water. The approval of executive committees of local Soviets of people's deputies, and other agencies is also required in accordance with legislation of the USSR and the Union Republics 86/.

Execution of these requirements are intended to beneficially influence the condition of water resources and help to preserve the USSR's natural resources and natural conditions not only for contemporary, but for future generations.

XI. LEGISLATION ON THE DECLARATION OF PROTECTED ZONES OR AREAS

(a) In the Case of Beneficial Uses of Water

Within the Soviet Union, a variety of specially protected zones and areas have been established. For example, water resources possessing special scientific or cultural values may be declared reservations in accordance with procedures established by legislation of the USSR and the Union Republics 87/. When so declared, those resources are thereby to be made available for the permanent and solitary use of the reservation authority for the protection of nature and research 88/. Further, the Fundamentals of

85/ Fundamentals of Water Legislation, Art. 10.

86/ Ibid., Art. 11.

87/ Ibid., Art. 30.

88/ Waters of scientific and cultural value not declared to be protected waters may nonetheless be recognized as monuments nature or culture in accordance with procedures established by the Council of Ministers of a Union Republic. A decision recognizing water as a monument of culture or nature and establishing the basic conditions of its use shall be brought to the attention of the populace and of interested organizations.

Water Legislation provide that the rights of users may be restricted in the interests of the fishing industry or fish breeding reservoirs or zones which are of special importance for the preservation and reproduction of fish species 89/. Within such reservations and zones, water use regulations are to be specified by agencies responsible for regulating the use and protection of water resources, upon the recommendation of fish protection experts. Preferential rights may be granted to enterprises engaged in game breeding and hunting on rivers, lakes and other water resources inhabited by wild water fowl and valuable for fur bearing animals 90/.

In addition to the foregoing, Soviet legislation also seeks to protect coastal zones by requiring that particular activities which may affect the quality of waters in coastal areas (such as construction activities, the extraction of minerals, tree felling, farming and so forth) may be performed only upon the agreement of water resource agencies, executive committees of local Soviets of people's deputies or other bodies in conformity with USSR legislation 91/.

(b) In the Case of Water Quality and Pollution Control

To ensure the protection of waters used for drinking, for household needs of the population, for therapeutic purposes, for health resorts and recreation facilities, legislation of the Soviet Union and the Union Republics have established sanitary protection districts and zones 92/. Further, in order to maintain favourable water conditions in rivers, lakes, reservoirs and subterranean waters and to prevent soil erosion by water, the siltation of reservoirs, the deterioration of conditions for the habitation of water animals and to control fluctuation in water flow, the USSR's water legislation also provides for the establishment of water protection zones in forests 93/. Within such zones, forest improvements, anti-erosion, hydrotechnical and other measures must be carried out in accordance with legislation of the USSR and its constituent Union Republics 94/.

XII. GOVERNMENT WATER RESOURCES INSTITUTIONS AND ADMINISTRATION

(a) At the National, Intermediate and Local Levels

The Soviet Union attaches great importance to the strengthening of state activity in the domain of the efficient utilization and protection of waters. Water utilization and conservation are administered by the Councils of Ministers of the USSR, the Councils of Ministers of Union and autonomous republics, the executive committees of local Soviets of people's deputies and also by specially authorized state agencies empowered to regulate water utilization and conservation, either directly or through basin (or territory) administrations.

In general, agencies for regulating water utilization and conservation are divided into three categories:

- (1) Agencies of general state supervision; the USSR Council of Ministers, the Councils of Ministers of Union and autonomous Republics and the executive committees of regional, territory, district, city and village Soviets of people's deputies are empowered to regulate the utilization and conservation of water, in the course of general supervision of national economy of the country;

89/ Fundamentals of Water Legislation, Art. 28.

90/ Ibid., Art. 29.

91/ Ibid., Art. 11.

92/ Ibid., Art. 38.

93/ Ibid., Art. 39.

94/ Ibid.

- (2) Agencies of special state supervision - including the Ministry of Land - Reclamation and Water Economy, the Health and Geological Ministries, the USSR State Committee for Science and Technology and their local branches. These agencies are specially authorized to regulate the utilization and conservation of water and to exercise continuing control over the observance of water legislation. Special state inspectorates work at different levels within the entire system of these agencies;
- (3) Agencies of departmental supervision - all ministries and departments are empowered to manage the branches of national economy exploiting water resources. They are entrusted with ensuring the observance of the Fundamentals of Water Legislation within the various departmental branches of the national economy.

It is important to point out in connection with any discussion of administrative nature, that the control of water resources within the Soviet Union is developed and maintained in substantial part, through the principle of basin planning. Section IV of the Fundamentals of Water Legislation (articles 41 through 45) deals with the topic of "State Registration and Planning of the Use of Water Resources." Under that heading, the legislation provides first for the registration of water resources and then states that the purpose of such registration is to establish the quantity and quality of water available and to provide data on the use of water resources for the needs of the population and the national economy 95/. To properly plan the use of water resources, the legislation notes that it is "necessary" to take account of data set forth in:

- (1) the State Water Register,
- (2) the economic water balance, and
- (3) schemes for the comprehensive use and protection of water resources 96/.

Each of these enumerated items is then described. Firstly, the State Water Register is established to carry information on the quantitative and qualitative indicators of water resources available, records of water users and data on water consumption 97/. Secondly, economic water balance sheets are created for the purpose of estimating the availability of water resources and the extent of their use. Such balance sheets are to be drawn up for each water basin, each economic area (not defined), each Union Republic and for the USSR as a whole 98/. Finally, schemes for the comprehensive use and protection of water resources are to be developed for the same progression of entities (from each local water basin to the USSR as a whole). The purpose of such schemes is to lay down the basic economic and other measures to be executed to meet the long-term water needs of the population and the national economy, to protect water resources and to prevent the harmful effects on water 99/.

As noted earlier, the Fundamentals of Water Legislation expressly require that the three foregoing water tools be utilized in planning the use of water resources. Actual responsibility for planning and implementing the use of the USSR's water resources is invested at various political levels, to the following agencies:

95/ Fundamentals of Water Legislation, Art. 41.

96/ Ibid.

97/ Ibid., Art. 42.

98/ Ibid., Art. 43.

99/ Ibid., Art. 44

- at the USSR level, to the Ministry for Land-Reclamation and Water Economy;
- at the level of the Union Republics, to each Republic's Ministry for land-reclamation and water economy;
- at the level of the various Autonomous Republics, to each Republic's ministry for land-reclamation and water economy;
- at the regional and territorial level, to regional and territorial administrations for land-reclamation and water economy

At the district level, the majority of districts do not have legislation providing for the establishment of specialized water agencies. However, in certain selected district of irrigated agriculture there exist district administrations of irrigation systems, which management tends to perform such a function. At the city and rural settlement level, provision is not typically made for specialized water management agencies.

(b) At the International level

In its relationships with neighbouring countries concerning the use of frontier waters, the Soviet Union carries on a policy of friendly, peaceful cooperation, and is guided by generally recognised principles of international law. In its activity, it promotes the development of new, progressive legal forms and the principles of international cooperation. Proceeding from the principle of the unified water basin, the Soviet Union observes the basic provision of international law which stipulate that every state within its frontier line exercises sovereign control over any international water body. This principle is observed so as not to project the implementation of sovereign rights into tyranny towards other states.

A number of agreements have been entered into by the Soviet Union and its neighbours which stipulate the terms, conditions and requirements of joint utilization and conservation of frontier waters. One of the most complete and universal is the agreement between Finland and the USSR on frontier water systems of April 24, 1964 100/. Another is the agreement between the Polish People's Republic and the USSR on the water economy of frontier waters of July 17, 1964 101/. These agreements have each instituted a joint commission on water resources. Separate agreements define the procedure for the joint utilization and conservation of the Tissa, Prut, Araks and Amu-Daria and Selenga rivers.

Recognizing the significant role and evergrowing importance of international cooperation in the domain of the utilization and conservation of waters the Fundamentals of Water Legislation state that water use on the frontier waters of the USSR shall be on the basis of international agreements 102/. To the extent that water use of the Soviet Union of frontier waters has not been regulated by international agreements with the participation of the USSR, it is exercised in accordance with the USSR and Union Republics legislation 103/.

100/ "Vedomosti of the Supreme Soviet of the USSR", 1965, No. 21, Art. 326.

101/ Ibid., No. 17, Art. 203.

102/ Fundamentals of Water Legislation, Art. 36.

103/ Ibid.

XIII. SPECIAL AND AUTONOMOUS WATER RESOURCES DEVELOPMENT AGENCIES

Numerous scientific and research institutes of the Ministry for Land-Reclamation and Water Economy of the USSR and corresponding Republic ministries are engaged in studying the problem of water economy development and improvement of the utilization and conservation of waters. The Institute of Water Problems, attached to the Academy of Sciences of the USSR also studies questions of the theory of water economy. In addition, special research and project institutes exploring selected aspects of the utilization and conservation of water are attached to the Ministries of Energetics and Electrification, Fisheries, Agriculture, River Transportation and Forestry. The majority of the foregoing scientific and project institutes have their regional departments and branches in various districts of the country.

XIV. LEGISLATION ON WATER RESOURCES DEVELOPMENT FINANCING

The financing of water resources development is considered in connection with State financing of the national economy. Typically water utilization and conservation projects are designated as capital investments to be financed to a great extent by the state budget either as a capital contribution to non-profit enterprises and organizations or as a credit. The enterprises concerned fund their own operation and maintenance expenditures. Excepted are the state irrigating systems, the upkeep of which are compensated at the expense of the state budget.

XV. WATER LAW IMPLEMENTATION

(a) Juridical Protection of Existing Water Rights

The Soviet State attempts to ensure, with the help of all available means, the observance of water laws and the protection of the rights of water users. Wherever necessary, it compels water users to observe their duties.

Competent state agencies are required, under established procedure, to keep a record and registration of water users in order to insure the observation of their rights by others. At the same time, an intensive campaign against infringement of the law is carried out.

(b) Modification, Termination and Reallocation of Water Rights

The Fundamentals of Water Legislation provide that the right of an enterprise, organization, agency or citizen to use water (with the exception of a right to use water for drinking and household purposes) may be revoked if the party concerned has broken the rules governing the use and protection of water resources or has used a water source for purposes other than those specified by the terms on which the water source has been made available 104/. Revocation is also appropriate where the right of use has been renounced by the user or the need for water has terminated; where the term of water use has expired; where the enterprise, organization or agency making use of the water, nor longer exists; where the waterworks installations have been transferred to other users or where a need to withdraw a water source from exclusive use has developed 105/. The Union Republics are expressly authorized to develop their own legislation specifying additional grounds for revocation if they deem such legislation appropriate 106/.

104/ Fundamentals of Water Legislation, Art. 18.

105/ Ibid.

106/ Ibid.

107/ Ibid., Art. 19.

The legislation also specifies the manner in which revocation is to be effected: (1) by cancellation of permission to special and secondary use of water or by withdrawal of a water source from solitary use 107/; (2) cancellation of secondary use may occur by decision of the primary user or by withdrawal by enterprises, agencies or organizations subordinate to Union Republic level authority, in agreement with the user concerned and the ministry or department to which it is subordinated.

(c) Water Tribunals, Courts and Other Judicial Water Authorities

A variety of transgressions concerning Soviet water law are sufficient to bring the transgressor within the ambit of the courts and other judicial water agencies. Such transgressions include, inter alia, the infringement of a right to use or other action interfering, directly or indirectly with the basic principle of state ownership of water, pollution, wasteful use, unauthorized water use, violation of water protection conditions pertaining to pollution, soil erosion or other harmful effects, and the commencement of operation of water projects before they have been fitted with structures and devices designed to prevent pollution or other harmful effects 108/. In each of these instances, the violation shall be held responsible under the criminal law or under appropriate administrative measures 109/.

Where necessary, agencies of the Procurator's Office are empowered to undertake an examination of suspected water law violations. Further, courts are entitled to examine criminal cases, disputes concerning the reimbursement of damage due to infringement of rights (if one party to a dispute is a person or a collective farm) and complaints of officials and citizens about decisions of administrative agencies concerning fines. Arbitration agencies settle property disputes between state enterprises, institutions and organizations. In addition, the Committee of People's Control is empowered to check the work of selected state agencies, institutions and organizations. In cases of violations they are entitled to impose liability upon guilty officials.

(d) Penalties

Where violations of Soviet water law occurs, a variety of remedies and penalties are provided. Pursuant to the Fundamentals of Water Legislation, enterprises, organizations, agencies and citizens are obliged to provide compensation for damages caused by their violation 110/. Importantly, officials and other workers who are responsible for the compensation expenses borne by their enterprises, organizations or agencies are obliged to indemnify such losses 111/.

Criminal liability is provided for in the Criminal Codes of Union Republics and in separate laws of the USSR. The legislation generally establishes liability for such crimes as pollution of water bodies and violation of rules for the use of waters. Provision is made for punishment in the form of imprisonment for a period of up to five years 112/.

108/ Fundamentals of Water Legislation, Art. 46.

109/ Ibid.

110/ Ibid., Art. 46.

111/ Ibid.

112/ Criminal Code of the RSFSR, Art. 223.

For pollution of the internal seas and territorial waters of the USSR due to illegal discharge from vessels, the Decree of the Supreme Soviet of the USSR dated February 26, 1974 provides, for punishment by way of imprisonment for a period of two years, or corrective labour for the period of one year, or a fine of up to 10,000 rubles. Similar penalties are imposed for not taking proper measures to prevent the loss of substances, harmful to the public health and marine resources or for the discharge of mixtures, containing pollutants on above established norms 113/. The same actions, if causing substantial harm to the public's health and marine resources are subject to punishment by way of imprisonment for a period of up to five years or fine of up to 20,000 rubles 114/.

In accordance with the Statutes of the Council of Ministers of the Union Republics, persons guilty of violating water legislation by pollution and obstruction of surface and underground waters, through effluent or wasteful discharges as well as by violation of the rules for utilization and conservation of water resources, shall pay a fine in the amount of 10 rubles (citizens) and up to 50 rubles (officials); as determined by an administrative procedure and levied by decisions of state inspectors responsible for water conservation 115/.

XVI. CUSTOMARY WATER LAW AND INSTITUTIONS

Under modern conditions, due to the high level of the development of Soviet Water Legislation, the norms of customary water law have lost their force and are not applied. The former customary law was in part assimilated by the Water Legislation.

XVII. INTERNATIONAL TREATIES

Should international treaties of the USSR establish regulations other than those contained in the Soviet Water Legislation, as well as in the legislation of Union Republics, the regulations of the international treaties will be applied 116/.

113/ Criminal Code of the RSFSR, Art. 161.

114/ Ibid., Art. 223. See also: Decree "On Strengthening the struggle against pollution of the Sea with substances harmful for people's health and for living resources of the sea". Collected Decisions of the Party and the Government. Vols. 1-13.

115/ Decree of the Council of Minister of the USSR, February 18, 1963. In the Collected Normative Acts on Environmental Protection, Moscow, 1978, p. 315.

116/ Amendments to the Soviet Water Legislation of 1980, Art. 47.

YUGOSLAVIA 1/

I. INTRODUCTION

Stretching back from the shores of the Adriatic Sea, the Socialist Federal Republic of Yugoslavia, occupies an area of 255,804 square kilometers and has a population of approximately 22,350,000 people 2/. To the north, it is bounded by Italy, Austria and Hungary; to the East, by Romania and Bulgaria with Greece and Albania to the South. On the West, its interface with the Adriatic Sea is punctuated by numerous inlets and a multitude of islands that give the area the appellation, "coast of a thousand islands".

The greater part of the country is hilly or mountainous; about 60 percent of the total land area consists of hills or ridges from about 180 to 900 meters in elevation with another 20 percent consisting of high mountains and ranges over 900 meters high. The mountain features are arranged in a series of transverse ridges running parallel to each other behind the seacost. Passes are high and rivers are often deeply entrenched in gorges; a factor that lends an isolated character to much of the region. The principal lowland area lies in the extended Pannonian Plain located in the north and northeastern part of the country. This fertile valley area, together with the many fluvial valleys scattered among the hills and lower mountain slopes, constitute the remaining 20 percent of Yugoslav territory.

For its size (the 9th largest country in Europe), Yugoslavia has more rivers than most European countries. Although many of these are of little use for navigation, they possess considerable hydroelectric potential. In the rougher mountain areas, for example, the rivers flow through narrow defiles and steep-sided gorges. Most of the rivers in these areas have steep gradients and fast currents. In the southeast, rivers are shorter than in the north and generally flow through broad valleys. Water levels are usually high from March until June and most streams are moderately swift during this period. Low water commonly prevails from July until October.

The combined length of the rivers in the country is 118,371 kilometers. About 70 percent of the rivers in the country drain to the Black Sea, with most of the remainder flowing ultimately into the Adriatic. In the northern plains area, all drainage is to the Black Sea basin through the Danube River and its four large tributaries: the Drava, Tisa, Sava and Morava rivers. In places the Danube - which flows through Yugoslavia for more than 585 kilometers - is more than 3.2 kilometers wide and 15 meters deep; although large fluctuations between high and low water are typical. Because of problems associated with broad flood plains and heavy waterflow in the Danube basin, numerous artificial levees and drainage ditches have been constructed. The principal canal system lying to the northeast of the river, although primarily serving navigation, is also a major factor in providing irrigation.

1/ Prepared for the FAO Legislation Branch by Vera Jazvic Petrogianna and reviewed by Dr. Lovro R.R. Sturm.

2/ Preliminary census of March 31, 1981

The quantity of the Nation's surface and groundwaters are systematically surveyed only in a few areas of the country. The overall quantity of safely extractable groundwater is estimated to be in the range of 5,000 to 7,000 million cubic meters a year, or about 240-330 cubic meters per head of the population. The quantity of water used for domestic and industrial consumption totals about 2,500 million cubic meters a year, with public water supply accounting for about 25 percent, steam power plants for about 30 percent, and other industries for about 45 percent. Fifty-six percent of the population has a piped supply (in 1975). About 60 percent of piped water is supplied from groundwater, about 30 percent from captured sources of shallow flows, and the rest from surface waters (rivers and storage reservoirs).

Yugoslavia has a well diversified vegetation cover, with cultivated plants occupying a larger area than uncultivated. Forest, mainly in the hills and mountains, accounts for more than 10 percent of the cover. Cultivated vegetation predominates in the Northern Pannonian Plains area and in limited areas of the Kant region. The chief crops in these rich areas are wheat, maize, sugar beets and potatoes. Fruit trees and vineyards are also common and produce good yields. Of Yugoslavia's total land area (25.6 million hectares), 13.7 million hectares, or 53.7 percent is accounted for by land area located at an altitude of up to 500 meters above sea level. It is estimated that of this total area, about 8.4 million hectares are suitable for irrigation. Approximately 65 percent of this total irrigable area falls within cadaster classes I, II and III, which include the most productive land. Cadaster class I land - where irrigation is possible without restrictions - accounts for about 700,000 hectares of this irrigable area. Hence, there exist possibilities for the development of increased agricultural production through multiple harvests, with the help of irrigation.

While agriculture has been and continues to be a major segment of the economy (nearly 10 million hectares under cultivation in 1979), the rapid development of industry after 1945 nonetheless reduced the working population in agriculture from 80 percent to less than 40 percent ^{3/}. Thus, while the country is self-sufficient in wheat, it is also self-sufficient in chemical fertilizers. In the industrial sector, there has also been a marked increase in productivity of electric power made by petroleum and its derivatives, non-ferrous metals, machinery, motor cars, ship building, electronics, paper, food and other consumer goods. Together, industry and mining now amount, in fact, for 45 percent of Yugoslavia's gross natural product.

Modern Yugoslavia dates from the end of World War I, 1918, when a new state rose from the ruins of the Austro-Hungarian Empire and its bordering states. The territories which came together to form Yugoslavia after World War I comprise seven distinct political, legal and administrative regions. Serbia and Montenegro were independent countries at the time of the outbreak of World War I. The remaining five regions had all formed part of the Austro-Hungarian Empire: Slovenia and Dalmatia in the Austrian half, Croatia-Slavonia and Vojvodina in the Hungarian half, and the province of Bosnia-Herzegovina under the common Austro-Hungarian central hierarchy. Superimposed upon these divisions, was an extraordinary diversity and lack of cohesion among ethnic, linguistic, religious, cultural and historical factors, together with wide disparities in social and economic development. The differences gave rise to complex problems which were intensified during the period between the wars by the internal policies of

^{3/} The Europa Yearbook, 1982, Vol.I, p. 1419.

successive governments. In 1921, Yugoslavia was declared a constitutional monarchy. The failure of the monarchy to recognize and deal effectively with the problem of multiple nationalities and to ensure a more even national distribution of political power and influence, however, greatly weakened internal cohesion during the period leading to Nazi occupation. Following the collapse of Nazi power in Europe during World War II, a Federal People's Republic was proclaimed in 1945 under the leadership of President Tito. Under that leadership, Yugoslavia became a Socialist Federal Republic comprising the Republics of Serbia, Croatia, Macedonia, Montenegro, Slovenia and Bosnia-Herzegovina as well as the autonomous Serbian provinces of Kosovo and Vojvodina. The office of President of the Republic ceased to exist upon the death of Tito. Today, a nine-member collective state Presidency, consisting of one representative of each republic and autonomous province and (*ex officio*) the President of the Presidium of the League of Communists (LCY), exercises the rights and duties of Head of State. The posts of President and Vice-President of the collective Presidency rotate annually in a fixed sequence of republics and provinces. The members of the Presidency are elected for a five-year period by both chambers of the Assembly of the Socialist Federal Republic. The Assembly also nominates the members of the three principal courts; the Constitutional Court, the Supreme Court and the Supreme Economic Arbitration Court.

Historically, each territory included within Yugoslavia, at the end of World War I, had its own legal provisions on waters. In Serbia, for example, the Serbian Civil Code of 1844 and the Act on Waters and their Use (26 December 1878) were in force. According to these provisions, waters were considered as "*res omnia comunis*" and their "common use" was presumed; while any other use of water was subject to a water use permit of a competent authority. In Bosnia and Herzegovina, Ottoman Legislation was in force. In the Civil Code, such legislation distinguished between "*mubah*" - public rivers (*extra commercium*) for which there was no private ownership - and *private waters* that belonged to riparian landowners and which did not flow into public rivers. Ownership of private waters was limited, however, because their use was open to third parties in the event there was no drinking water nearby. The so-called "Ramazan Law" of 3 May 1858 encouraged the use of customary law, especially for civil law matters. On 12 December 1908 the Act on Foundation and Organization of Associations for Water was promulgated. As regards procedure for acquisition of water permits, administrative authorities, and not regular courts, were empowered to grant permits. In Croatia and Slovenia the General Civil Code of Austria of 1 June 1811, was applicable. This Code did not accept the Roman Law principle that considered all flowing waters as public - *res omnium communes*. Instead, it made a distinction between public and "particular" waters, that is, private waters. The distinguishing factor was navigability. This principle was accepted in the Austrian Basic Water Law of 30 May 1869, and all other territorial water acts for the territories that later became part of the new State of Yugoslavia. During the period between the wars, in the new state of Yugoslavia an even wider variety of provisions concerning water use were promulgated.

After the second World War, all the legal provisions issued by the occupational authorities were discontinued. This was not necessarily true of the legal provisions that were in force before the war started. Only those provisions that were contrary to the new socialist establishment of Yugoslavia were discarded. A situation was thus created wherein the use of certain provisions of the pre-war legislation created a reservoir of principles, rules, notions, criteria and instructions that controlled water resource utilization until new legal provisions were promulgated. This occurred when the Basic Act on Waters was promulgated, and the Republics adopted their own acts on water. After the adoption of the Country's new Constitution of 1974 and its attendant constitutional changes, only the regulation of the basic characteristics of water regimes of concern to two or more republics remains at the federal level.

II. LEGISLATION IN FORCE

Yugoslavia is a federal State with staunchly autonomous socialist republics which have their own legislation in almost all matters. This is generally true in the field of water legislation as well. There are however, several major federal enactments that concern, particularly, inter-republican and inter-state waters.

(a) Federal Legislation

1. Constitution of 21 February 1974.
2. Law on the Basic Characteristics of Water Regimes concerning two or more Republics or Autonomous Provinces and Inter-State Waters (28 December 1973).
3. Regulations on dangerous substances that may not be discharged into waters (19 January 1966).
4. Regulations on the types and ways of observing and Testing Quantity and Quality Changes of Water (17 August 1966).
5. Order on Classification of Waters of Inter-Republican Watercourses, Inter-State Waters and Waters of the Territorial Sea of Yugoslavia (2 February 1978).
6. Law of National Defense (26 April 1978).
7. Decree on Maximum Permitted Concentrations of Radionuclear and Dangerous Substances in Inter-Republican Watercourses, Inter-State Waters and Waters of the Territorial Sea of Yugoslavia (9 February 1978).
8. Resolution on the Politics of Development of Water Management in Yugoslavia (28 December 1973).
9. Law on the Organization and Field of Action of Federal Administrative Authorities and Federal Organizations (28 April 1978).
10. Civil Code of 1 June 1811 for Croatia and Slovenia (some provisions still apply).
11. Civil Code of Serbia of 1844 (some provisions still apply).

(b) State Legislation

The main legal provisions on waters of the socialist Republic of Croatia, exemplify state laws relating to water. These provisions are as follows:

1. Constitution of SR Croatia (22 February 1974).
2. Act on Waters (18 December 1974).
3. Penal Law of 20 June 1977.
4. Act on Protection of Land from Erosion and Torrents (31 May 1960; with amendments of 20 January 1965).

5. Act on Mining (29 April 1975).
6. Act on Construction and Exploitation of Land Reclamation Systems (31 May 1960).
7. Act on Electric Power Industry of Croatia (11 Decemember 1974; with amendments of 1975 and 1976).
8. Act on Inland Fishing (30 March 1973).
9. Act on expropriation (6 March 1978).
10. Act on Administration (26 September 1968, with amendments of 1969, 1970, 1971 and 1974).
11. Act on National Defense (12 April 1976).
12. Act on the Basis of Social Self-Defence (1 March 1976).
13. Decree on Establishing Water Districts of 1967.
14. Order on Water Classification (17 July 1967).
15. Order on Categorisation of Watercourses (17 July 1969; with amendment of 1974).
16. Act on Amount of Compensation for the Financing of Water Management (26 December 1974).
17. Act on the Activities of the Hydrometeorological Service in Socialist Republic of Croatia (24 March 1978).
18. Act on Exploitation of Agricultural Land of 1973.
19. Social Compact on Development of the Agro-Industrial Complex of SR Croatia (5 May 1978).

III. OWNERSHIP OF WATERS

1. Federal Legislation

According to the Federal and Republican Constitutions and the Constitutional Laws of Autonomous Provinces, waters, watercourses, the sea and the seashore are matters of general interest ^{4/}. Therefore, it is not possible to acquire ownership of waters and watercourses. Land by the water's edge can be a private property, but its use can be limited in different ways. Spring water or underground water on private land can be used by the landowner, but the right to use the water must be acquired by water use permit granted by the appropriate authority. In general, the juridical rules of Civil Law are applicable to determine the existence and extent of any servitudes on water.

^{4/} Constitution of SR Yugoslavia of 21 February 1974, Art. 85.

2. State Legislation

Legal provisions of all the Republics confirm and reiterate the Federal and Republican Constitutions on the matter of ownership of waters. Natural watercourses, natural lakes, natural springs, underground water, public wells, and fountains are goods of general use. On the basis of statutory provisions, their use can be limited or they can be restricted for special use. The activity of water management, the protection of water from harmful effects, the use of water and its protection, are all deemed to be of special interest and are therefore subject to administrative control 5/. Nonetheless, in certain limited instances, use can be made of water without special authorization, for example, in SR Croatia, the owner or user of land cannot own water; the owner or user of land, however, can use water, without authorization, in specified cases, e.g. when the water is not used or exploited with special installations or for an economic activity; rain water collected on the land or which flows across that land; or spring water that does not form a waterflow within the owner's land 6/. In SR Bosnia and Herzegovina as another example, the landowner or user of land can use water from wells (except for artesian wells), for drinking, washing, cattle watering, vegetable gardens and similar purposes without a water use permit if this use does not imperil the water regime or does not limit or make impossible the use or exploitation of water by other persons who have obtained water use permits. The aforesaid use of water is permitted provided it is exercised without use of elaborate mechanical installations. Simple devices include those purely hand-operated and others not exceeding two horse power. The Communal Assembly may also authorize free use of water, especially in connection with human health, animal protection, etc., without need for a permit. Likewise, the Assembly may delineate areas where water can only be used on the authority of a permit granted for water use 7/.

IV. THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Federal Legislation

A water use permit for the use of water or the discharge of wastewater into inter-republic or interstate waters is issued by the responsible authority of the republic or autonomous province 8/. Where the issuance of such a permit may influence the water regime in another republic or autonomous province downstream or

5/ Act on Waters of SR Croatia of 11 December 1974, Art. 4 and 5.

6/ Ibid., Art. 39.

7/ Act on Waters of Sr Bosnia and Herzegovina of 8 December 1975, Art. 57 and 58.

8/ Law on the Basic Characteristics of 28 December 1973, Art. 11.

upstream, it may not be issued without the prior consent of the responsible authority of the affected republic or the written confirmation from the responsible authority of that republic that such consent need not be sought. The authority empowered to issue water use permits must inform the responsible authority whose prior consent is needed of any intended use of water or discharge of waste water to the relevant inter-republican watercourse, and must apply for the required consent. This authority must reply within 30 days and state whether or not such consent is necessary. Within 60 days of the receipt of complete engineering documentation, the authority in the potentially impacted province must state whether or not its consent is given. The responsible authority giving prior consent may make this consent contingent upon the undertaking by the authority empowered to issue the water use permit of measures to prevent or moderate harmful consequences which might otherwise arise from the intended use of water or discharge of waste water 9/.

In addition to the above, federal legislation also provides that permits for the use of water or discharge of waste water within the basin of inter-state waters subject to an international agreement must be consistent with that agreement and may not be issued without the prior consent of the Federal Committee for Agriculture and the Federal Secretariat of National Defence. The republic or autonomous province whose authority has issued a water use permit without the necessary prior consent or confirmation that prior consent is not needed is responsible for any damage which may be occasioned therefrom in another republic, autonomous province or state. Similar responsibility exists also in case of damage occurring from the erection of a structure or plant without a water management approval or from the use of water or discharge of waste water without a water use permit 10/.

Federal legislation also provides that a water management approval must be obtained for the construction or reconstruction of water works and other structures (such as structures necessary for the extraction of stone, sand, gravel etc.) on a national watercourse or on inter-state waters if such works or structures may affect the natural or artificially established water regime or if those works or structures may be affected by the water regime. The water management approval is issued by the responsible authority of the republic in whose territory the structure or plant is to be built. If the structure or plant extends over the territory of more than one republic, the waterworks approval is issued by an Authority established in accordance with an agreement of the republics concerned. The Authority proposing to issue such a waterworks approval must inform the responsible authority whose prior consent is required of any intention to erect a structure or plan on the relevant inter-republican watercourse, and must apply for the necessary consent. As described above in the case of use permits, the responsible authority from whom this consent is sought must reply within 30 days, stating whether such consent is considered necessary or not. Within 90 days from the receipt of complete engineering documentation, it must state whether such consent is given or not. As was the case with ordinary use permits, any approval for the erection of a structure or plant within an inter-state basin which is the subject of an international agreement must be consistent with that agreement and may not be issued without the prior consent of the Federal Committee for Agriculture 11/.

9/ Law on the Basic Characteristics of Water Regimes of 28 December 1973, Art. 12.

10/ Ibid., Arts. 14 and 15.

11/ Ibid., Arts. 8-10.

(b) State Legislation

Water Acts of the various socialist republics also provide for water use permits and approvals in a manner similar to federal provisions regarding inter-republican and inter-state waters. The difference of course is that the water use or structure in issue need not have an effect that extends beyond the boundaries of the republic concerned.

1. A waterworks approval is necessary for the construction or reconstruction of waterworks and other structures that in any way can affect water quality or can temporarily, occasionally or permanently cause changes in natural or artificially established water regimes 12/. Waterworks approvals are issued by the republican administrative authority responsible for water which considers the opinion of the relevant general water management company 13/. A communal administrative authority is competent to issue the necessary approval when the construction or reconstruction of structures or works does not change a water regime beyond the communal territory. In such a case, too, the opinion of the relevant general water management company must be considered. Under the foregoing conditions, the communal administrative authority for water management may issue a water management approval, in the following cases:

- (i) for the undertaking of works and measures for soil erosion protection and the regulation of waterflows and torrents;
- (ii) for the erection of irrigation and land reclamation installations;
- (iii) for construction of local aqueducts;
- (iv) for the construction of local transformer stations, transmission lines and other electric-power facilities, and the construction of mills and local power-supply plants;
- (v) for the construction of local roads; and,
- (vi) for forest roads 14/.

The applicant who wishes to obtain the waterwork approval must enclose with the application, complete engineering documentation which refers to the construction of installations, plants and particularly to the technological process as connected with the use of water and waste water treatment, along with a description of their effects on the water regime. The communal water management authority must promptly deliver a copy of the water management approval issued, to the republican water management administrative authority for its review 15/.

12/ Act on Waters of SR Croatia of 11 December 1974, Art. 20.

13/ Ibid., Art 22.

14/ Ibid., Art. 19.

15/ Ibid., Arts. 21-22.

2. A permit is also necessary at the republic level for the use of water and for the discharge of waste water, refuse and other substances that can cause pollution of water. The permit determines the nature of the use, the manner of discharge and the requirements for discharge of purified and non-purified waste waters, refuse and other substances 16/. Such a water use permit can be issued either for a limited or an unlimited period 17/. Again such permits for use and discharge are issued by the republican administrative authority for water management only after considering the opinion of the general water management company for the republic. In exceptional cases, water management permits may be issued by the communal administrative authority. Such cases include the following: artesian and other wells proposed by the communal assembly; water uses that cannot influence a water regime beyond the communal territory e.g., mills etc.; and the use of underground waters for drinking purposes where it is established that such use does not influence underground waters beyond the communal territory 18/.

A permit for commercial fishing can be issued by the communal administrative authority wherein the fishing waters are situated 19/. This permit may be issued for periods up to 30 days 20/, there are also daily permits 21/. For sport fishing, no special permit is necessary for members of fishing organizations.

V. ORDER OF PRIORITIES

Yugoslav federal legislation does not provide for a general order of priorities between different uses or areas or between concurrent or competitive rights. However, the water acts of the various republics establish priorities in certain cases.

State Legislation

The legislation of SR Croatia illustrates this theme. The use of water for drinking supplies, for reasons of health, for public service, for defence, and for exploitation of mineral waters has priority in relation to other uses of water 22/. If more than one organization or person requires water, and the needs of all cannot be satisfied because of limited quantities of water, then these uses will take precedence in the issuance of water permits 23/.

VI. LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic and Household Uses of Water

The right to use water for domestic purposes is regulated by the Water Acts of each Socialist Republic or autonomous province.

16/ Act on Waters of SR Croatia of 11 December 1974, Art. 29.

17/ Ibid., Art. 34.

18/ Ibid., Art. 38.

19/ Act on inland fishing of SR Croatia of 30 March 1973, Art. 20.

20/ Ibid., Art. 23.

21/ Ibid.

22/ Act on Waters of SR Croatia of 11 December 1974, Art. 27.

23/ Ibid., Art. 33.

State Legislation

The legislation of Croatia is typical and provides that waters in natural watercourses as well as natural reservoirs of accumulated water can be used for drinking, bathing, washing and cattle watering, orchards, sports, recreation and other domestic needs if it does not upset the water regime. In these cases a water permit is not necessary 24/.

(b) Municipal Uses

Responsibility for the water supply of towns and villages is vested in waterworks organizations. Self-managed waterworks communities of interests do the building, repair of water main networks and take care of water springs and reservoirs. The distribution network to consumers is built and managed by communal waterworks organizations with the participation of users.

(c) Agricultural Uses

State Legislation - SR Serbia

Legislation in this area of usage is standardized. Land reclamation systems are considered either natural or man-made hydrotechnical objects used for agricultural land protection. Water may be used for agricultural purposes on territory which forms a hydrotechnical and economic unit. All users of agricultural land are entitled to benefit from the land reclamation system 25/.

Easements can be acquired in land reclamation areas in favour of third persons for the purpose of supplying or diverting water. Such easements are granted or withheld by the communal administrative authority for agriculture. The land-owner or land user is entitled to compensation from the third person that benefits from the servitude 26/. Land reclamation or irrigation systems can be constructed by water communities, other economic organizations and socio-political communities (investors) 27/. If construction of a land reclamation and irrigation system is performed by the socio-political community, republican law or provisions of the assembly of respective socio-political communities guide where the determination of land reclamation is to be undertaken. Inter alia, the various republic acts pertaining to agriculture determine in detail the sources of financing the managing organization, the rights and duties of the organization and of the water users within the territory of the land reclamation organizations 28/. For the use of the reclamation and irrigation system the user pays compensation computed to include costs of construction of particular works of the system, management costs, maintenance and operating costs 29/. Private land that is necessary for the construction of land reclamation structures can be expropriated according to current legal provisions 30/.

24/ Act on Waters of SR Croatia of 11 December 1974, Art. 31.

25/ Act on Land Reclamation Systems and the Use of Land in Land Reclamation Systems of SR Serbia of 1965, Arts. 1 and 2.

26/ Ibid., Arts. 1 and 2.

27/ Ibid., Art. 11.

28/ Ibid., Art. 12.

29/ Ibid., Arts. 15 and 16.

30/ Ibid., Art. 34.

The Socialist Republics of Bosnia and Herzegovina have added an additional element to the foregoing legislative scheme. There, a land owner or user can use water without a permit provided the source is a natural watercourse flowing through the land. This use may include irrigation. The communal assembly may prohibit or limit this use of water if it endangers the water regime, causes erosion or reduces water for drinking, washing and watering of animals, or if it makes impossible the building and exploitation of waterworks and structures 31/.

(d) Fishing

Fishing use is regulated at the republic and autonomous province level. Nearly all republican and provincial provisions are virtually identical in this regard.

State Legislation - SR Croatia, again, is typical in its legislative treatment of fishing. According to the act on inland fishing which includes breeding, protection, catching and exploitation of fish, cray-fish, leeches, and other inland water animals. The stocking of fish is also included. Fishing waters are considered to include all fresh running waters with their flooded areas, natural fresh water lakes, ponds, artificial lakes and channels and other objects for water accumulation that contain fish and other animals 32/. Fishing can be commercial, for sport, a personal hobby, or recreational 33/. Permission for commercial fishing is issued by the administrative authority of the applicant's residence, if fishing is the major occupation of the applicant 34/. The Socialist Republic of Serbia allows fishing as a supplementary occupation if the applicant signs a contract of cooperation with an organization of associated labour.

Fishing for sport can be performed only by angling. Persons who are not members of sport fishing organizations can obtain the necessary permission for sport fishing by paying a fishing fee. This permission is issued by the organization that administers the fishing area and it can be valid for 1-30 days (daily permits) 35/. For the purpose of protection and improvement of inland fishing, it is forbidden, inter alia: to pollute fishing waters by discharging liquid or solid refuse or any other substances that destroy fish or have harmful effects on the biological conditions for their existence; to catch fish and other animals by explosive or chemical means that kill or stun them; to kill fish and other animals by the use of such fire-arms as underwater guns, harpoons, tridents and by electric current 36/. Other practices not allowed, include sport fishing in mountain waters; tampering with watercourses to impede the passing of fish, pumping water from fish ponds and, generally, changing the nature of the environment of where fish live 37/. Supervision of the implementation of fishing legislation is undertaken by local administrative authorities and by republican department of fishing inspectors. Fishing in boundary waters is regulated by international agreements on fishing.

31/ Act on waters of SR Bosnia and Herzegovina of 8 December 1965, Art. 53.

32/ Act on inland fishing of SR Croatia, 30 March 1973, Art. 1.

33/ Ibid., Art. 16.

34/ Ibid., Art. 20.

35/ Ibid., Arts. 21-23.

36/ The use of the current may be allowed in certain cases with special permission.

37/ Act on inland fishing of SR Croatia of 30 March 1973, Art. 37.

(e) Hydropower

State Legislation - SR Croatia

Again, this is controlled at the republic level, and SR Croatia is distinguished for such legislation. The method of using, and the conditions for the use of water for hydropower generation are stipulated in a water management approval given by the republican authority for water management 38/. The method of operating reservoirs for optimum exploitation of available water supplies, in all seasons of the year, is determined by the annual electric-power balance of the republic 39/.

The basic industrial unit organization of associated labour for electric-power production is the hydro-electric plant. These plants join with other basic organizations of associated labour formed to transmit electric power by operating transmission lines. Together these two basic hydroelectric units form "work organizations". These "work organizations" form a community of electric-power organizations in Croatia. At the Federal level there is an association of Yugoslav electric power industries 40/. The federal Parliament exercises regulatory control over the activities of this association 41/. The funds for its activities are provided by the contribution of joint work organizations and its procedures are determined by a self-managing agreement 42/.

(f) Industrial and Mining Uses

Every Republic and Autonomous Province has its own legislation in this area. In general, the provisions of these acts are very similar.

State Legislation - SR Croatia

A mining organization may use surface water in accordance with the water legislation of the republic. In general, waters that appear in the course of the mining activity may be used by the mining organization for its need without a permit until the waters flow into permanent surface watercourses. Otherwise, a permit is required. Further, industrial organizations and mining enterprises may exploit gravel, sand and stone from the riverbeds, banks of natural watercourses and natural reservoir when they have been issued a waterwork approval. The standards for the aforesaid exploitation are prescribed by the general water management company of the respective water district with the consent of the authority controlling navigation 43/. The commune of the territory on which the reservoir is situated and from which water is used for economic purposes, is entitled to compensation; the quantity of the compensation being determined by the commune and the water user 44/.

38/ Act on waters of SR Croatia of 11 December 1974, Art. 19.

39/ Self managing agreement on the common activities in the electric-power system of Croatia of 27 October 1975, Art. 9.

40/ Act on Joining into Communities of Electric Power Industry of 30 March 1978, Arts. 2-3.

41/ Ibid., Art. 18.

42/ Act on mining of SR Croatia of 29 April 1975, Art. 88.

43/ Act on waters of SR Croatia of 11 December 1974, Art. 98.

44/ Ibid., Art. 102.

(g) Transport

Inland transportation is generally regulated by the Federal Government according to the Federal Constitution and republican and provincial regulations. These provisions govern all facets of transportation, both on the high seas and inland water systems. A sharing of authority over inland transportation safety is clearly delineated by the Federal Constitution between the Federal State, Provinces and the Autonomous Provinces 45/. The Federal Government deals with safety on inland waterways through various Federal Agencies. Before such control is exercised, however, it must be determined that the waters in issue are part of an international regime and that control is in the interest of the entire country 46/. Otherwise, the regulation of safety matters is performed at the provincial level.

(h) Medicinal and Thermal Uses

Mineral and thermal water use is regulated in every Republic by legislation on mining. Mineral waters are treated as all other minerals, and a permit for exploration and exploitation of mineral water springs is issued by a republican administrative authority for mining purposes.

VII. LEGISLATION ON HARMFUL EFFECTS OF WATER

1. Federal Legislation

The construction of levees, reservoirs, floodways, river management works and erosion control works are some of the preventive measures that exist for controlling the harmful effects of water and ice on inter-republican watercourses and inter-state waters. Because the waters concerned are inter-republican or interstate, these measures are dealt with by legislation at the federal level. Flood and ice defence measures and works within a certain region are provided for in the Flood Defence Plan for the region. If the region covered by the flood defence plan extends over the territory of two or more republics or autonomous provinces, the Plan for this region is enacted by mutual agreement among the responsible authorities of these republics and autonomous provinces 47/. The Flood Defence Plan may envisage the participation in flood defence of units of the Yugoslav People's Army, citizens and industrial organizations (organizations of associated labour) if the flood hazard reaches such dimensions that it cannot be controlled with available means and labour force alone. That part of the Flood Defence Plan referring to the participation of units of the army and the use of its capabilities is enacted in concurrence with the Federal Secretary of National defence or the authority which he authorizes for this purpose 48/. In the event of flood or ice hazards, the authority specified by the Flood Defence Plan is required to relay information on all observed phenomena and measures undertaken within its region which

45/ Constitution of the SR Yugoslavia of 22 January 1973, Arts. 201 and 273.

46/ The Text-Book of Law of 1977, pp. 269-271.

47/ Law on basic characteristics of water regimes of 28 December 1973, Art. 28.

48/ Ibid., Art. 29.

are of significance for flood and ice defence in other republics. The information is relayed to the authorities responsible for flood and ice defence in these republics and to the Federal Committee for Agriculture. A republic or autonomous province which fails to fulfill this requirement is responsible for any damage resulting from its failure in another republic or autonomous province. All communication services are required to give high priority to these messages 49/.

2. State Legislation - SR Croatia

In order to protect riverbeds, channels and reservoirs and their weirs provincial legislation imposes a variety of restrictions. These restrictions make it illegal:

- (i) to change the direction of waterflows and channels without the consent of the provincial administrative authority for water management;
- (ii) to carry stones, sand, wood and other materials into watercourses, channels and reservoirs, to plant trees within ten metres from the edge of a watercourse or channel;
- (iii) to erect buildings and other structures at a distance less than 10 metres from the inundation line of high water on land where there are no protective embankments;
- (iv) to construct works that can be harmful to a riverbed, channel or which may disturb the regular flow of water;
- (v) to extract gravel, sand and stone close to a watercourse, channel or reservoir and to perform works that could imperil the stability of protective structures or their use, and to change natural characteristics of the ground that could cause land slides, soil erosion, torrents or siltation;
- (vi) to plough within ten metres from the edge of a waterflow or channel depending upon the type of soil (the distance inside this range is determined by the communal assembly taking into account the opinions of interested water management organizations);
- (vii) to let cattle into channels and other watercourses for grazing and watering, outside of places determined to be for grazing and crossing. Notwithstanding the foregoing general restrictions, trees can be planted, buildings and other objects erected and the land can be ploughed at distances less than 10 metres from the edge of watercourse or channel with the approval of the provincial water management organization in charge of the area 50/.

49/ Law on basic characteristics of water regimes of 28 December 1973, Art. 30.

50/ Act on waters of SR Croatia of 11 December 1974, Art. 47.2

In addition to the above restrictions which are designed to protect watercourses, it is also forbidden to erect works that could negatively affect the stability or the purposes of protective embankments. Such prohibitions apply to actions taken to fill land; plant trees and bushes, and erect obstructions in the embankments except for protective reasons. They also apply to the drilling of wells at distances of less than 50 metres from the foot of an embankment, the ploughing of land at distances of less than 10 metres from the embankment; the erection of structures in the inundation area between the embankment and the waterflow and so forth. Apart from the foregoing, the Civil Defence staff can also forbid the performance of other works that could negatively affect the stability of an embankment, and can stop railway, river and road traffic in case of high and long lasting waters 51/.

Flood defense at the provincial level can be “ordinary” or “extraordinary”. The conditions for the ending of “ordinary” defense and the commencement of “extraordinary” flood defense are determined by the flood defense plan 52/. In cases of “extraordinary” defense the participation of citizens and organizations of associated labour in flood defense can be ordered by a decree of the relevant civil defense staff 53/. Citizens who participate in defense of their property or the settlement wherein they live as well as workers to protect the property of organizations of associated labour or other organization where they work; and organizations of associated labour and other organizations, need not be compensated for their endeavours 54/.

A flood defense plan is issued by the republican executive council, and is made by the administrative authority for water management in the republic in consultation with affected water management companies 55/. In addition, communal assemblies provide insurance, accommodation and food for citizens called upon to participate in flood defense outside their districts 56/. Officials in charge of a flood defense team are specifically empowered to make a variety of tactical decisions necessary to flood fighting, including decisions to demolish or breach embankments in instances prescribed by the Flood Defense Plan 57/. Land proprietors or users adjoining the watercourse, channel or embankment must give passage to persons and vehicles participating in flood defense work. The flood defense officer determines the point and mode of these emergency crossings 58/. The implementation of the flood defense plan is undertaken by the Civil Defense Staff in cooperation with the republic's administrative authority for water management and the water management organization of the territory for which the plan has been made 59/.

(b) Soil Erosion

The protection of land from soil erosion is governed by republican and provincial legislation rather than federal legislation. Some republics have special acts on soil erosion and torrents, but most have covered the problem in their Acts on Water.

51/ Act on waters of SR Croatia of 11 December 1974, Art. 46.

52/ Ibid., Art. 47.

53/ Ibid., Arts. 58 and 64.

54/ Ibid., Art. 63.

55/ Ibid., Art. 56.

56/ Ibid., Art. 65.

57/ Ibid., Art. 68.

58/ Ibid., Art. 70.

59/ Ibid., Art. 76.

State Legislation - SR Croatia

Land having an erosion hazard is that which, due to floods or other surface water influence, is subject to soil removal or on which furrowing and sliding occurs 60/. The local communal administrative authority for water management is authorized, in case of outbreaks of torrential flows, to induct for compulsory work, all able-bodied citizens in order to prevent the immediate danger of land sliding and to avert damage 61/. Measures for the protection of land may also be prescribed, particularly covering:

- (i) the regeneration of forests and underbrush;
- (ii) limitations on wood cutting and the thinning of forests and the clearing of bushes, trees and fruit-trees;
- (iii) prohibitions on ploughing and the digging up of meadows and pasture-land;
- (iv) prohibiting or imitating the pasturing of animals;
- (v) the manner of land cultivation and the introduction of regular farm crop rotation;
- (vi) the removal of stone, gravel and sand;
- (vii) prohibitions on the discharge of waste material from quarries and mines and of material extracted during the construction of roads;
- (viii) the upkeep of village roads; and
- (ix) the opening and maintenance of convenient crossings for the cattle.

In executing protective measures which may be required to prevent erosion, land users must follow technical instructions prescribed by the administrative authorities 62/. Among the things that may lawfully be required by republican administrative authorities for the purpose of preventing or controlling soil erosion are: works to regulate torrents and gorge-beds, works performed for surface water drainage and ground consolidation, zones of protective vegetation against wind and water action, forest enclosures and ground cover 63/.

60/ Act on soil erosion and torrents protection of SR Croatia of 31 May 1962, Art. 2.

61/ Ibid., Art. 9.

62/ Ibid., Art. 12.

63/ Ibid., Art. 13.

(c) Ice Control

State Legislation - SR Croatia

Large quantities of ice can form barriers that may cause flooding and the movement of ice itself can cause damage to protective structures. In these cases, measures for breaking and eliminating ice are adopted as prescribed in the flood defense plan of each republic 64/.

VIII. LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

1. Federal Legislation

The Federal Constitution sets forth a general provision which requires that all land, forests, waters and watercourses, and other natural resources must be used in conformity with statutorily-defined general conditions that ensure the rational utilization of these resources 65/.

2. State Legislation

The water legislation of SR Bosnia and Herzegovina is typical of the legislative treatment given to the subject of waste and misuse at the republic level. First, there is a general provision concerning the waste and misuse of water. It is provided that every right to use water must be exercised in a rational and economical way that maintains the natural characteristics of water. Further, in industrial processes, the water must, as a rule, be recycled and used for different purposes, with a priority given to those uses meeting the largest social interests 66/.

(b) Health Preservation

1. Federal Legislation

Water from inter-republican watercourses and inter-state waters which federal water management master plans envisage for drinking purposes or manufacture and processing of foodstuffs, must not contain more than prescribed maximum amounts of dangerous substances. The water must also satisfy prescribed conditions which dictate its physical, chemical, biological and bacteriological composition and radioactive properties 67/.

64/ Act on waters of SR Croatia of 11 December 1974, Art. 54.

65/ Constitution of SFR Yugoslavia of 22 January 1974, Art. 86.

66/ Act on waters of SR Bosnia and Herzegovina of 8 December 1975, Art. 5.

67/ Law on the basic characteristics of water regimes of 28 December 1973, Art. 26.

2. State Legislation

In Croatia - whose legislation is representative of the treatment accorded to water for health purposes at the republic level - water used or destined for drinking, food manufacture and processing, hygienic uses and mineral drinking water must not contain substances harmful to health in excess of prescribed limits. Such limits are set, inter alia, for chemical, physical, biological and bacteriological composition and for radioactive properties. Under the legislation, the Republican Secretary for Public health prescribes the limits for harmful substances allowed in drinking water as well as other conditions and requirements that drinking water must satisfy 68/. Further, the legislation directs that springs which may be used, or are used, for drinking water must be protected from pollution, whether intentional or accidental, and from other activities that could unfavourably affect the fitness of the water or its quantity. Specific protective measures which may be required are determined through various administrative mechanisms, including the water management master plan, the regional plan, the plan for maintenance and improvement of the water regime, and the decision of the communal assembly for the water protection area 69/.

Provisions for the protection of drinking water are found in other laws too; for instance, in the Act on Mining. If a mining entity causes the depletion of drinking water supplies, or pollution that cannot be eliminated, the mining organization is required to provide drinking water in adequate quantities or to reimburse the community for the cost of works necessary to combat this problem 70/.

These obligations apply notwithstanding the fact that the mining entity complied with the protective measures specified in its water use permit. Thus, in effect, the mining enterprise acts as a guarantor of drinking water supplies affected by its mining activities. Finally, if the use of water can affect the life or the health of persons because of "force majeure" or act of the water user, the water management permit can be revoked or can be temporarily rescinded 71/.

(c) Pollution

1. Federal Legislation

Because of Yugoslavia's rapid industrialisation and urbanisation, the quantity of waste water generated has greatly increased. Inter-republican watercourses, interstate waters and Yugoslav coastal waters are classified by the Federal Executive Council according to purpose and quantity of water after consideration of the views of interested republics and autonomous provinces. For these purposes, the quality of water

68/ Act on waters of SR Croatia of 11 December 1974, Art. 87.

69/ Ibid., Art. 88.

70/ Act on Mining of SR Croatia of 1975, Art. 89.

71/ Act on waters of SR Croatia of 11 December 1974, Art. 6.

is understood to include its physical, chemical, biological and bacteriological composition and its radioactive properties. In accordance with this federal classification, the responsible water authority of each republic or autonomous province, in agreement with the responsible authorities of any other republic or autonomous province concerned, draws up a water use plan that will maintain the quality grade established for all inter-republican watercourses and inter-state waters on the territory of the republic or autonomous province. For inter-state waters the plan is drawn in conformity with relevant international agreements 72/. The Federal Law also makes a distinction between dangerous and harmful substances. Dangerous substances are such substances which may endanger the life or health of persons, fish or other fauna. According to federal legislation, such substances cannot be discharged into inter-republican or inter-state waters if their composition, quantity, or degree of radioactivity is such that they will cause deterioration of the classification of these waters below that specified by the Federal Executive Council. The quantities and radioactivity of dangerous substances which may not be discharged into inter-republican and interstate waters are prescribed by the Federal Executive Council. Harmful substances are those which may impair the chemical, physical, biological or bacteriological composition of water to such an extent as to limit or inhibit its utilization. For their discharge into waters, appropriate preventive measures may be prescribed e.g., restrictions or prohibitions on the discharge of waste water or requiring the erection of structures and plants to moderate pollution or for the treatment of waste water.

Responsibility for pollution may be imposed upon enterprises (organizations of associated labour), other organizations, legal persons and individuals if it is shown that the user of the structure or plant has not taken all the precautions required by the regulations currently in force to prevent pollution. Responsibility exists in such circumstances, even if the nominal cause of the pollution is a vis-major. All organizations of associated labour, other organizations, juridical persons and individuals performing an economic activity or providing a public service, are required to keep records of the kind, and quantity, of the wastewater they discharge. In addition, substances which, after use, find their way into waters and which are not sufficiently bio-degradable (e.g. certain detergents) may not be put on the home market. They are proscribed by the Federal Executive 73/. To assist enforcement of the foregoing responsibilities, the Federal Hydrometeorological Office is required to monitor and investigate the quantity and the quality of inter-republican and inter-state waters; to make a forecast of the weather and of changes in these waters; to give warnings of threatened pollution of these waters; and to report thereon to the federal administrative authority responsible for water management and to other federal authorities and organizations which may be concerned. These activities insofar as they relate to dangerous substances are carried out by the Federal Office of Health in coordination with the Federal Hydrometeorological Office and the responsible authorities of the republics concerned 74/.

72/ Law on the basic characteristics of water regimes of 28 December 1974, Arts. 16-17.

73/ Ibid., Arts. 18-20.

74/ Ibid., Art. 2.

To prevent or limit pollution, federal legislation also requires that ships and other vessels which use diesel or fuel oil for motive power must be so equipped as to prevent their fuel from entering inter-republican, inter-state or Yugoslavian coastal waters. Waste water and other waste substances from ships must be discharged in specified ports which must have appropriate facilities for such purpose. Other ports, at a minimum, must have facilities for disposing of waste water and of minor quantities of other waste substances. Oil pipelines, and other connections between ships and shore facilities designed to receive, process and store major quantities of petroleum products or crude oil must be so constructed as to prevent the leakage of petroleum or crude oil into inter-republican watercourses or inter-state waters. Such structures and plants are inspected from time to time. If the captain or other responsible crew member on a ship, a boat operator or the user of land should notice that major pollution of an inter-republican watercourse or inter-state water has occurred, it is his duty to report this fact immediately to the responsible authority 75/.

2. State Legislation

Water legislation in several republics contains a variety of provisions for protection from pollution similar to the federal provisions for inter-republican and inter-state waters just discussed.

(i) SR Croatia

In Croatia, the classification of waters and categorization of watercourses is prescribed by the Republican Executive Council 76/. The Republican Executive Council also prescribes which substances are considered harmful or dangerous, and their maximum quantity allowed in water. In order to prevent the discharge of harmful and dangerous substances, the Republican Executive Council may also prescribe the method of deposit as well as the deposit sites 77/. The Republic's administrative authority for water management may prescribe the following protective measures to ensure that water classifications are maintained:

- limitation of the discharge of wastewaters;
- prohibition of the discharge of wastewaters; and
- construction of structures and installations for the reduction of pollution or for wastewater treatment.

75/ Law on the basic characteristics of water regimes, 28 december 1974, Arts. 21-24.

76/ Act on waters of SR Croatia of 11 December 1974, Art. 78.

77/ Ibid., Arts. 81-82.

Provisions to reduce the discharge of wastewater can limit the time of discharging as well as the quantity of discharged waters; or, they may restrict the substances contained in those waters. Where a watercourse is subject to a condition of low water level that lasts for an extended period, the republican administrative authority for water management will determine the precise regime of discharge of waste waters that may occur 78/.

(ii) SR Bosnia and Herzegovina

In addition to provisions similar to those just described for Croatia, the republics of Bosnia and Herzegovina provide that the proposed operator of structures and installations that will discharge waste water cannot obtain a building licence if he does not prove that he has funds provided for the construction of wastewater treatment facilities 79/.

(d) Environmental Protection

1. Federal Legislation

The Federal Constitution of Yugoslavia provides for environmental protection. Working people and citizens, organizations of associated labour, socio-political communities, local communities and other self-managing organizations and communities have the right and duty to ensure conditions for the conservation and improvement of the natural and man-made values of the human environment, and to prevent or eliminate the harmful consequences of air, soil water, noise and pollution, which endanger these resources and imperil the health and lives of people 80/.

2. State Legislation

Similar provisions can be found in the constitutions of the Socialist Republics (article 89 of SR Serbia Constitution, article 108 of SR Macedonia Constitution, article 104 of SR Slovenia Constitution, article 87 of SR Croatia Constitution, article 87 of Federal Autonomous Province of Vojvodina Constitution, etc.).

IX. LEGISLATION ON GROUNDWATER RESOURCES USE

Federal and State Legislation

With regard to the exploration and exploitation of groundwater, all of the provisions for water use permits and approvals outlined above are applicable. For the exploration and exploitation of groundwater, a water use approval must be obtained, and all works must be constructed according to the conditions and specifications of that approval. Inter alia the groundwater user must build a reservoir, must protect springs from pollution and must obtain a water management approval for the use of groundwater for water supply, for land irrigation or for other purposes. The groundwater user must also provide the administrative authority (or the working organization in charge of the

78/ Act on waters of SR Croatia of 11 December 1974, Art. 80.

79/ Act on waters of SR Bosnia and Herzegovina of 8 December 1975, Art. 5a.

80/ Constitution of SFRY of 22 January 1974, Art. 87.

cadaster of waters and water management and installations) with all of the engineering documentation collected during groundwater exploration or during the construction of water abstraction facilities in order to be registered in the water cadaster 81/. The users of land or land owners must not divert water that naturally flows across or under their land (groundwater) 82/.

X. LEGISLATION ON THE CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

(a) Waterworks Construction

1. Federal Legislation

The construction or reconstruction of structures and plants intended for the exploitation of water from an inter-republican or inter-state watercourse requires the approval of the responsible authority of the republic or autonomous province, where such exploitation may affect any natural or artificially established water regime. Similarly, an approval is required in connection with activities such as the extraction of sand or gravel where those activities have an effect on the pre-existing water regime. In each case, the approval is issued by the responsible water authority of the republic or autonomous province on whose territory the structure or plant is to be built 83/.

2. State Legislation

The legislation of the Socialist Republic of Croatia is typical and provides that waterworks and installations may be erected for protecting against the harmful effects of water, for the use and exploitation of waters, protection of waters from pollution, and use of water for transportation 84/. It also provides that waterworks may be erected for flood protection, for the regulation of rivers for navigation, for the regulation of torrents, for soil erosion protection (protective objects and installations) for waste water treatment and for the drainage of waste water and rainwater 85/. Waterworks and installations erected for these purposes are required to be in good order. They are erected and maintained by a “self-managing water community of interests”, and are managed by a local water management entity organized from within the territory affected by the waterworks. Water management structures and installations that are erected for other than the aforesaid purposes are considered to be water management works and installations of “special use” and are managed by the water use right holder or owner, depending on legislation of the particular republic

81/ The Great Text-Book Law of 1977, p. 150.

82/ Act on waters of SR Croatia of 11 December 1974, Art. 101.

83/ Law on basic characteristics of water regime of 28 December 1974, Art. 8.

84/ Act on waters of SR Croatia of 11 December 1974, Art. 7.

85/ Ibid.

involved 86/. Any structure that may affect or change the water regime must be operated in harmony with relevant water management master plans 87/. Consequently, before any building permit for the erection of structures may issue, it is necessary to obtain a water management approval. That approval, in turn, can be issued only after the competent administrative authority for water management confirms that the building is in harmony with the relevant water management master plan 88/.

(b) Waterworks Operation and Maintenance

1. Federal Legislation

The rules governing the filling and discharging of reservoirs on inter-republican watercourses which influence the water regime in another republic or autonomous province are established by agreement between the responsible authorities of the republics or autonomous provinces concerned. The sponsor or user of a large dam must draw up and keep documentation on the consequences of sudden failure or overtopping of the dam, mark out the line where the flood wave peak would reach and set up and keep in good order, signs and equipment for informing and warning organizations and citizens within the endangered area. The sponsor is required to send one copy of documentation to the Federal Secretariat of National Defense and to the responsible authorities of the republics and autonomous provinces concerned, within three months of the commissioning of the dam 88/.

2. State Legislation

There are provisions on waterworks protection measures in the water legislation of each republic. For instance, in SR Croatia, approval of the water management organization in charge of protective waterworks and structures is necessary for acts that could influence waterworks structures such as the planting of trees and bushes and the erecting of structures, tree-felling, the clearing of vegetation within the protective zone, the cutting of forests, the destruction of vegetation or other activities that make possible soil erosion. The republic's legislation also forbids vehicular traffic on the protective embankments unless there is a road built specifically for that purpose. In case of "vis-major", traffic on the protective embankment is allowed under the supervision of the water management organization, with a condition that after use it must be repaired. Roads built on the embankments must be kept in such condition as to prevent the collection or retention of rain water that could by absorption, reduce the solidity and capacity for flood protection 90/. In order to protect the embankment from wave action, the water management organization must plant trees on potentially affected parts of the embankment 91/. Water management structures and installations in general use are registered separately in the cadaster of water management structures and installations 92/.

86/ Act on waters of SR Croatia of 11 December 1974, Art. 18.

87/ Ibid., Art. 18.

88/ Ibid., Art. 26.

89/ Law on the basic characteristics of water regimes of 28 December 1974, Art. 15.

90/ Act on waters of SR Croatia of 11 December 1974, Art. 48.

91/ Ibid., Art. 53.

92/ Ibid., Art. 43.

XI. LEGISLATION ON THE DECLARATION OF PROTECTED ZONES OR AREAS

(a) In the Case of Beneficial Uses of Water

State Legislation

One form of protection concerns inland water having considerable aesthetic value. Under the legislation of Croatia, for example, there are ten categories of specially protected natural objects 93/. A national park is one of the categories of specially protected natural objects. It is governed by the National Park Director and is an area of special social interest 94/. Within the protected zone which extends around such an object, actions that could cause harm are normally prohibited. Some works, however, can be performed with prior consent of the Institute for Protection of Nature. Such a permit is necessary, among other things, for the construction of roads, railroads, bridges, airports, hydro-electric power-plants, factories and hotels 95/.

(b) In the Case of Harmful Effects of Water

State Legislation

Protected zones for the protection of dams and other embankments are established by the administrative authority for water management in each republic. The water management organization that is in charge of each specific embankment must plant trees on the inundation area as a part of a defense system. Forests in the area must also be planted and exploited according to the requirements of streamflow regulation 96/. With respect to water channels and reservoirs, the area within 10 metres from the edge of the water is considered as protected zone and it is forbidden to do anything that could cause harm to the bed of the stream or channel, or that could influence the usual flow of water. Exceptions are provided for trees that may be planted, buildings erected and land cultivated within a distance of 10 metres from the edge of a stream or channel with the consent of water management organization that is in charge of the waterway 97/. Special protected zones also can be established in areas with a soil erosion hazard. The dimensions of these zones are determined by communal assemblies.

(c) In the Case of Water Quality and Pollution Control

State Legislation

Spring water which can be used or is used for drinking must be protected from intentional or accidental pollution and other impacts that could negatively influence the sanitary fitness of water or the abundance of the spring. Particular measures of protection are established either by a water management master plan, by decision of the

93/ Act on protection of nature of 25 December 1976, Art. 16.

94/ Ibid., Arts. 69-70.

95/ Ibid., Arts. 39-40.

96/ Act on waters of SR Croatia of 11 December 1974, Art. 53.

97/ Ibid., Art. 47.

communal assembly or by a plan for conservation and improvement of the water regime. The protection of springs used for a public drinking water supply is provided by establishing and keeping sanitary protection zones. The same provisions also apply in the case of mineral springs 98/. Finally, the administrative authority for water management in each republic, in agreement with the administrative authority for mining, can establish wider protection zones for mineral springs where the mining works threaten the water source. The same authority will determine the specific protective measures required of the mining operator 99/.

XII. GOVERNMENT WATER RESOURCES, INSTITUTIONS AND ADMINISTRATION

Yugoslavia is a federal country, and there is a clear distinction between federal and republican agencies expressed in the Federal Constitution. Federal agencies are responsible for the enforcement of federal statutes, regulations and enactments. Except in those cases specified by federal statute, however, republican and provincial agencies are responsible for the enforcement of federal enactments and regulations. Republican and provincial administrative agencies are bound to keep federal administrative agencies informed about the enforcement of federal statutes and other regulations and enactments and international treaties 100/ and, in the case of disputes, the federal assembly decides controversies concerning the obligation to comply with the federal statute, regulation or other enactment involved 101/.

(a) At the Federal Level

The main federal departments for water resources administration are the following:

1. The Federal Committee for Agriculture is a federal administrative body responsible for water management and is empowered to deal with the enforcement of the Federal Law on the Basic Characteristics of Water Regimes of Concern to Two or More Republics or Autonomous Provinces. It is also concerned with interstate waters and with the enforcement of international treaties and conventions that relate to water management.

2. The Federal Committee for Public Health in coordination with the Federal Hydrometeorological Office and responsible authorities of the republics oversees monitoring and investigation of waters, reporting and warning of dangerous substances in the inter-republican and interstate waters 102/.

98/ Act on waters of SR Croatia of 11 December 1974, Arts. 88-89.

99/ Act on mining of SR Croatia of 1975, Art. 87.

100/ Federal Constitution of 27 January 1974, Arts. 274-275.

101/ Ibid., Art. 277.

102/ Law on the basic characteristics of water regimes of 28 December 1973, Art. 25.

3. The Federal Hydrometeorological Office is required to monitor and investigate the quantity and quality of water in inter-republican watercourses, interstate waters and the coastal waters of Yugoslavia; to make forecasts of the weather and of changes in these waters; to give warning of threatened pollution of these waters and to report thereon to the federal administrative authority responsible for water management and to other federal authorities and organizations which may be concerned. All these activities are carried out by the Federal Hydrometeorological Office in coordination with the responsible authorities of the republics concerned 103/.

4. The Council for the Protection of Human Environment is a federal administrative body that examines and makes proposals for measures to protect the human environment, including waters from pollution.

5. The Federal Committee for Traffic and Communications is in charge of, among other things, navigation in inland watercourses.

(b) Intermediate Level

The most important agency at the intermediate level is the Coordinate Board for the Sava Project. It has administrative authority over the entire Sava River basin as it runs through the territories of SR Slovenia, SR Croatia, SR Bosnia and Herzegovina, SR Montenegro, SR Serbia and the autonomous province of Vojvodina.

(c) At the State Level

1. The Republican Administrative Authority for Water Management is required, among other things, to prepare a water management master plan; examine comments given on the master plans; establish water management conditions; issue water management approvals; issue water management approval for extraction of gravel, sand and stone on inter-republican and interstate watercourses; keep the water register; elaborate on the Plan for Flood Defense issued by the Executive Council of the Republic; devise measures for the protection of waters from pollution; supervise the activity of associations of water districts and Republican water management communities of interest; perform the activities of Republican water management inspection; and supply professional and other assistance to communes, associations of communes and to self-managed communities of interests 104/.

2. The Republican Secretariat for Electric-Power Supply Industry and Handicraft regulates the use of water for power supply and for industry.

3. The Republican Secretariat for Agriculture, Food Industry and Forestry is in charge of the use of water in agriculture and the food industry. Its duties include administrative regulation of the use of water for irrigation and land reclamation. It also is concerned with the viability of the republic's fisheries.

103/ Law on the basic characteristics of water regimes of 28 December 1973, Art. 25.

104/ Act on waters of SR Croatia of 18 December 1974, Arts. 15, 17, 19, 23, 60, 80.

4. The Republican Secretariat for Town Planning, Housing and Municipal Affaires includes within its duties, some activities for the protection of human environment.

5. The Republican Secretariat for Public Health and Social Protection together with the republican secretariat for water management, issues the instructions for use and exploitation of mineral, thermal and medicinal waters 105/. This authority also prescribes the requirements for laboratories and organizations that perform the inspection of drinking water supplies 106/.

6. The Republican Office for Public Health carries out the monitoring of pollution of waters.

7. The Republican Secretariat for Maritime Affairs, Traffic and Communications together with the republican secretariat for water management is required to determine navigable watercourses in the various water districts 107/.

8. The Republican Hydro-Meteorological Office has, among its other activities, the extraordinary duty of giving information on the conditions of waters in accordance with the flood defense plan 108/.

9. The Republican Administrative Authority for Water Management Inspection supervises actual execution of the provisions of republican water enactments and regulations. Among its main activities are: The issuance of binding instructions for the work of communal water management inspections; supervision of the program of work of communal water management inspectors and coordination of their work; elaboration of reports and information on problems that appear in the execution of water provisions. If necessary, this organ can organize joint work for republican and communal inspections in connection with certain problems. It can form teams of inspectors and determine their duties 109/.

(d) At the local level

1. The Communal Administrative Authority for Water Management is required to prepare the water management master plan; determine the water management conditions for construction of structures so that they do not change the water regime beyond the communal territory; in certain cases to decide on the termination of water rights contained in permits previously issued; and to keep the water register.

2. The Communal Administrative Authority for Financial Affairs is in charge of the collection of rates and charges for irrigation and land reclamation paid by farmers and other citizens 110/.

105/ Act on waters of SR Croatia of 18 December 1974, Ibid., Art. 190.

106/ Ibid., Art. 93.

107/ Ibid., Art. 190.

108/ Ibid., Art. 62.

109/ Ibid., Arts. 159, 162 and 163.

110/ Ibid., Art. 124.

3. The Cadaster Office is obliged to provide to water users all data necessary for the assessment of water rates and charges for irrigation and land reclamation.

4. The Communal Court in some cases decides water rates when the parties cannot agree.

(d) At the international level

Yugoslavia has treaty agreements with all bordering countries concerning water management questions for inter-state waters. The most important international agreements are:

1. Agreement between the governments of Yugoslavia and Albania signed in Belgrade 5 December 1956.
2. Agreement between the governments of Yugoslavia and Austria on water management matters relating to the river Drava, signed in Geneva, 25 May 1954.
3. Agreement between the governments of Yugoslavia and Austria on the regulation of navigation on the river Danube, signed in Vienna, 10 October 1954.
4. Agreement between the governments of Yugoslavia and Bulgaria on water management matters, signed in Sofia, 4 April 1958.
5. Agreement between the governments of Yugoslavia and Kingdom of Greece on water management matters signed in Athens, 18 June 1959.
6. Agreement between Yugoslavia and Romania on hydrotechnical matters on hydrotechnical systems and watercourses, signed in Bucharest, 7 April 1955.
7. Starting in 1963, Yugoslavia also signed different conventions and agreements with the Republic of Romania for construction and utilization of hydro-power and navigation systems at Derdap on the river Danube.

XIII. SPECIAL AND AUTONOMOUS WATER RESOURCES DEVELOPMENT AGENCIES

(a) At the national level

1. Water Management Communities of Interest. According to the Federal constitution, the socio-economic system of the Socialist Federal Republic of Yugoslavia is based on freely associated labour and socially-owned means of production, and on self-management by workers in the production and distribution of the social product through basic and other organizations of associated labour and in social reproduction as a whole ¹¹¹/. In this system of self-management, one essential form of organization is the self-managing community of interest that is formed by working people directly or through their self-managing organizations and communities, for the purpose

¹¹¹ Federal Constitution of 22 January 1974, Art. 10.

of satisfying specific common needs. Their aim is to link the interests of those who render specific public services with those who use their services. In the field of water management the foundation of self-management is the "water management community of interest" which has the aim of coordinating activities in water management, exchanging experiences, and taking part in programmes of development.

2. The Union of Electric-Power Industry Organizations is an obligatory integration of organizations of associated labour which necessarily must cooperate in a practical sense, in order to perform their activity. The funds for the Union are provided by the contributions of member organizations and the operating principles are established by the self-managing agreement on integration. At the federal level, this Community forms the basic infrastructure for electric-power production and the Union helps make the various parts a technologically integrated whole. The supervision of activities of the Union is performed by the Federal Parliament 112/.

3. Solidarity Fund of Peoples and Nationalities of Yugoslavia is a revenue source which can be used to alleviate consequences of catastrophic floods.

(b) At the state and basin level

1. The Republican Self-Managing Water Management Communities of Interest among other things provide funds, for the execution of flood defense plans issued by the Executive Council of republican parliament; pay indemnity damages caused by works necessary for flood defense unless they have been paid from other funds; and effectuate the flood defense plans issued by the Executive Councils of the various republican parliaments. It also carries out the international and inter-republican obligations of the Republic which involve flood protection and the maintenance of navigable waterways in the Republic. In performing these duties, it cooperates with the Executive Council of the Republic, with the republican parliament, with socio-political communities, with self-managed water management communities of interests and with water management organizations 113/.

2. The Republican or Provincial Union of Electric-Power Industry Organizations is an obligatory union which operates at the republican level. Production, transmission, and distribution of electric power are all activities of special social interest. Republican or provincial unions of electric power industry organizations are established to better coordinate work related to these special social interests and to insure the optimal use of electric-power structures and installations (particularly as regards price, quality and security) in the Republic as whole.

3. Republican and Provincial Solidarity Funds collect funds to alleviate the consequences of catastrophic floods.

4. Organization Dunav-Tisa-Dunav is one of the more important water management organizations in Yugoslavia and it comprises the whole territory of Vojvodina.

112/ Act on joining into communities of electric-power industry of 1978, Arts. 142-143.

113/ Act on Waters of SR Croatia of 18 December 1974, Arts. 51 and 71.

5. General water management organizations are established for each river basin for the continuous and permanent performance of specialized, technical and other activities for the maintenance and development of a water regime that is particularized for each basin. These general water management organizations are established by republican parliaments.

(c) At the project level

The Yaroslav Cernik Institute for development of water resources in Belgrade provides complete engineering services to project sponsors and managers.

(d) At the users' level

A water community is an obligatory union for all landowners or users of land and in river basin territory and also of other users of water management services. This organization is in charge of the regulation of smaller waterflows; promoting better exploitation of agricultural and other land; protecting land from erosion and torrents; assuring a water supply; and promoting land reclamation and waste water treatment in one or more basins that form one hydro-geographic entirety 114/.

XIV. LEGISLATION ON WATER RESOURCES DEVELOPMENT FINANCING

(a) Government Financial Participation and Reimbursement Policies

During the period from 1945-1953, the funds set aside for water resources development financing were not sufficient because of the exceptional needs of a country devastated by war. In 1950 the budgetary financing process was reformed and from 1953 to 1960, water resources development financing was provided from social investment funds, bank credits and working organization 115/ funds, contributions from the users of the public water supply network, users of the irrigation and drainage system in agriculture and, partly, from the budget. In the period after the economic reform, from 1965-1975, a new important change in water management financing took place. Centralized investment funds for waters were suppressed, water management organizations were made equal to other working organizations and obtained the right to be paid for the services they provided to users. According to the provisions now in force, water resources development is financed by self-managed water communities of interest. In these self-managed water communities, funds are provided by water user fees, contributions and other sources. Financial obligations involved in the erection of water management structures and the carrying out of works (extraction of stone, sand, gravel, etc.) on inter-republican watercourses, as well as the utilisation and conservation of the water from such watercourses, are governed by agreements between the republics or autonomous provinces concerned 116/. Waterworks are also financed through credits obtained from national and international banks, contractors credits, and voluntary contributions from citizens and working organizations involved in or benefitting from water supply activity.

114/ Act on Waters of SR Croatia of 18 December 1974, Arts. 115-116.

115/ In Yugoslavia, with its original system of self-management, "working organization" means "enterprise" which is a legal person and operates as a business entity on the market.

116/ Law on the Basic Characteristics of Water Regimes of 28 December 1974, Art. 6.

In general, the funds for water development regulated by self-management agreements 117/. For instance, in SR Croatia 95 percent of the funds for water resources development are provided by self-management agreements pertaining to the joining of funds for this purpose. In the Socialist Republics of Bosnia and Herzegovina, the incomes of the self-managed water communities of interest form part of the solidarity fund for natural disasters protection. This fund is used for preventive measures for the construction of waterworks for flood and soil erosion control. Some republics also provide supplementary funds for specific purposes, as for instance in Sr Serbia, by means of national loans.

(b) Water rates and charges

Provisions that govern water rates and charges can be found in republican legislation on waters. The charges for water used for industrial and other economic purposes are generally paid according to the quantity of water used from watercourses, the sea, lakes, underground waters, reservoirs and public aqueducts. Such charges may also include a charge for electric power consumed or a credit for electric power produced. Water charges for waste waters discharged are paid according to the degree of pollution and quantity of discharged wastewater. The income produced by this latter charge is used as a specified-purpose fund for the construction of water purification plants and for the organization of water pollution protection. A fee for quarrying from water courses is also paid for each cubic metre of raw-material excavated. The funds generated by such activity are used primarily for the improvement of conditions of navigation on the corresponding part of the watercourse. A fee is also paid for inland navigation on watercourses and on artificial channels and is paid per ton/km of the weight of vessel and load. This income is used as a specific purpose fund for the maintenance of the particular watercourse. As a general rule, the foregoing water rates and charges are usually determined for a period of five or more years and in the case of Croatia for example, are published in the Official Gazette 118/. Compensation for the regulation of smaller watercourses is paid by all the landowners or users of land and other estates on the river basin territory. Through the levying of fees, a drainage area can be divided into districts, according to the value of works and installations. Within these districts, charges for the use of water for personal purposes can be levied and paid by citizens and enterprises based upon cubic meters of water used 119/. The amount of the fee required for sport fishing is determined by the communal assembly 120/.

XV. WATER LAW IMPLEMENTATION

(a) Juridical protection of existing water rights

State legislation

At the republic level, significant in the case of SR Croatia, one guarantee of the protection of water rights is the Water Register and cadaster of waters, waterworks and

117/ Organizations of associated labour and other organizations in the social sector are generally organized on a self-management basis, regulating their internal and mutual medium and long-term arrangements by self-management agreements.

118/ Act on waters of Sr Croatia of 11 December 1974, Arts. 134-138.

119/ Ibid., Arts. 119-120.

120/ Act on Inland Fishery of SR Croatia of 30 March 1973, Art. 28.

installations. The Water Register records all water management approvals and permits. It is kept by republican and by communal water management administrative authorities. The cadaster of waters and installations is kept by the general water management company. It contains topographical, hydrographical, hydrological, hydrogeological, technical and economic data and also data on water quality, water management structures, installations and other devices for the use and exploitation of waters. Detailed provisions on the form and method of keeping the water register and the cadaster for waters and water management structures are issued by the republican secretary for water management 121/.

(b) Modification, termination and re-allocation of water rights

State legislation

A water management inspector can temporarily stop work on construction water management structures or can stop the use and exploitation of water if such activities are performed in a way not in accordance with the water management approval or permit previously issued 122/. Further, water management organizations or other organization of associated labour that are in charge of watercourses or have issued water management permits, may temporarily limit or stop the use of water by certain users, in case of a shortage of water, of damage to the works, or when reconstruction of the works is necessary. Users must be informed of such limitations or stoppages at least eight days before they commence 123/.

In more general terms, the right to exploit, use or discharge water ceases at the end of the term of a water permit with the renunciation of use by the user or, if the right of use is without justified reason not exercised for more than two years. The decision concerning cessation of a water right is made by the same administrative authority which initially issued the right of user. Apart from the above if the user uses or exploits water in a way, or for purposes contrary to the water management permit or if he does not comply with conditions and duties endorsed on his permit, the water management administrative authority that issued the permit may warn him and give him a period of time to conform his use or discharge with the requirements of the permit. If the user does not comply with this request, the administrative authority is at liberty to rescind the permit. Such a decision can also be made in cases where the conditions which existed at the time of issuance of the permit are changed because of “vis-major” or because of the fault of the user of water. Termination of a permit is also allowed if exercise of the permit can endanger lives or the health of people, or if the water management master plan is changed or extended so that the water management permit is no longer in harmony with it 124/. The validity of a water management approval for the construction of waterworks structures can similarly cease if construction does not

121/ Act on waters of SR Croatia of 11 December 1974, Arts. 41-44.

122/ Act on waters of SR Bosnia and Herzegovina of 8 December 1975, Art. 224.

123/ Ibid., Art. 52.

124/ Ibid., Art. 50.

start within the term determined by the approval. By law, that period cannot be less than one year or longer than two years. In the case of the extraction of material from a watercourse, the water management approval is valid only for the year for which it is issued 125/. It should be noted, however, that at the request of a water right user, the validity of water management permit can be prolonged 126/.

(c) Courts and other juridical water authorities

There are no special water courts in Yugoslavia and no special provisions for proceedings on water management matters. Proceedings by water management administrative authorities are controlled by the same administrative procedure that is established for other matters. Generally, an appeal to the republican administrative authority for water management is possible from the decision of a water management inspector, a communal association, or from the decision of a communal water management administrative authority. In the event a party is not satisfied with the decision of the republican water management administrative authority, he can begin legal action at the Administrative Court of the Republic or autonomous province in accordance with provisions regarding administrative controversies. For water controversies that do not involve public interest concerns, but are instead only civil law dealings between parties, regular courts are competent and have jurisdiction. In such cases, the normal procedure for legal proceedings is applicable.

(d) Penalties

In Yugoslavian legislation there are different penalties, civil, administrative or penal, which apply in the case of infringement of the provisions of water and related legislation.

1. Federal legislation

Offences committed by organizations of associated labour which diminish the quality of interstate waters are punished with fines. In some cases, both the organization and culpable individuals are punished 127/.

2. State legislation

Generally, imprisonment for three years is prescribed for any offender who infringes the provisions on human environmental protection, and improvement and thus causes pollution of the air, soil, water or sea over a wide area, thereby endangering human lives or health and causing the destruction of animals or plants. A similar

125/ Act on waters of SR Bosnia and Herzegovina, 8 December 1975, Art. 42.

126/ Ibid., Art. 49.

127/ The law on the basic characteristics of water regime of 28 December 1973, Arts. 33-34.

punishment of three years imprisonment may be levied upon any responsible person in an organization of associated labour or a self-managing organization or community, that, contrary to legal provisions, omits to build waste water treatment plants, or that permits the construction or operation of installations that cause pollution, or that in any other way, fails to prevent or causes greivous pollution of the air, soil, water, watercourse or sea. Imprisonment for three years is also prescribed for anyone who pollutes drinking water or food, and thereby creates a danger to human life and health 128/. Economic offences committed by labour associations and corporations are punishable by the imposition of fines 129/.

128/ Penal law of SR Croatia of 20 June 1977, Arts. 169-170.

129/ Act on waters of SR Croatia of 17 December 1974, Arts. 175 and 177.