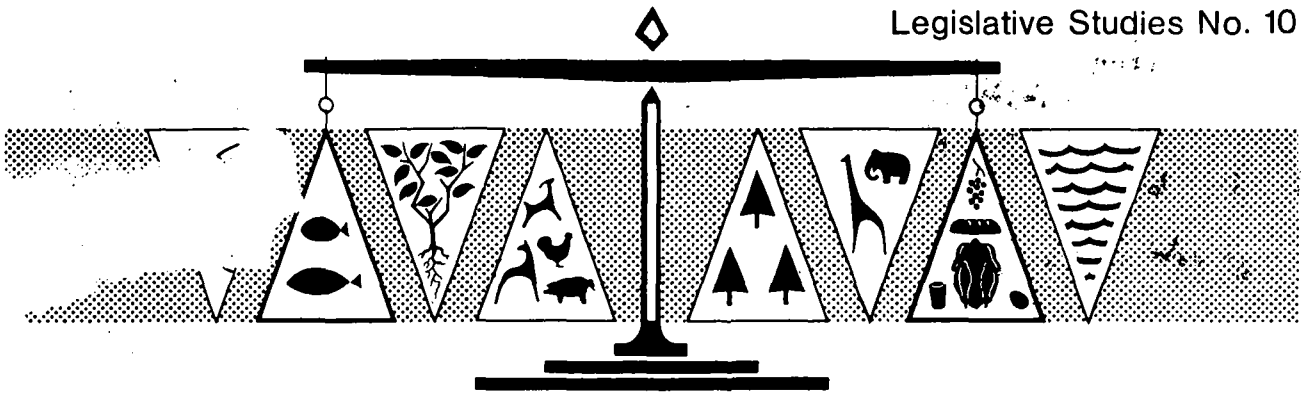
Legislative Studies No. 10



WATER LAW IN SELECTED EUROPEAN COUNTRIES

VOLUME I

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Also issued in this series:

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Legislative Study No. 10

WATER LAWS

IN

SELECTED EUROPEAN COUNTRIES

(Belgium, England and Wales, France, Israel, Italy, Spain, Turkey)

Agrarian and Water Legislation Section
LEGISLATION BRANCH, LEGAL OFFICE

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1975

FOREWORD

This study on Water Legislation and Administration in Selected European Countries is meant as a further contribution towards a global inventory of national experiences in this field. In view of its interest in promoting agricultural production which requires a major consumptive use of water resources, F.A.O. has always been concerned with the legal and institutional aspects of water management. As early as 1950, it initiated the publication of a variety of documents on water law and administration, including country studies on the United States (1950), Italy (1953), Moslem countries (1954), Latin America (1956) and on groundwater legislation in Europe (1964). Similar studies were later contributed by the United Nations Economic and Social Commission for Asia and the Pacific (formerly ECAFE) for most of its member countries (1967-1968) and by the United Nations Secretariat which recently published general comparative studies on the legal regime of the abstraction and use of water (1972) and on national systems of water administration (1974).

Through the preparation of such studies and with the benefit of extensive field experience, an Outline was eventually developed for the systematic inventory of national water resources legislative and institutional frameworks. This Outline, based on the hydrologic cycle, considers water resources conservation, development and utilization as an integrated whole and treats corresponding legal and institutional aspects accordingly. The Outline, which is given in Annex, has now been used by F.A.O. for some years and, in particular, for the re-edition of its earlier study on Water Laws in Moslem Countries (1973) and for the preparation of the present publication. It is intended to be further used in the preparation of similar monographs covering other groups of countries for general information purposes and, in particular, as part of the preparatory work for the 1977 United Nations Water Conference.

Under the impulse of technological progress, water legislations and institutions have recently begun a fundamental process of modification affecting arid and humid, developing and industrialized countries alike. Presenting almost all varieties of geomorphological, hydroclimatological and socio-political elements which naturally condition water resources management and as the arbour of most of the major legal systems of today in the world, Europe no doubt affords a useful illustration of such a development process. Among the countries surveyed in this study, each one illustrates particular features and experiences with respect to either its climate, water/soil conditions, juridico-political history or institutional organization. Although it has not been possible at this time to present a wider coverage of European countries, it is hoped that a second volume can be published in the future which would include case studies on countries of northern and eastern Europe as well as with a federal system of government.

Each country monograph has been graciously contributed by individual water resources lawyers in their personal and private capacity. These are : Miss T. Aptekman (Belgium, England and Wales, and France), Don Carlos Arrieta (Spain), Dr. S. Burchi and Dr. G. Masina (Italy), Dr. I.O. Türköz (Turkey), and Dr. M. Virshubski (Israel). They should find here the expression of our deepfelt appreciation for their desinterested collaboration. Equally appreciated is the contribution of Mr. Bernard J. Wohlwend, Legal Officer, Legislation Branch, who has coordinated this research programme and edited the present publication.

Finally, the seven country monographs comprising this study may possibly contain omissions or statements based on such incomplete information as was available in some cases. The Legislation Branch will accordingly be grateful to anyone who would point out such deficiencies so that these may be taken into account in any future edition.

Dante A. Caponera
Chief, Legislation Branch
Legal Office

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BELGIUM 1/

I - INTRODUCTION

Belgium is a rather small country of slightly more than 30.000 square kilometers lying in central-west Europe on the North Sea. She is bordered on the north by the Netherlands, on the south by France and, on the east, by Luxembourg and West Germany. Her population density is however among the highest in the World, a situation dating back to the Middle Ages.

The country can be divided into six geographical regions. Flanders consists in the lowland plain bordering the North Sea coast from the French border to the Scheldt, or the Maritime Flanders, and in the gently sloping hinterland, or Interior Flanders. Maritime Flanders is bordered by a straight coast line of some 67 kilometers with broad sandy beaches, lines of sand dunes and, further inland, by an almost flat plain seamed with drainage channels and characterized by its polders, or dyked land reclamation areas, and wateringues, or associations of landowners concerned with joint drainage undertakings. More than half of the land is under permanent pasture and farms stand on low sandy ridges or hillrocks above the damp lands. Interior Flanders, crossed by the Scheldt river system, rises inland to about 45 meters above sea level. Further south-west, low hills culminate in 160 meters high Mount Kemmel. There, farming and textile manufacturing are extensive.

In the south, the land rises further inland to about 210 meters and forms a series of Central Low Plateaus crossed by the system of tributaries discharging through the Rupel into the lower Scheldt. In this region, agriculture and metallurgical industries are widespread.

Along the southern edge of the Central Plateaus, the narrow Sambre-Meuse Valley contains approximately a quarter of the population and the greater part of the Belgian coal-based heavy industry.

The Ardennes consist mainly of an ondulating plateau mostly above 300 meters across which rivers flowing westward to the Meuse have cut deep winding valleys. Woodland occupies half of this area; its thin, infertile soils, poor drainage, heavy precipitation and bleak exposed plateau support limited farm land, mostly under permanent grass for beef cattle, with dairy farming in the valleys.

Belgian Lorraine, in the south-east, consists in lines of hills with north-facing scarps reaching up to 400 meters and between which rivers flowing westward to the Meuse have developed their courses. Half wooded, this region supports pastures, dairy cattle and fodder crops.

Finally, the Kempenland Plateau in the north forms an intermediate watershed between the Scheldt and the Meuse basins. One of Belgium's industrial centers, this region is crossed in its southern part by the Albert Canal.

The two principal basins of the Meuse on the south and of the Scheldt on the north have similar features; flowing initially from south to north, their river systems are cut through by a rectilinear main canal, the southwest-northeastern Sambre-Meuse-Vesdre and the southeast-northwestern Demer-Rupel-Scheldt canals. The climate is oceanic with moderate temperatures and high precipitation ranging from 700 mm. on the coast to 1400 mm. on the Ardennes. Frost is limited to an average of 44 days in Maritime Flanders whereas it may reach 115 days in the southeastern hills.

1/ Prepared for the F.A.O. Legislation Branch by Miss T. Aptekman, Lic. dr., LLM, Rome, Italy, June 1972 (Original French)

In contrast with an eminently complex political history, juridical developments in Belgium can be synthetized into three main periods of much unbalanced duration, namely from the origins until the 1789 French Revolution, an interim period until the 1830 Belgian Revolution, and the post-independance, or current period.

Characteristic of the first period are the successive dominations, under the constant pressure of both France, England and the German Empire, of Belgian territories by the Burgendians between 1400 and 1477, by the Austro-Spaniards until 1714 and by the Austrians until 1795; the linguistic differences between the northern Dutch and Flemmish, and the southern French and Wallon speaking provinces; and the denominational disputes among the Catholic southern and the Protestant northern provinces. Such linguistic and denominational differences, together with the respective provincial customs and laws, easily resisted the attempts made by the succeeding dominating powers in forging, if not a juridico-institutional, a centralized administrative and juridical system. It is during this period and, in fact, as early as the IXth Century that polders were developed in Flanders, followed in 1184 by the institutionalization by Philippe of Alsace of the wateringues and by the development, in the early XVIIIth Century, of a Scheldt-Meuse-Rhine canal system to reestablish maritime trade from Ostend in place of Antwerp subsequently to the closing of the Scheldt by the Dutch as ratified by the Treaty of Utrecht in 1713.

The 1789 French Revolution was not long in exerting its influence in politically torn Belgium and culminated in her annexion by France in 1795. This period saw for the first time a full centralization and systematization of all branches of the administration and, following Napoleon's coup d'état in 1799, the abolition of all customs and privileges in favour of French Law which still today constitutes the conceptual basis of Belgian Law. The country was thus divided into nine administrative departments each under a Prefect, and justice administered by a centralized court system. Most unpopular, this regime facilitated however the integration of the Belgian provinces into the Kingdom of the Netherlands following the 1815 Vienna Treaty. Considered from within, the political situation had not improved but activated revolutionary movements which ultimately led to the uprise of 21 July 1830 and to the recognition by the Great Powers in 1831 of the independance and perpetual neutrality of Belgium.

Outside influences had no doubt centralized the administration, and strengthened corresponding institutions, but without being able to completely eradicate regional and local customs. As a result, and until 1830, Belgium knew neither a common nationality nor a national law, nor a uniform administration of justice. It follows that, although conceptually based on the French model and, in particular, on such an institution as the Public Domain with its consequential public-cum-private water classification system, the Belgian water legislation is fairly autonomous. Illustrations thereof are the institutions of the polders and wateringues and, more particularly, the subjection of non-navigable and non-floatable waters to private water use rights exclusively and not to appropriation.

II - LEGISLATION IN FORCE

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

1. Civil Code
2. District Law of 30 March 1836
3. Provincial Law of 30 April 1836
4. Rural Code, Law of 7 October 1886
5. Law of 26 August 1913 instituting a National Water Supply Corporation
6. Law of 1 August 1924 on the protection of mineral and thermal waters

7. Law of 13 August 1928 creating the Navigation Office

8. Law of 14 August 1933 on the protection of beverage waters

9. Royal Order of 15 October 1935 issuing policing and navigation regulations for waterways administered by the State

10. Royal Order of 15 October 1935 on navigation

11. Royal Order of 6 May 1936 on the processing of beverage waters

12. Royal Order of 28 November 1939 on the prospecting and exploitation of coal, oil and fuel gases

13. Royal Order of 5 January 1940 on the compulsory declaration of underground explorations

14. Order having force of law of 18 December 1946 instituting an inventory of underground aquifer reserves and issuing regulations for their use

15. Order of the Regent of 18 November 1949 reorganising the Supreme Inland Navigation Board, as amended by the Royal Order of 13 December 1966

16. Royal Order of 22 January 1951 creating a Supreme Waste Water Treatment Board

17. Royal Order of 10 July 1951 issuing internal regulations for the Agricultural Hydraulics Branch of the Ministry of Agriculture

18. Law of 16 March 1954 on the control of certain public interest bodies, as amended by the Royal Order of 18 December 1957

19. Law of 1 July 1954 on inland fishing, as amended by Law of 10 July 1957

20. Royal Order of 13 December 1954 implementing the law on inland fishing

21. Law of 5 July 1956 on wateringues

22. Law of 3 June 1957 on polders

23. Royal Order of 30 January 1958 issuing general regulations for the policing of polders and wateringues

24. Royal Order of 25 July 1959 granting subsidies aimed at encouraging the supply of drinking water to agricultural and horticultural enterprises

25. Law of 15 April 1965 on water problems

26. Royal Order of 24 April 1965 on water for human consumption, as supplemented by Royal Order of 6 May 1966

27. Royal Order of 14 June 1966 on the inventory of underground water resources

28. Royal Order of 10 May 1967 creating Provincial Coordinating Committees for Water Problems

29. Law of 28 December 1967 on non-navigable watercourses

30. Royal Order of 26 March 1968 implementing Law of 28 December 1967 on non-navigable watercourses

31. Royal Order of 3 December 1968 modifying and supplementing the Statutes of the Inland Navigation Control Office

32. Law of 30 December 1968 on modes of transportation subject to the provisions of the Order having force of law of 12 December 1944 creating an Inland Navigation Control Office

33. Royal Order of 26 March 1969 on State intervention with respect to subsidies

34. Royal Order of 27 March 1969 specifying the level of charges levied to cover the expenses resulting from implementation of the Law of 30 December 1968 on modes of transportation

35. Royal Order of 16 May 1969 creating an Interministerial Water Commission

36. Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses

37. Royal Order of 18 November 1970 regulating the use of underground waters

38. Royal Order of 27 November 1970 on inland fishing

39. Royal Order of 9 December 1970 amending Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses

40. Law of 26 March 1971 on the protection of surface waters against pollution

41. Law of 26 March 1971 on the protection of underground waters against pollution

42. Royal Order of 18 October 1971 supplementing Royal Order of 18 November 1970 regulating the use of underground waters

43. Law of 25 June 1972 concerning the budget of the Ministry of Agriculture for fiscal year 1972

44. Law of 10 July 1972 concerning the budget of the Ministry of Public Health and Family for fiscal year 1972

45. Royal Order of 25 July 1972 implementing certain provisions of Law of 26 March 1971 on the protection of surface waters against pollution

46. Royal Order of 26 July 1972 specifying the limits of the respective areas covered by the Waste Water Treatment Corporations created by Article 8 of Law of 26 March 1971

III - OWNERSHIP OF WATERS

(a) Surface waters

Surface waters are divided into public and private waters. They are regulated by the Civil Code.

1. Public waters consist of navigable and floatable waterways. These constitute those stretches of water, either natural or artificially created, which are suitable for use by man for floating and navigation; by virtue of being so designated for public use, they may not be the object of a private appropriation. It is the responsibility of the government to decide at which point navigability begins and ends. The fact that navigation had in reality long since ceased at a certain point on a watercourse would not be sufficient to nullify, for that waterway section, the status of navigability previously conferred upon it by Royal Order. The government thus possesses a discretionary power, although this remains subject to the censure of the Council of State. Navigable and floatable waterways form part of the public highways and carry footpath and towpath easements. The dredging and maintenance thereof is the responsibility of the State and their use subject to special regulation. Since navigable and floatable waterways are regarded as forming part of the Public Domain, or State Property, third parties may not acquire any right of ownership or easement on these waters, and the concessions which may be granted to them, such as concessions for water intakes and rights of way, are never permanent 1/.

2. Private waters consist of non-navigable and non-floatable waters. These are flowing waters used by riparian landowners for their private purposes. These waters are subject only to a right of use on the part of the riparian landowners, and not to a right of ownership. Thus, nobody may at present become the exclusive owner of such waters. It is further provided that the bed of non-navigable watercourses is held to belong to the State, to the province responsible for corresponding dredging, maintenance and repair works, or to the district, depending upon whether the river is assigned to

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1/ Civil Code, Art. 538

the first, second or third category 1/. Those legally regarded as riparians are landowners whose land is bordered or crossed by a watercourse 2/; the riparian landowner whose land borders flowing water has the right to use it for irrigating his land, and the riparian landowner whose property is crossed by such water has the right to use the stretch thereof which runs over his land, but on condition that it be returned to its normal course after use 3/.

(b) Underground waters

Belgian Law acknowledges to the landowner the ownership of the subsoil, and hence of the underground waters. This right of ownership is however restricted in the case where the owner of the servient landholding has acquired a right to spring waters by title or by prescription 4/, and in the case where such a spring supplies a community with the water it needs; if the inhabitants have not acquired or prescribed its use, the owner can then claim compensation, which is evaluated by expertise 5/.

(c) Mode of acquisition

Public and private surface waters are inalienable, and therefore not subject to appropriation.

Since, however, underground waters can be the object of a right of ownership, this can be acquired in the same way as land ownership, that is gratis or subject to payment, by sale, gift or inheritance.

IV - RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of acquisition

The right to use private waters is vested ministerio legis in landowners. Thus, this right can derive from inheritance, transfer of ownership, gift or easement.

In the case of private surface waters, riparian landowners may cede their water use right to other riparians, restrict their rights by agreement, or renounce the same as in the case of all private rights 6/. In addition, a third party, even a non-riparian, may acquire the right to use such waters, in full or in part, by acquisitive prescription. For this, there must have been contravention of riparian rights for more than 30 years; contravention will however exist only if third parties construct visible and permanent works effectively constituting an impediment to the exercise of riparian rights.

In the case of private underground waters, the owner may concede a right to use them to third parties free or against payment. In addition, the Civil Code stipulates the conditions on which the owner of a servient landholding may acquire, by prescription, a right to use the waters of a spring occurring on a dominent landholding. For this, there must have been uninterrupted availment of this use for 30 years, dating from the time when the owner of the servient landholding undertook and completed visible works intended to facilitate the fall and flow of the water into his land.

The right to use private waters is nevertheless subject to the control of the administrative authorities.

1/ Law of 28 December 1967 on non-navigable watercourses, Art. 16
2/ Civil Code, Art. 644
3/ Ibidem
4/ Ibidem, Art. 641
5/ Ibidem, Art. 643
6/ Ibidem, Art. 645

The right to use public waters is acquired by a concession 1/, a licence 2/ or an adjudication 3/.

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

Authorization is granted by order of the College of the Burgomaster and Deputy Mayors 4/, of the Director of the Water Treatment Corporation 5/, or by Ministerial Order 6/. The issuance of authorization by the administrative authorities is subject to an application filed either with the Permanent Delegation or with the College of the Burgomaster and Deputy Mayors, as the case may be.

When the application for authorization concerns a new underground water intake, it must be submitted in quadruplicate and state the surname, Christian names, professional status and address of the applicant, the trade to be carried on in the establishment, the use for which the water is intended, the maximum number of cubic meters to be extracted per day together with justification for the use of this volume of water, the siting, nature and technical characteristics of the water intake or works, and the point at which waste waters are to be discharged 7/. This application is submitted to the Permanent Delegation of the province in which the water intake or works are to be constructed. The application is filed in a special register which may be consulted by anyone who so requests 8/. After five working days following receipt of the application, the Clerk of the Provincial Court forwards the file to the Mining Administration of the area 9/. The mining Engineer examines the application and prepares a report 10/, which he forwards to the Permanent Delegation; the latter may order a public inquiry. In addition, he submits his recommendation to the relevant Minister. The latter issues a motivated order 11/. Before any new water intake or any new authorized works may become operational, a certificate of survey must be issued, stating that the installation satisfies the legal provisions as well as the conditions of the Order of authorization 12/. This certificate of survey is established by the Mining Engineer of the area. However, underground water intakes intended for domestic and household uses and wells the water whereof is extracted without mechanical aid are exempt from authorization insofar as the water does not naturally rise at the point of collection 13/.

Although a more detailed examination of applications for underground water intakes was introduced in 1970 14/, it is not required to automatically subject to the new procedure previous applications that were submitted and examined under the terms of the legislation in force since 1947 15/, or to revoke decisions that were issued on such applications in implementation of that legislation.

1/ Law of 26 August 1913 instituting a National Water Supply Board, Art. 1
2/ Ibidem, Art. 13
3/ Law of 6 Brumaire, Year VII, Art. 25
(Ed. Note : Brumaire - the second month of the French Republican Calendar, equivalent to 22 October-21 November. Year I dated from 22 September 1792; 6 Brumaire, Year VII is therefore equivalent to 27 October 1798).
4/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 1
5/ Ibidem.
6/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 4; Royal Order of 18 November 1970 regulating the use of underground waters, Art. 10.
7/ Royal Order of 18 November 1970, regulating the use of underground waters, Art. 4.
8/ Ibidem, Art. 5 (1)
9/ Ibidem, Art. 5 (2)
10/ Ibidem, Art. 6
11/ Ibidem, Art. 10
12/ Ibidem, Art. 12
13/ Ibidem, Art. 2
14/ Royal Order of 18 November 1970, as supplemented by the Royal Order of 18 November 1971
15/ Order of the Regent of 12 June 1947.

When the application for authorization concerns the establishment of enterprises that process and manufacture aerated waters, other similar products or artificial ice, it must be accompanied by an extract from the army map on a scale of 1 : 10,000 indicating the siting of the water intake and the various installations, by a sketch map of the ground over a radius of 500 meters from the collection point showing how the water is piped to the processing place, by a certificate issued by a laboratory appointed by the Board of Hygiene for the analysis of beverage waters testifying that the water is wholesome and including the results of two series of analyses carried out at two different times of the year, and by the specifications, with detailed drawings, of the installations and works carried out, or to be carried out, in order to protect the water against all contamination during both its collection and delivery to the place of processing 1/.

Applications relating to the discharge of waste water must contain all the information necessary for the taking of a decision and for authorization to be granted or refused. Authorization is issued by the College of the Burgomaster and Deputy Mayors when the discharge of waste water is from a domestic source; for the discharge of other waste water, authorization is issued by the Director of the Water Treatment Corporation in the area in which the point of discharge is located 2/. In this latter case, authorization is granted only on the recommendation of the public authority, the public utility organization or the concessionary company responsible for water policing or management within the area of which the waste water is to be discharged. The Director of the Water Treatment Corporation must also notify his decision regarding the authorization to the Minister of Public Health within eight days; the latter may nullify or modify it 3/. In this case, right of appeal to the King is, however, open to the applicant 4/. The authorization for the discharge of waste water specifies in all cases the conditions with which it must comply. It may be suspended or cancelled if these conditions are not observed; imposed conditions may be changed at any time 5/.

Applications for authorization relating to the transportation, depositing, drainage, burying and discharge of substances likely to contaminate underground waters, as well as applications for authorization relating to operations, installations, works and soil or subsoil modifications likely to constitute a cause or risk of contamination, are submitted for consideration by the Minister of Public Health. Only he may rule on these applications 6/. The procedures and calendar for the submission and examination of applications for authorization are ordered by the King on the recommendation of the Supreme Water Supply Board 7/.

Concessions for water supply may be granted by the administrative authorities to the districts wishing to operate a water supply system as a "régie" or mixed public-private enterprise. These concessions are rather rare since the National Water Supply Corporation has been responsible as from 1913 for the establishment and management of water supplies within district areas 8/.

1/ Royal Order of 16 May 1936 on the processing of beverage waters, Art. 2
2/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 5
3/ Ibidem, Art. 6
4/ Ibidem, Art. 7
5/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 5
6/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 4 (2)
7/ Ibidem, Art. 4 (1)
8/ Law of 26 August 1913 instituting a National Water Supply Corporation, Art. 1

The exploitation of rights of way and public ferries for the crossing of navigable rivers and canals is granted for 3, 6 or 9 years by public adjudication in the forms prescribed for the leasing of national property 1/. These concessions are granted either by the Permanent Delegation or by the Municipal Council, depending upon whether they concern provincial or district canals.

V - ORDER OF PRIORITIES

(a) Between different uses

There is no special legislative provision stipulating an order of priority between different water uses. However, priority of use is laid down every time the Provincial Coordinating Committees for Water Problems, whose functions include the comparison of development programmes and the attempt to reach solutions likely to establish the necessary coordination, suggest priorities between different projects and time schedules for their completion 2/.

(b) Between different areas

If necessary, an order of priority between different areas is laid down by the Interministerial Water Commission. This body then exercises its powers by coordinating the action of administrative authorities and other public bodies with a view to achieving regional and national objectives 3/.

VI - LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic uses

The production and distribution of drinking water is public. Water supply concessions are seldom granted, for public health reasons. Since 1913, the National Water Supply Corporation in fact exercises a water distribution monopoly.

(b) Municipal uses

Since 1913, district councils have been able to leave it to the responsibility of the National Water Supply Corporation to study, establish and operate public water supplies 4/. The specification defines the conditions to which the sale and delivery of water are subject. However, the creation of this corporation has not prevented district councils from operating water supply systems under a "régie", if they so wish.

The discharge of domestic water waste into public sewers is subject to the prior authorization of the College of the Burgomaster and Deputy Mayors 5/.

(c) Agricultural uses

The Rural Code regulates the use of water for agricultural purposes. It establishes, among other things, that any landowner wishing to use, for the irrigation of his land, natural or artificial waters on which he possesses use rights, may obtain an easement

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1/ Law of 6 Brumaire, Year VII, Art. 25
2/ Royal Order of 10 May 1967 creating Provincial Coordinating Committees for Water Problems, Art. 4
3/ Royal Order of 16 May 1969 creating and organising an Interministerial Water Commission, Art. 2
4/ Law of 16 August 1913 instituting a National Water Supply Corporation, Art. 1
5/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 5 (2)

for these waters to flow over intermediate landholdings on condition of fair and advance compensation 1/. It also stipulates that the owner of lower riparian land is under an obligation to receive water from upper irrigated land, subject to any compensation that may be due to him 2/. In addition, any landowner wishing to use, for the irrigation of his land, water on which he possesses use rights may obtain, on condition of fair and advance compensation, a servitude of abutment on the land of the opposite riparian landowner for the works required for his water intake 3/. The owner of the servient land may, however, always obtain a right to the common use of the waterwork 4/.

(d) Fishing

With the exception of ponds, reservoirs, ditches or canals of any type where the fish are unable to circulate freely between them and public streams, rivers and other waterways, the right to fish in inland waters belongs to the State 5/. Such inland waters comprise the streams, rivers and canals which have been designated by the King as navigable or floatable waterways and the maintenance whereof is the responsibility of the State or of its executors 6/. The King establishes which navigable and floatable rivers, or stretches thereof require licences, on payment, for catching eels. He regulates as well the conditions for the issuance and use of such licences 7/.

In all non-navigable and non-floatable watercourses, riparian landowners possess, each on his own bank, fishing rights extending to the middle of the watercourse 8/. As regards fishing permits, these are issued by the Postal Administration which for so doing collects an issuance fee levied to the exclusive profit of the State and the amount whereof is fixed by the King. No provincial or district taxes may be applied to these permits 9/. The policing, supervision and conservation of inland fishing fall within the responsibilities of the Water and Forest Administration 10/.

(e) Industry and mining

The utilisation of both public and private waters for industrial and mining purposes is subject to the prior authorization procedure 11/.

(f) Transportation

For the purposes of navigation, watercourses are classified as either navigable or non-navigable. For a watercourse to be held as navigable, its nature must allow navigation with a view to transportation. It is the function of administrative authorities to declare whether a watercourse is navigable; this is done by order.

1/ Rural Code, Art. 15
2/ Ibidem, Art. 16
3/ Ibidem, Art. 19
4/ Ibidem, Art. 20
5/ Law of 1 July 1954 on inland fishing, Art. 1
6/ Law of 20 July 1957 on inland fishing, Art. 1
7/ Law of 1 July 1954 on inland fishing, Art. 3, as amended by the Royal Order of 13 December 1954
8/ Ibidem, Art. 6
9/ Ibidem, Art. 9
10/ Ibidem, Art. 10
11/ Royal Order of 16 May 1936 on the processing of beverage waters, Art. 2

The general regulation governing the navigable waterways of the Kingdom specifies the conditions required for eligibility to navigate. These conditions concern the crew, the measurement of vessels, navigation taxes, the conservation of navigable waterways and their appurtenances. With respect to the conservation of navigable waterways, for example, the general regulation stipulates that, on land subject to towing easement along navigable and floatable watercourses, private individuals may not construct works or carry out planting schemes within certain specified limits without having obtained a prior authorization from the Ministry of Public Works. This authorization is granted only on precarious tenure and may be revoked at any time 1/. The general regulation is applicable, subject to derogatory provisions of special regulations, to all existing navigable waterways of the Kingdom, except the maritime canal between Brussels and Rujel, the Lower Maritime Scheldt and the Belgian part of the intermediate sections of the Meuse 2/.

On public waters, the leasing for ferries and river crossings is carried out by public adjudication in the forms prescribed for the leasing of national property and for 3, 6 or 9 years 3/. Toll rates are fixed by the government and tariffs are published.

(g) Medicinal and thermal uses

The government may, by Royal Order and in accordance with the recommendation of the Royal Academy of Medicine, declare the mineral or thermal springs belonging to the State, to a province, to a district or to an association of districts to be of public interest 4/. This Order specifies the area within which it is prohibited to carry out, without prior authorization, any works the existence whereof could cause a reduction in the discharge rate of the spring or intake or impair the quality of its water 5/. The demarcation of such an area is determined after an inquiry.

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood control

Flood control is provided by the creation of both wateringues and polders.

1. The wateringue, which, in the majority of cases, consists of wet or marshy land, has as its main objective the run-off of excess water in wet periods by means of a network of ditches and principal and secondary drainage canals together with the installation of pumping stations and locks. Protection against flooding from watercourses is generally of secondary importance. Although there are still wateringues which need to be protected against flooding caused by a rise in the level of a watercourse, the danger of flooding on their territory has become less frequent since these are now situated outside tidal river areas 6/.

1/ Royal Order of 15 October 1935 on navigation, Art. 89
2/ Ibidem, Art. 108
3/ Law of 6 Brumaire, Year VII, Art. 25
4/ Law of 1 August 1924 on the protection of mineral and thermal waters, Art. 1
5/ Ibidem, Art. 2
6/ Law of 5 July 1956 on wateringues, Art. 1

2. The polder comprises land reclaimed from the sea or from tidal rivers. Thus, the main objective of every polder is the protection of its dike against flooding. The polder has however as its secondary objective the drainage of excess water within its area resulting either directly from rainfall or indirectly from the run-off from adjacent land. During high tides and storms and on all occasions when the polder is in danger of being flooded, all members of the polder board are required to go to the sites that are threatened and carry out all measures dictated by the situation 1/.

(b) Drainage and sewerage

The wateringues and the polders have as their objective the drainage of excess water resulting either from rainfall or from run-off from adjacent land. The wateringue carries out all necessary operations for the construction, improvement and conservation of the drainage works. The polder is responsible for draining land behind dikes that has been reclaimed from the sea and from tidal rivers, as well as for draining its territory from excess water originating from rainfall and from run-off from adjacent land.

Waters from public sewers are processed by the treatment plants of one of the three corporations established in 1971 2/.

(c) Other harmful effects

There is no legislation specifically governing siltation and salinization. However, by draining excess water in wet periods by means of a network of ditches and canals, the wateringue prevents the siltation of land within its territory; and, by means of its dikes, the polder has a substantial effect on salt water intrusion control.

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and misuse of water

The objectives of the Interministerial Water Commission include the prevention of waste and misuse of water within the scope of its activities concerning the continuous updating of a permanent inventory of water resources and of the permanent hydrological yearbook of Belgium, keeping the inventory of the demand for water of different qualities, harmonizing the water legislation, and coordinating the actions of the administrative authorities and other public bodies both at the technical level and with a view to meeting regional, national or international objectives 3/.

(b) Health protection

In the public health interest, the King, on the recommendation of the Supreme Water Supply Board, may take measures aimed at protecting underground waters with a view to their possible use for domestic purposes and human consumption. To this end he may in particular demarcate underground water catchment and protection areas on public interest grounds. Within these areas, he may also prohibit, regulate or subject to authorization all actions likely to contaminate underground waters 4/. Within catchment and protection

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1/ Law of 3 June 1957 on polders, Arts. 49, 109 and 110
2/ Law of 26 March 1971 on the protection of surface waters against pollution
3/ Royal Order of 16 May 1969 creating and organizing an Interministerial Water Commission, Art. 2
4/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 2

areas, the conservation of underground waters is the responsibility of the user who may be authorised by the King to obtain expropriation, on public interest grounds, of property being essential to the fulfilment of legally established objectives 1/. The demarcation of catchment and protection areas is fixed, after public inquiry, by Royal Order in consultation with the Cabinet 2/. The Minister of Public Health appoints agents competent to investigate and report infringements of the relevant legal and regulatory provisions 3/. These agents carry out, or arrange for the sampling of substances likely to render, or thought to have rendered, protected waters unsuitable for human consumption and domestic use 4/. Analysis of the samples is carried out by a State Laboratory or by a laboratory appointed for this purpose by the Minister of Public Health. These agents may also enlist the help of district authorities in fulfilling their duties and, where necessary, require these authorities to take emergency measures that are essential when underground waters are or are becoming unfit for human consumption and domestic use. In the event of default on the part of the responsible district authorities, or when the least delay is likely to cause serious harm to public health, the agents take the appropriate measures or arrange for the necessary requisitions to be made. These are immediately notified to the Minister of Public Health and to the provincial Governor concerned. The immediate implementation of such requisitions is undertaken either by the provincial Governor or by the local Commissioner 5/.

As regards surface waters intended for human consumption, their distribution is governed by several legislative provisions. These, however, relate only to water supplied by a main and not to water drawn by private individuals for their own domestic requirements 6/. It is stipulated that water for human consumption must be fit for drinking when delivered to consumers 7/. Water for human consumption is regarded as fit for drinking when it is not likely to impair the health of the consumer. It is held to be unfit for drinking if it contains certain organisms, products or substances in quantities or proportions exceeding certain predetermined limits 8/. In addition, provision is made for officials and agents of the Ministry of Public Health to have access to places where technical water supply installations are located and may take water samples at any accessible location for the purposes of analysis 9/. Laboratories responsible for chemical and bacteriological analysis of beverage waters are officially appointed 10/.

In the public health interest, the government is authorized to regulate the collection, treatment, processing and, in general, all operations involved in the exploitation of mineral beverage waters, the manufacture of soft drinks and of ice for human consumption as well as trade in both artificial and natural ice 11/.

As regards mineral and thermal waters, their protection may be declared as being of public interest 12/. The public interest declaration specifies the area within which it is prohibited to carry out, without prior authorisation 13/, any works likely to cause a reduction in the discharge of the spring or catchment or impair the quality of the water that they deliver.

1/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 3
2/ Ibidem, Art. 5
3/ Ibidem, Art. 7
4/ Ibidem, Art. 8
5/ Ibidem, Art. 10
6/ Royal Order of 24 April 1965 on water for human consumption, Art. 1
7/ Ibidem, Art. 2
8/ Royal Order of 6 May 1966 on water for human consumption, Art. 1
9/ Royal Order of 24 April 1965 on water for human consumption, Art. 3
10/ Ministerial Order of 12 December 1968 on the analysis of foodstuffs and beverage waters, Art. 5
11/ Law of 14 August 1933 on the protection of beverage waters, Art. 1
12/ Law of 1 August 1924 on the protection of mineral and thermal waters, Art. 1
13/ Royal Order of 18 November 1970, regulating the use of underground waters, Art. 1

(c) Pollution

The discharge of waste water into public sewers and into the public water resources system is subject to authorization by the Director of the Water Treatment Corporation in the area of which the point of discharge is located 1/. This authorization is issued only on the recommendation of the relevant public authority, public utility organization or concessionary company responsible for water policing or management 2/. In addition, such discharges are subject to technical control. This technical control includes sampling of the discharged and of the receiving waters and their analysis by a State laboratory or by a laboratory appointed for this purpose by the Minister of Public Health 3/. Infringements of the relevant legislation and regulations incur legal proceedings. When, notwithstanding legal proceedings, the Director of a Treatment Corporation finds that waters continue to be polluted in any way whatsoever, he reports thereon to the Minister of Public Health, with proposals for suitable measures to be taken, notably suspending the discharge authorization and prohibiting the use of the installations and equipment which could be the cause of the pollution 4/. In addition, the district authorities may be required, either by the Director of the Treatment Corporation concerned or by the agents appointed by the Minister of Public Health to investigate and report infringements, to take the emergency measures rendered necessary by the existence or imminent threat of serious pollution. In cases where the local authorities are slow to take action or the polluted waters are likely to constitute an imminent hazard or to cause serious harm to the population, the Director of the relevant Treatment Corporation, or the appointed agents, make the necessary requisitions in accordance with the legal provisions that they consider to be appropriate and under their responsibility. These are immediately notified to the Minister of Public Health and to the provincial Governor concerned. The implementation of such requisitions is undertaken either by the Governor or by the local Commissioner 5/.

In the case of underground waters, the discharge or dumping of waste water or pollutants of any kind into disused wells, boreholes and drilling tunnels or shafts is prohibited 6/.

IX - LEGISLATION ON UNDERGROUND WATERS

The ownership of underground waters belongs to the overlying landowner; the latter therefore has the right to use and dispose of the water springing on his land 7/. However, the tapping of underground water is subject to a prior authorization, except, insofar as the water does not naturally rise at the point of collection, underground water intakes intended for the domestic and household purposes and wells the water whereof is not mechanically extracted 8/. Within polder and wateringue areas, it is

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1/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 1
2/ Ibidem, Art. 5
3/ Ibidem, Art. 36
4/ Ibidem, Art. 39
5/ Ibidem, Art. 40
6/ Royal Order of 18 November 1970, regulating the use of underground waters, Art. 17
7/ Civil Code, Art. 641
8/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 2

prohibited, without the prior authorization of the board, to dig trenches, sink wells or to site pumps at a distance of less than 10 meters from watercourses, drainage and irrigation canals, dikes and dunes, and, on land fitted with an underground drainage system, to remove or alter such works 1/. Disused wells, boreholes and drilling tunnels must be notified to, and are subject to the control of, the administrative authorities. The discharge or dumping of waste water or pollutants therein is prohibited 2/.

Works associated with the operation of mines, pits and quarries are subject to a prior declaration when such tunnels, pits, drillings and boreholes reach or are likely to reach a depth of 30 meters or more 3/.

As regards the control of the depletion of underground aquifers, the operators of works and installations aimed at or resulting in the extraction of underground water, including the tapping of springs at the point of emergence and the pumping of water in mines, pits and quarries, are required to declare the same, specifying the location, nature, intended purpose and depth of the works, the water level, the depth at which the pump is installed, the diameter of the well, the pumping or lifting equipment as well as the output in cubic meters per hour and the installed metering equipment 4/. In addition, all new water intakes and other authorized works are to be so constructed that it is possible to measure the water level therein at any time, either with a hand-lead or with an automatic device 5/.

X - LEGISLATION ON CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

(a) Legal and administrative provisions

The construction of waterworks on private waters is undertaken by the riparian landowner who possesses use rights thereon, and by the spring or well owner in the case of underground waters.

Users or owners of works built on non-navigable watercourses are however required to operate these works in accordance with the instructions issued to them by the competent authority 6/. The competent authority is the Minister of Agriculture for watercourses of the first category, that is those having a hydrographic basin of at least 5000 hectares. For watercourses of other categories, the competent authority is the Permanent Delegation 7/. The delegation is also responsible, in accordance with the instructions of the Minister of Agriculture, for compiling and updating the inventory of such watercourses as well as all other documents that provide information on their condition 8/. For the purposes of waterworks supervision, district authorities are required to inspect all watercourses situated within their area of jurisdiction at some time during the months of September or October each year and to send a report thereon to the competent authority within the month 9/. In addition, the competent authority was made responsible for compiling, before November 1971, an inventory of waterworks that had been constructed without authorization before 1 November 1968 10/.

1/ Royal Order of 30 June 1958 issuing general regulations for the policing of polders and wateringues, Art. 5
2/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 17
3/ Royal Order of 28 November 1939, Art. 1; Royal Order of 5 January 1940, Art. 1
4/ Royal Order of 14 June 1966 on the inventory of underground aquifer resources, Art. 2
5/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 11
6/ Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses, Art. 2
7/ Ibidem, Art. 1
8/ Law of 28 December 1967 on non-navigable watercourses, Art. 5
9/ Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses, Art. 11
10/ Royal Decree of 9 December 1970 amending Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses.

The Mining Engineer is responsible for the supervision of underground waterworks. When an application for authorization is submitted, the Mining Engineer for the area concerned prepares a report on the proposed works for submission to the Permanent Delegation 1/. If authorization is granted, and before the water intake or works that have been authorized are made operational, the Mining Engineer prepares a certificate of survey stating that the installation satisfies the provisions of the law and of the authorizing Order 2/.

In the case of public waters, the construction of waterworks is carried out by the holder of the corresponding water use title; otherwise, it is undertaken by the Minister of Public Works. Similarly, operation and maintenance of such waterworks fall under the responsibility of the title holder in the case of a concession, but of the district in the case of a licence.

As to the conservation of navigable waterways and their appurtenances, it is prohibited to divert, directly or indirectly, the water thereof or of canals communicating therewith, or to inflict any kind of defacement or damage to, or to continue to use a water intake on a navigable waterway in which the water level has dropped below the statutory height stipulated for navigation 3/.

In the case of the wateringues and polders, their respective boards are responsible both for the construction and for the operation and maintenance of flood control, drainage and irrigation works. Thus, these boards undertake twice a year a comprehensive and detailed inspection of the state of maintenance and preservation of corresponding waterworks 4/. Engineers of the Agricultural Hydraulics or of the Water and Forest Branches are present at these inspections.

(b) Technical and economic provisions

Economic provisions relate mainly to the cost of maintenance operations.

Operation and maintenance costs for waterworks built on non-navigable watercourses are borne by those to whom they belong and, in the event of default, by the Ministry of Agriculture if the watercourses concerned are of the first category; for those of other categories, the Permanent Delegation may order such operations to be carried out at the expense of the landowners concerned, without prejudice to the fines provided for by law 5/.

In the case of navigable watercourses, expenses incurred for waterworks operation and maintenance are borne by the responsible public authorities. Private or public persons making use of such watercourses or being the owners of works built thereon may however be required to pay a share of these expenses in proportion with the amount by which the use of the watercourse or the existence of the works increase maintenance and operation costs 6/. Wateringues and polders may also levy a tax to finance the operation and maintenance of flood-control, drainage and irrigation works 7/.

1/ Royal Order of 15 October 1935 on navigation, Art. 97
2/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 6
3/ Royal Order of 15 October 1935 on navigation, Art. 91
4/ Law of 5 July 1956 on wateringues, Arts. 81, 89; Law of 3 June 1957 on polders, Arts. 80, 89
5/ Law of 28 December 1967 on non-navigable rivers, Art. 8
6/ Royal Decree of 28 December 1967 on non-navigable watercourses, Art. 8
7/ Law of 5 July 1956 on wateringues, Art. 69; Law of 3 June 1957 on polders, Art. 65

XI - LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

Zones of protection against the harmful effects of water were created in 1956 (wateringues) and in 1957 (polders). The wateringue has as its objective the drainage of excess water in wet periods by means of a network of ditches, main and secondary drainage canals, together with the installation of pumping stations and locks. The polder, comprising within its limits land reclaimed from the sea or from tidal rivers, has as its objective the protection of its area against external flooding. The demarcation of these zones of protection is the responsibility of the King, who defines the extent of each wateringue and polder by Royal Order 1/.

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

On matters associated with water, regulatory powers rest not only with the central government but also, although within certain limits, with the provinces, districts, polder and wateringue boards. The basic principle is that of subordination of their decision-making power to that of the higher authority; local or regional competence, or, in the case of polder and wateringue boards, competence ratione materiae, is restricted by the regulations issued by the higher authorities, this without a specific enumeration of corresponding responsibilities.

(a) At the national level

Administrative authorities responsible for water resources are as follows :

1. The Interministerial Water Commission is an advisory body, the secretariat of which is provided by the Ministry of Public Health and Family ; it is responsible for ensuring the permanent and general coordination of studies on water problems emanating from the various ministerial departments and for making recommendations on government action in this sphere 2/. The Commission is also responsible for coordinating water management projects with a view to being able to propose to the government suitable measures for ensuring the availability of water resources adequate to meet increasing demand. More specifically, it is responsible for making recommendations and studies relating to the updating of a permanent inventory of water resources and of the hydrological yearbook of Belgium, for keeping an inventory of the water demand according to its different qualities, for harmonizing the water legislation and for coordinating the actions of administrative authorities and other public organizations with a view to meeting regional, national or international objectives 3/.

2. The Supreme Navigation Board consists of 40 members, of which 12 represent the ministers and administrative authorities concerned, 13 represent general interests in the sphere of navigation, and 5 represent water transport interests; it is an advisory body which makes recommendations on all matters relating to inland navigation that are referred to it either by the Minister of Public Works or by one of its members 4/. Its field of responsibility covers, in particular, the use and improvement of existing waterways and the establishment of new waterways as regards both their suitability and their economic usefulness, and legal and administrative problems of both national and international scope relating to inland navigation 5/.

1/ Law of 5 July 1956 on wateringues, Art. 2 ; Law of 3 June 1957 on polders, Art. 2
2/ Royal Order of 16 May 1969 creating an Interministerial Water Commission, Arts. 1, 2
3/ Ibidem, Art. 3
4/ Law of 13 August 1928 instituting the Supreme Navigation Board
5/ Order of the Regent of 18 November 1949 reorganizing the Supreme Inland Navigation Board, Art. 1

3. The Supreme Water Supply Board, which was created in 1971 under the auspices of the Ministry of Public Health and Family, is an advisory body whose responsibilities include advising the Minister on procedures and time-tables for the submission and examination of applications for authorization relating to the transportation, depositing, drainage, burying and discharge of substances likely to contaminate underground waters 1/.

4. The Supreme Inland Fisheries Board, which has been created under the auspices of the Ministry of Agriculture, makes recommendations on all matters relating to inland fishing and fish breeding as referred to it by the Minister of Agriculture 2/.

5. The Ministry of Agriculture, through the intermediary of its Agricultural Hydraulics Branch, is responsible for project design and supervision of works for the improvement of wet or marshy land, and of works for the construction and improvement of access roads on behalf of districts and all other local administrative authorities which request the intervention of the Branch 3/. The Ministry of Agriculture administers non-navigable watercourses for which it issues instructions on the keeping of the inventory thereof. It lays down procedures for inquiries, claims and appeals which arise from the compilation of this inventory as well as for the final approval thereof 4/. It carries out, at its own cost, routine dredging, maintenance and repair operations along with any occasional improvement works needed in connection with non-navigable watercourses of the first category 5/. It also issues the necessary instructions for the protection of works constructed on such watercourses 6/.

6. The Ministry of Public Health and Family has as its main responsibility the maintenance of the purity of water. It appoints agents competent to take samples of discharged waste and receiving waters, and others competent to investigate and report infringements of the law 7/. It decides on applications for authorization relating to the transportation, depositing, drainage, burying and discharge of substances likely to contaminate underground waters, and also on applications relating to operations, installations, works and modifications of the soil and subsoil likely to constitute a cause or risk of contamination of these waters 8/.

7. The Ministry of Public Works is responsible, in particular, for the administration of navigable watercourses. Among other things, it grants authorization for constructing works and carrying out planting schemes within certain specified limits on land subject to towing easement along navigable and floatable waterways 9/.

8. The Ministry of Economic Affairs is responsible for carrying out the general inventory of the country's underground water resources 10/.

1/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 4 (1)
2/ Order of the Regent of 24 September 1946, Arts. 1 and 10
3/ Royal Order of 10 July 1951 issuing internal regulations for the Agricultural Hydraulics Branch of the Ministry of Agriculture, Art. 1
4/ Law of 28 December 1967 on non-navigable rivers, Art. 5
5/ Ibidem, Arts. 7 and 11
6/ Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses, Art. 2
7/ Law of 26 March 1971 on the protection of surface waters against pollution, Arts. 36 and 37
8/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 4
9/ Royal Order of 15 October 1935 on navigation, Art. 89
10/ Royal Order of 14 June 1966 on the inventory of underground water resources, Arts. 1 and 12.

(b) At the provincial level

Provincial authorities responsible for water are primarily :

1. The Provincial Coordinating Committees for Water Problems. These committees are responsible, firstly, for the exchange of information regarding works that are proposed or regarded as necessary in relation to water resources, particularly when they involve the drainage of land, the dredging and improvement of rivers, the irrigation of agricultural land, river pollution and drinking water supply; and, secondly, for the synthesis of water works development programmes and for seeking solutions likely to bring about the necessary coordination. These Committees also issue recommendations and forecasts relating to the creation, extension, amalgamation or discontinuance of polders and wateringues within their province 1/.

The other provincial authorities competent in the field of water resources are the Provincial Council, from within which a Permanent Delegation is elected 2/, the Governor of the province 3/ and the Mining Engineer 4/.

2. The Provincial Council, in its capacity as a deliberative assembly, is responsible for water and drainage works assigned by law to the province 5/.

3. The Permanent Delegation deliberates on all matters concerning the day-to-day administration of the interests of the province. On the general administration level, the Permanent Delegation makes recommendations on all matters that are submitted to it for this purpose by virtue of the law or by the government. In the case of prior authorization for a new underground water intake, for example, it receives a report from the Mining Engineer and, if it deems it necessary, may order a public inquiry; it forwards its recommendation to the Minister of Mines in all cases 6/. It is also responsible for the issuance of concessions for the exploitation of river crossings and public ferries on provincial canals 7/. In the case of non-navigable watercourses, it is responsible for compiling and updating, in accordance with the instructions of the Minister of Agriculture, the inventory of such watercourses as well as other documents that provide information on the condition thereof 8/. It also issues the necessary instructions for the protection of works constructed on non-navigable watercourses other than of the first category 9/.

4. The Governor of the province, as the representative of the government and depository of State authority in the province, has as one of his responsibilities the administrative supervision of the district authorities. Thus, the government of the province intervenes by means of requisitions when it is informed by the agents of the Minister of Public Health that district authorities have not taken the emergency measures necessary to control serious existing or threatening pollutions, or that there are polluted waters likely to constitute a hazard or to cause serious harm to the population 10/. The Governor intervenes in the same way in the event of underground

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1/ Royal Order of 10 May 1967 creating Provincial Coordinating Committees for Water Problems, Art. 4
2/ Provincial Law of 30 April 1836, Arts. 1 and 3
3/ Ibidem, Arts. 1 and 4
4/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 6
5/ Provincial Law of 30 April 1836, Art. 69
6/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 5
7/ Law of 6 Brumaire, Year VII, Art. 25
8/ Law of 28 December 1967 on non-navigable watercourses, Art. 5
9/ Royal Order of 5 August 1970 issuing general regulations on the policing of non-navigable watercourses, Art. 1
10/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 40

waters which are, or are becoming, unfit for human consumption and domestic use 1/. He is also responsible for determining the source of non-navigable watercourses the hydrographic basin whereof on the territory of the province covers an area of a minimum of 100 hectares 2/. He may also nullify the deliberations of the general assemblies of polders and wateringues where these are contrary to the interests of a district 3/.

5. The Mining Engineer, finally, examines applications for authorization relating to new underground water intakes, compiles reports thereon and sends the same to the Permanent Delegation together with a copy of the application 4/. Before authorized water intakes or works may become operational, they are further subject to the issuance of the certificate of survey which he establishes and by which he testifies that the installation satisfies the provisions controlling the use of underground waters and the conditions of the authorizing Order 5/.

(c) At the district level

District authorities responsible for water resources are the District Council and the College of the Burgomaster and Deputy Mayors.

1. The District Council possesses general and unspecified powers for regulating everything that is in the interests of its district, and deliberates on all other matters submitted to it by higher authorities 6/. It is also responsible for the issuance of concessions for the exploitation of river crossings and public ferries on district canals 7/.

2. The College of the Burgomaster and Deputy Mayors is the executive body responsible for seeing to the maintenance of watercourses in accordance with the legal and administrative provisions of the provincial authority 8/. It also issues authorizations for the disposal of waste water of domestic origin 9/.

(d) At the users' level

1. The wateringue

The wateringue is essentially an association of landowners concerned with the the implementation of waterworks in their common interest 10/. The wateringue is a public administrative authority instituted by the government on the recommendation of the Minister of Agriculture. In exactly the same way as a District, it is an administrative body restricted to a limited portion of the national territory, outside which it may exercise no powers. The main objective of the wateringue board consists in the promotion of agricultural interests by maintaining or creating within its area a water level that is favourable to agriculture, that is, draining off excess water in wet periods and bringing in water during periods of drought. It may also undertake, as a secondary objective, land reclamation.

1/ Law of 26 March 1971 on the protection of underground waters against pollution, Art. 10
2/ Law of 28 December 1967 on non-navigable watercourses, Art. 3
3/ Law of 5 July 1956 on wateringues, Art. 28; Law of 3 June 1957 on polders, Art. 27
4/ Royal Order of 18 November 1970 regulating the use of underground waters, Art. 6
5/ Ibidem, Art. 12
6/ Provincial Law of 30 March 1836, Art. 75
7/ Law of 6 Brumaire, Year VII, Art. 25
8/ Provincial Law of 30 March 1836, Art. 90
9/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 5
10/ Royal Order of 2 March 1971 transforming the central branch for the study of polders into a regional branch, Art. 1.

The wateringue is directed by a general assembly and managed by a board. The general assembly is the legislative body and supreme authority of the wateringue; in theory, it is this assembly which adopts decisions of a certain importance, such as the construction and improvement of flood-control, drainage and irrigation works 1/. The board is the executive body, responsible for the maintenance and protection of flood-control, drainage and irrigation works, the administration of the land property of the wateringue, and the twice-yearly inspection of wateringue works 2/. In order to carry out the necessary operations involved in the construction, improvement and protection of flood-control, drainage and irrigation works, a tax is levied on all landholdings within the limits of the wateringue 3/. Before carrying out these operations, however, the wateringue must obtain the prior authorization of the King, which is granted on the recommendation of the Permanent Delegation when it is a matter of constructing, removing or modifying a dike or protective ditch 4/. For other construction and improvement operations, only authorization by the Permanent Delegation is required 5/. The wateringue may, without obtaining prior authorization, undertake all works in respect of which a delayed implementation could cause danger or damage, on condition however that due notification thereof is immediately sent to the Permanent Delegation and to the competent officials designated by the King 6/. In addition, the wateringue board exercises the powers vested in the College of the Burgomaster with respect to the surveillance of planting schemes, building and other works along non-navigable watercourses situated within its area 7/.

2. The polder

The polder also constitutes an association of landowners concerned with the construction of waterworks in their common interest. The polder is a public administrative authority instituted by the government on the recommendation of the Minister of Public Works 8/. The main objective of the polder is, firstly, the protection of its area against maritime flooding and, secondly, the promotion of agriculture. The administration of the polder consists of a general assembly and a board. The general assembly is the legislative body and supreme authority of the polder; it takes decisions on, among other things, the construction and improvement of flood control, drainage and irrigation works 9/. The board is its executive body, responsible for the maintenance and protection of flood-control, drainage and irrigation works and the twice-yearly inspection of the waterworks within the polder area 10/. The King may prescribe and formally order any works necessitated by the general interest; these works are then carried out directly by the State, which underwrites the costs without any repayment on the part of the polder concerned 11/. The polder may not construct, remove or modify any dike or protective ditch without prior authorization from the King, which is granted on the recommendation of the Permanent Delegation and the district authorities concerned 12/. Other construction and improvement works may be carried out only with the prior authorization from the Permanent Delegation, on

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1/ Law of 5 July 1956 on wateringues, Art. 21
2/ Ibidem, Art. 41
3/ Ibidem, Art. 65
4/ Ibidem, Art. 81
5/ Ibidem, Art. 82
6/ Ibidem, Art. 83
7/ Royal Order of 30 January 1958 issuing general regulations for the policing of polders and wateringues, Art. 2
8/ Law of 3 June 1967 on polders, Art. 12
9/ Royal Order of 30 January 1958 issuing general regulations for the policing of polders and wateringues, Art. 20
10/ Ibidem, Art. 40
11/ Ibidem, Art. 102
12/ Ibidem, Art. 81

specified conditions 1/. The polder may however undertake all works a delay in the implementation whereof could cause danger or damage, this without prior authorization but on condition that due notification thereof is sent immediately to the Permanent Delegation, to the district authorities concerned and to the competent officials designated by the King 2/. The polder board exercises the powers vested in the College of the Burgomaster with respect to the surveillance of planting schemes, building and other works along non-navigable watercourses situated within its area 3/. The polder levies a tax on all landholdings within its area to pay for operations necessary for the construction, improvement, maintenance and protection of flood-control, drainage and irrigation works therein 4/.

3. Wateringue and polder associations

Wateringue associations, which were unknown under the old legislation, can only have as their objectives joint protection against flooding and the construction of water-works in their common interest. The purpose of such associations is not the joint administration or defence of their moral interests; each wateringue retains its individuality within the association which only controls common interests to the advantage of the associated wateringue boards. The institution of such associations may be either compulsory or subject to initiative of the individual wateringues 5/.

Polder associations are organized in the same way as wateringue associations 6/

(c) At the international level

The regime of international water resources between Belgium and her neighbours is regulated by a number of multilateral and bilateral agreements, some of which provide for joint commissions or boards to settle questions of common interest as compared with a general exchange of information and consultations at government level provided for by the other agreements.

1. The Conciliation Commission 7/ between Belgium and the Netherlands is to be called upon to settle disputes among neighbouring wateringues and polders arising out of the implementation of the Convention signed on 20 May 1843 to regulate Flanders water discharges. The Commission is to consist of two representatives of the respective local permanent delegations and of each local Chief Engineer. In cases where the Commission is unable to reach agreement, the disputed matter is referred to the respective governments.

2. The Joint Administrative Commission 8/ between Belgium and Germany has been established by the Frontier Agreement of 7 November 1929 covering matters of interest to joint wateringues. This agreement was revised by a Treaty on 24 September 1956.

1/ Royal Order of 30 January 1958 issuing general regulations for the policing of polders and wateringues, Art. 82
2/ Ibidem, Art. 83
3/ Ibidem, Art. 2
4/ Law of 3 June 1957 on polders, Art. 80
5/ Law of 5 July 1956 on wateringues, Arts. 6 and 9
6/ Law of 3 June 1956 on polders, Art. 6 and 10
7/ Convention of 20.5.1843 between Belgium and the Netherlands to Regulate Flanders Water Discharges, Arts. 43-44 (ST/LEG/SER-B/12, p. 541)
8/ Agreement of 7.11.1929 between Belgium and Germany concerning their Common Frontier, Art. 94 (121 LNTS 328).

The Commission consists of four members and is alternatively chaired each year by the Foreign Minister of either party. Decisions are taken at the majority; in case of ballot, a third State appointed by the government of the Netherlands functions as arbitrator.

3. The Standing Tripartite Commission on Polluted Waters was created by virtue of the Franco-Belgo-Luxembourg Protocol of 8 April 1950 to decide on semi-annual reports on pollution control prepared by one, or more, joint technical sub-commissions composed of an equal number of local representatives for each party concerned with a particular watercourse or pollution problem. Whereas France has four representatives on the Tripartite Commission, Belgium has three and Luxembourg one.

4. The Arbitration Board 1/ provided for by European Treaty 122 of 13 May 1963 between Belgium and the Netherlands on the connection between the Scheldt and the Rhine is to rule on all disputes arising out of the interpretation or implementation of the Treaty in respect of waterworks improvements, flow regulation, salinization, pollution control and related cost sharing. Day-to-day operations are however dealt with by each government subject to joint consultations.

5. The Council of Europe 2/ has been designated by European Agreement 92 of 16 September 1968 signed by Belgium, Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Switzerland and the United Kingdom as the forum for the multilateral consultations to take place at least once every five years on the restriction of the use of certain detergents in washing and cleaning products. The main purpose of such consultations is the harmonization of the respective national legislations in this respect.

XIII - SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

(a) At the national level

The legislation covering the control of certain public interest bodies refers, in relation to water resources, to the following : the National Water Supply Corporation, the Navigation Office and the Inland Navigation Control Office. These special agencies have a budget which is drawn up by the Minister to whom they are attached and submitted by him to the Minister of Finance 3/. These agencies present regular progress reports and an annual report on their activities to the relevant Minister as well as to the Minister of Finance 4/. The Minister concerned and the Minister of Finance appoint, by common consent, one or more auditors for these agencies who are responsible for overseeing the accounts thereof and testifying to their accuracy and validity 5/.

1. The National Water Supply Corporation has as its objective the study, establishment and operation of public water supply systems; it is constituted in the form of a cooperative society and enjoys, without losing its civil status, the advantages that are accorded by law to commercial companies 6/. The Board has an unlimited lifetime, and its winding-up may only be pronounced under the terms of a law that will stipulate the mode and conditions of its liquidation 7/. Its initial capital was subscribed by

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1/ Treaty 122 of 13.5.1963 between Belgium and the Netherlands concerning the Connection Between the Scheldt and the Rhine, Art. 42
2/ European Agreement 92 if 16.9.1968 between Belgium, the Federal Republic of Germany, Italy, Luxembourg, the Netherlands, Switzerland, the United Kingdom and Northern Ireland on the restriction of the use of certain detergents in washing and cleaning products, Art. 3
3/ Law of 16 March 1954 on the control of certain public interest bodies, Art. 3
4/ Ibidem, Art. 6
5/ Ibidem, Art. 13
6/ Law of 26 August 1913 instituting a National Water Supply Corporation, Arts. 1 and 2
7/ Ibidem, Art. 4
8/ Ibidem, Art. 5

the State and the provinces, and its registered capital by the latter and by districts, charitable institutions, benevolent societies and private individuals. However, the share of the State in the registered capital may not exceed one half of the initial capital 1/. Each water supply service is treated as a separate account in the book-keeping procedure of the Corporation 2/. The Corporation is administered by a Board of Directors and a General Manager. The Chairman, half of the members of the Board of Directors and the General Manager are appointed by the King; the other members of the Board are nominated by the general meeting of shareholders with the exclusion of the State 3/. The government has the right to control all operations of the Corporation and, to this end, to demand from it any statement and information 4/.

2. The Navigation Office is a special and autonomous agency responsible for the operation of navigable waterways 5/. It is a public institution which enjoys civil status and the management accounts whereof are submitted annually to the Audit Office 6/. Its responsibilities include the upkeep, repair, operation and equipment of locks, banks, embankments and towpaths, the dredging operations needed in order to maintain specified draughts, the administration of the public property associated with navigable waterways, the upkeep and management of planting schemes, and the collection of tolls, navigation dues and other charges for the use of navigable waterways, the equipment and appurtenances thereof 7/. Returns of the Office consist of navigation dues and of taxes, charges and various revenues, as well as of subsidies granted by the public authorities, communities and private individuals 8/. The Minister of Public Works also has the power to authorize planting and the construction of works between certain specified limits on land carrying towing easement along navigable and floatable watercourses 9/.

3. The inland Navigation Control Office is a special and autonomous agency endowed with civil status. Its function is to regulate trip-chartering and time-hiring of inland waterway vessels, to ensure strict observance of inland charterage rates and vessel hiring costs, and to fulfil or cooperate in all other functions involving inland navigation devolved upon it by the Minister of Merchant Marine and Shipping 10/. The Office is subject to the authority of this Minister, who represents and directs it 11/.

(b) At basin level

Three waste water treatment corporations function at basin level. These are the Coastal, the Scheldt and Meuse, the Seine and Rhine Basin Water Treatment Corporations 12/. These corporations are public law companies with civil status 13/ responsible, each within the limits of its area 14/, for establishing and supervising the implementation

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1/ Law of 26 August 1913 instituting a National Water Supply Corporation, Art. 5
2/ Ibidem, Art. 6
3/ Ibidem, Art. 9
4/ Ibidem, Art. 14
5/ Law of 13 August 1928 creating the Navigation Office, Art. 1
6/ Ibidem, Art. 2
7/ Ibidem, Arts. 4, 6
8/ Ibidem, Art. 7
9/ Royal Order of 15 October 1935 on Navigation, Art. 89
10/ Royal Order of 3 December 1968 modifying and supplementing the Statutes of the Inland Navigation Control Office, Art. 2
11/ Ibidem, Art. 4
12/ Law of 16 March 1971 on the protection of surface waters against pollution, Art. 8. The Royal Order of 25 July 1972 has established 1 August 1972 as the date on which Art. 8 came into force.
13/ Ibidem, Art. 9
14/ Royal Order of 25 July 1972

of waste water treatment programmes either from public sewers or from industrial enterprises which have requested such a treatment for their waste waters. They are also responsible for monitoring waste water discharges subject to authorization, and for identifying any potential cause of water pollution 1/. They advise the Minister of Public Health on the measures to be taken to control water pollution within their respective areas 2/. These corporations draw their financial means from subscriptions to the registered capital. In addition, they benefit from State subsidies, contracted loans, contributions of the provinces and of industrial enterprises connected to a public sewer or to one of the main sewers thereof, and from the development or sale of treated water or of any other substance recovered during the treatment process 3/.

XIV - LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES

(a) Government financial participation

The State intervenes financially in certain expenditures in the form of subsidies allocated by the Ministers concerned. Thus, the Minister of Agriculture may, within the limits of the voted sums at his disposal, grant to farmers, horticulturists and cattle breeders who so request a subsidy for the installation of a drinking water supply for their enterprises. Such a subsidy is however allocated only provided connection to the public water supply system cannot be carried out without incurring costs disproportionate to the size of the enterprise concerned 4/. In addition, the Minister of Agriculture has sole authority to issue and liquidate subsidies to provinces, districts and their associations, polders, wateringues and their syndicates for carrying out such works as the construction, enlargement and conversion of pumping stations as a result of works undertaken on State initiative; the construction, reinforcement and raising of dikes along navigable and non-navigable watercourses; the improvement of non-navigable watercourses of the second and third categories; the construction, enlargement and conversion of pumping stations for the drainage of agricultural waters; the creation of water reserves for agricultural use and the establishment of primary irrigation networks; and the creation and improvement of agricultural drainage networks by means of pipes or ditches 5/. As an example, the budget of the Ministry of Agriculture for the year 1972 provided 225,000 francs 6/ for expenditure on works carried out by the State 7/. The Ministry of Public Health and Family, in turn, granted to the National Water Supply Corporation out of its budget for the year 1972 subsidies of 150,000 francs for the completion of works relating to the creation, enlargement or relocation of drinking water supply systems and treatment plants 8/. In addition, the budget of the Prime Minister's Office provided in 1965 for a credit to finance studies aimed at the formulation of a water policy and, in particular, studies preliminary to operations and works to be carried out to this end 9/. This credit was placed at the disposal of the Ministers concerned by a Royal Order upon a Cabinet decision.

1/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 10
2/ Ibidem, para. 6
3/ Ibidem, Art. 14
4/ Royal Order of 25 July 1959 on the issuance of a subsidy, Art. 1
5/ Royal Order of 26 March 1969 on State intervention with respect to subsidies
6/ One US dollar equalled approximatively 39.0 Belgian Francs in November 1974
7/ Law of 25 June 1972 concerning the budget of the Ministry of Agriculture for fiscal year 1972
8/ Law of 10 July 1972 concerning the budget of the Ministry of Public Health and Family for fiscal year 1972
9/ Law of 15 April 1965 on water problems

In the case of pollution control, the State intervenes financially in investment expenditures of the water treatment corporations, either in the form of outright grants for the construction of works or in the form of a contribution to interest and amortization charges on loans contracted by these corporations in order to finance their installations 1/. The State is also authorized, in the conditions and in accordance with the procedures stipulated by the Minister of Finance, to stand as security for loans contracted by water treatment corporations 2/.

The State also contributes to investment costs made by industrial enterprises in order to satisfy legal requirements on the protection of surface waters against pollution; such a contribution is made when industrial enterprises being built in a given area are not, for valid reasons, in a position to avail themselves of the installations of one of the water treatment corporations to have their waste waters treated, or when the waste water discharge authorization granted to an existing enterprise carries the requirement of a special treatment of its residual waters that entails additional investment 3/. The amount of this contribution is decided upon with due consideration for other interventions by the State for similar purposes and from which such enterprises could possibly benefit as well 4/.

(b) Water rates and charges

Water rates are payable on various counts. Some are levied on the metered consumption of water distributed by the National Water Supply Corporation; others attach to the use of watercourses and navigation canals, such as lock and towing rates and registration certificate fees 5/. In addition, the provinces may impose an annual tax to recover contributions they were required to make at the time the registered capital of the Water Treatment Corporation in their area was being constituted 6/.

XV - IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

(a) Juridical protection of existing water rights

Juridical protection of existing rights on private waters that may be used without special authorization is provided by the provisions of the Civil and Penal Codes relating to the protection of land ownership.

Juridical protection of water rights acquired by authorization or concession on public waters is provided by the legal provisions regulating the use of these waters. In addition, existing rights on public waters are taken into consideration in the course of the procedure of inquiry relating to applications for new uses.

(b) Modification or re-allocation of water rights

In the case of private watercourses, authorizations or permits granted for the construction of works may be revoked or modified without indemnity on the part of the State when exercising its policing powers.

In the case of public watercourses, water intakes and other installations, even if created pursuant to a prior authorization, may be modified or removed at any time. Compensation is due only when the water intake or installation the modification or removal whereof is ordered are covered by a legal title.

1/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 16
2/ Ibidem, Art. 2
3/ Ibidem, Art. 33
4/ Ibidem, Art. 34
5/ Law of 30 December 1968 on modes of transportation subject to the provisions of the Order having force of Law of 12 December 1944 creating an Inland Navigation Control Office
6/ Law of 26 March 1971 on the protection of surface waters against pollution, Art. 22

(c) Water tribunal

There are no special tribunals for the settlement and adjudication of disputes arising on water rights. All these matters are therefore brought before the common law courts.

(d) Penalties

The penalties imposed for infringements of the water legislation are contained either in certain legislative provisions applicable to water or in certain articles of the Penal Code. Infringements are punishable by a fine, imprisonment, or both.

(e) Water Law implementation

At the national level, water rights are administered by the King and the competent ministers. At the local level, the administration of water rights is entrusted to the Permanent Delegation.

The exercise of water rights is subject to authorization from the College of the Burgomaster and Deputy Mayors, the Director of the Water Treatment Corporation or the competent minister on the basis of an application filed either with the Permanent Delegation or the College of the Burgomaster and Deputy Mayors, as applicable.

ENGLAND AND WALES 1/

I - INTRODUCTION

England, the largest, most industrial and populous unit of the United Kingdom of Great Britain and Northern Ireland, is roughly triangular with sides between 480 and 580 kilometers in length, measured in straight lines. The area of England is of about 130.000 square kilometers. Continental Europe is 34 kilometers from the southern coast at the Straight of Dover. Except Cornwall in the south-west which is partly in contact with the Atlantic Ocean, the coasts are washed by the North Sea in the east, the Irish Sea in the north-west and St. George's Channel in the west of Wales.

The fundamental division of England into high and lowlands is manifest not only in geology and climate, but in vegetation, mineral resources, agriculture, industry, race, language and culture. The highlands lie in the west and constitute the major part of Wales. Movements from upland to lowland from Scotland in the north and from Wales in the west to east involve sometimes abrupt and sometimes gradual changes making a transition from old, hard and often metamorphosed rocks to younger, less disturbed sediments, from cool, wet and cloudy climates to rather drier, sunnier conditions and from thin, leached soils difficult to till, to deeper and richer soils. Such changes are accompanied by modifications in vegetation from moorland which provide for limited sheep grazing to formerly thickly wooded land now cleared for agriculture, fenced and hedged into the domesticated patchwork of rural England. With one of the highest population density in the World, lowland England presents in all these aspects a major contrast with the slightly populated and largely uncultivated highlands of Wales. Highland England includes Cumbria, or the Lake District, in the north-west, the Pennine Upland in the north centre, and the south-west Peninsula. In Cumbria, relief is strong, waterfalls and lakes abound and the construction of reservoirs has made this area of high rainfall an important source of water for south-eastern Lancashire. The Pennine region consists of the Pennine Upland of central northern England and the Pennine Plank coalfields. In the north, the trough of the Tyne Valley separates the Pennines proper from their northerly extension stretching to the Scottish border. Population is slight and sheep farming constitutes the mainstay of the economy. The head waters of the Eden and the Tees separate the northern Penninos from the central which, in turn, are bounded in the south by the Aire Gap. South of the Aire, uplands constitute invaluable sources of soft water for the textile industries of both Lancashire and Yorkshire, while their valleys form suitable sites for strings of reservoirs. As to the south-west Peninsula, its lower, discontinued relief and position in the south-western seas have made its climate moist but mild, especially along the coast where the flourishing fishing centres have now been substituted by popular tourist areas.

1/ Prepared for the F.A.O. Legislation Branch by Miss T. Aptekman, Lic. dr., LLM, Rome, Italy, December 1973. The kind cooperation of Mr. F. Hodges, Chartered Civil Engineer, Bournemouth, England, in commenting on the draft of this study is gratefully acknowledged.

The lowlands of England can be subdivided into the Midland Plains and the scarplands of the east arranged in long sweeps of scarp and vale stretching from Dorset in the south-west to the moors of Cleveland in the north-east. The Midland Plains are made up of the core region of the Midlands proper, a low plateau in the heart of England with northerly reaching arms of lowland which become the vales of Trent and York in the east, and the plain of Lancastria in the west, of the Severn Lowlands and the Bristol area, and lastly of the marshlands along the edge of the Welsh Massif. To the north-east, the lowland reaches up between the western coalfields and the scarplands to the east as far as the Valley of the Tees; the drainage of this lowland is centered on the Humber which draws to itself the drainage systems of the Trent in the south and of the Ouse in the north. Grazing, mixed and cash-crop farming industry have developed in this largely agricultural basin. The Valley of the Lower Severn constitutes however the main component in the extension of the central lowlands to the south-west. Its major tributary, the Warwickshire Avon, flows from the heart of the Midlands and, in its lower portion, from the Vale of Evesham celebrated for its fruit and market-garden crops. Between the English lowlands and the mountains of the vales, the varied topography, the entrenched rivers, the mixture of wooded hill and cultivated field, of hopyard and meadow, combine to give the Welsh Marshes a rare and rustic beauty. The scarplands of eastern England are made up largely of alternate belts of soft and hard rocks etched into scarps and vales orientated south-west to north-east. The first major scarp stretches from Dorset to the North-Riding, a region characterized by arable farming and England's most important iron deposits. Behind that scarp and that of the Chalk extends a wide vale of soft clayey rocks with the fertile Vale of Pewsey, a tributary to the Bristol Avon in the south-west, the Oxford Vale drained by the Thames in the centre until it discharges into the Thames Basin through the Goring Gap, and with the Nene and Ouse rivers in the north-east. The whole of this valley tract is predominently agricultural with much of the heavy land and river alluvium in pasture; in the east, however, a lower rainfall and lighter soils support arable farming and horticulture. Further east, towards the Wash, the vale widens out to form the Fenland, once a desolate area of malarial swampland drained as a result of many centuries of reclamation and now the most fertile soils in England. Other scarpland areas include East Anglia, the house of the new husbandry of the agrarian revolution of the 18th century, the Thames drained London Basin in the south wholly dominated by Greater London, the greatest human settlement of the World with more than 9 million people, and the Hampshire Basin in the south-west, drained by the Test and Itchen and the Avon rivers.

As to general climatological conditions, England and Wales experience weather rather than climate. Rainfall is greater in the east, in the south and on the highland areas; average annual rainfall reaches from 500 mm on the east coast to more than 2.000 mm in the Lake District. While rainfall is evenly distributed throughout the year, snowfall and frost are experienced every winter from several days in the lowlands to several months in the uplands.

Unlike in the case of other principal legal systems, the history of English Law can hardly be split into well defined periods, for what is termed as such today is but the product of an uninterrupted legal and legislative process which, because of its almost exclusive customary nature, could at most be plotted by a limited number of landmarks 1/. One of these is undoubtedly the Norman Conquest in 1066 which, with the introduction of the strongest central government in Europe at that time, resulted in the crystallization in England of a highly organized feudal system and the creation of the curia regis, or royal court, over the varied local jurisdictions. Early commentaries refer to this date as marking the origin of a unique corpus of English Law.

1/ See English Law, in Encyclopaedia Britannica, Vol. 8, 1971 Ed.

The Norman Conquest had indeed brought together two earlier streams of law, the Frankish and the Anglo-Saxon. Frankish Law traces its origin through the capitularies of Carolingian emperors and Merovingian kings to the conquest of Gaul by Clovis in the 6th century when the Franks, having adopted Catholic Christianity, began to record their customary usages in Latin. This codification, primarily concerned with criminal law, culminated in the publication of the Lex Salica in 511. Although written in Latin, this code, one of the early Leges Germanorum, is structurally of the pre-Christian era and was issued before the Justinian Digest; it therefore referred neither to Roman Law nor to Christian sources. The Anglo-Saxon stream of law has however much varied origins which can be traced back to the 8th century with the laws of Ine in newly converted Wessex and those of Aethelberht in newly converted Kent, the ordinances of Alfred and the Scandinavian Code of Canute in 1035. Influences from Germanic folk laws (Leges Barbarorum) and from European folk laws (Lex Saxonum and the laws of Lombardy) may be added to these sources. If, in addition, Roman Law precepts did penetrate Anglian jurisprudence in the coming, as was partially the case later through Frankish influences, it was indoubtedly in an indirect way through Germanic Law which, as Christianism implies, was charged with traditions of classical continental Europe. While the various ethenic groups in England applied their own laws and customs, these however soon shaded off into each other for rivers were narrow and hills were low, and because England was meant by nature to be a land governed by one law. It is interesting to note in this respect that laws written in England were, from the first, written in English. The curia regis was instrumental in developing such a unified corpus of law through the three great Common Law courts of the King's Bench, the Common Pleas and the Exchequer, originally branches thereof, which, together with the Chancery, determined the forms of all law actions and their procedures in early Common Law.

Within a primitive agricultural community as was Anglo-Saxon England at the time of the Norman Conquest, feudal land tenure held a predominant place in early English private law development. Of significance is the fact that, under this system, land was not subject to private appropriation but to several forms of tenure under sovereign rather than ownership rights of the King who, together with his tenants in chief, was at the top of the land-holding pyramid. Water resources deriving their importance mainly from their association with land, water rights were thus considered as incidental to rights in land. It follows that rights to water were envisaged as belonging ipso iure to whoever possessed access to land riparian to a stream. Such a system, known as riparianism 1/, though not confined to any particular region or zone in Europe or elsewhere, was however subject to the mediaeval customary rule sanctioned in the 18th century by the English maxim "Aqua currit et debet currere ut currere solebat", or the principle of unimpeded flow.

Other landmarks may include the reform of judicial institutions and the promulgation of fundamental statutes under Edward I, beginning with the Magna Carta in 1215; the use of the term "Common Law" in the 13th century, or case law as it is known today, to distinguish the general land law from local customs, royal prerogatives, statutes and all other special enactments; the compilation of jurisprudence into the Year Books in the 15th and 16th centuries, and the concurrent development of Equity Law as a remedy against too rigid a rule of precedent; Blackstone's Commentaries in the 18th century; the law and judicial reforms of the 19th century as a result of earlier conservatism generated by the French Revolution; and the gradual transfer, in the early 20th century, of legislative power from Parliament to the Executive. Among the law reforms, the most important has no doubt been the assimilation, as from 1925, of many rules affecting land and movable property which, by introducing land charges registration and by suppressing primogeniture, made land transfers more of a commercial deal.

1/ For further details, see L. Teclaff, Abstraction and Use of Water: A Comparison of Legal Regimes, United Nations, New York, 1972.

The riparian system of water rights survived in England and Wales until 1963. The main characteristics thereof, as compared with its French equivalent, were however that no distinction was introduced between navigable and non-navigable water courses, although the principle of non-interference with navigation was maintained; that the non-existence of a Public Domain did not result in the consequential differentiation between public and private water; and that the absence of a body of "administrative law" maintained the predominance of private litigation and court adjudication over administrative disposal.

Riparianism has now since the 1963 Water Resources Act given way to the permit system which, except for limited personal and household purposes, subjects all water uses to the prior authorization regime. Concurrently water resources institutions have been created separately from the regular administrative jurisdictions of local authorities, thereby relating water resources control functions to hydrological units, first at the river and, later, at the drainage basin level.

II - LEGISLATION IN FORCE

The water legislation of England and Wales includes the following major enactments:

1. Salmon and Freshwater Fisheries Act, 1923.
2. Land Drainage Act, 1930.
3. Thames Conservancy Act, 1932.
4. Local Government Act, 1933.
5. Public Health Act, 1936.
6. Public Health (Drainage of Trade Premises) Act, 1937.
7. Water Act, 1945.
8. Coast Protection Act, 1949.
9. National Parks and Access to the Countryside Act, 1949.
10. Rivers (Prevention of Pollution) Act, 1951.
11. Border Rivers (Prevention of Pollution) Act, 1951.
12. Electricity Act, 1957.
13. Clean Rivers (Estuaries and Tidal Waters) Act, 1960.
14. Land Drainage Act, 1961.
15. Rivers (Prevention of Pollution) Act, 1961.
16. Public Health Act, 1961.
17. Transport Act, 1962.
18. London County Council (General Powers) Act, 1962.
19. Water Resources Act, 1963.
20. London Government Act, 1963.
21. Science and Technology Act, 1965.
22. General Rate Act, 1967.
23. Countryside Act, 1968.
24. Transport Act, 1968.
25. Agriculture Act, 1970.
26. Deposit of Poisonous Waste Act, 1972.
27. Salmon and Freshwater Fisheries Act, 1972
28. Local Government Act, 1972.
29. Water Act, 1973.

III - OWNERSHIP OF WATERS

The basic principles of English Common Law governing water resources are closest to original Roman Law concepts in this field. Under this system there can be no ownership or property right in the running water of a stream, river or natural channel. Such flowing water is "publici juris" in the sense that it is public or common to anyone having a right of access thereto. Similarly, there can be no right of ownership in subterranean waters which flow in defined and known channels. Nevertheless, water which accumulates or falls in private land and which is collected in artificial or natural drains and reservoirs may be subject to private ownership. This ownership right lasts however only as long as the water remains in the abstractor's possession. If the abstraction or appropriation is abandonned, the water again becomes "publici juris". Similarly, subterranean water other than in known and defined channels becomes the property of him who abstracts it and retains it in his possession.

IV - THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of Acquisition

The right to use water, whether surface or underground, belongs to the occupier of land riparian to surface water 1/, or comprising underground strata 2/. The occupier of land is not required to hold a licence to enjoy the right to use water when:

(i) the quantity of water abstracted does not exceed one thousand gallons, or when the abstraction does not form part of a continuous operation, or series of operations, whereby in the aggregate more than 1.000 gallons are abstracted, and

(ii) when water is abstracted for the domestic purposes of the occupier's household and, in so far as surface water is abstracted for agricultural purposes other than spray irrigation 3/.

In the case where the occupier of land requires a licence to enjoy a water use right, this right is acquired by effect of the corresponding licence 4/.

Whether a licence is required or not, the right to abstract water may be acquired by succession or transfer, i.e. when the individual occupier of land dies or when by reason of any other act or event the original lawful user, whether an individual or not, ceases occupying the whole of the relevant land and another person becomes the user thereof. When a licence is required, it becomes transferable to the new occupier, provided notice is given to the Water Authority within one month 5/.

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

Subject to the above exceptions, no one may abstract water from any source of supply within the area of a water authority unless in pursuance of a licence granted by the water authority and provided such an abstraction proceeds in accordance with the provisions of the licence 6/.

1/ Water Resources Act, 1963, s.27 (2)
2/ Ibidem, s.27 (3)
3/ Ibidem, s.24
4/ Ibidem, s.23 (1)
5/ Ibidem, s.32
6/ Ibidem, s.23 (1)

A further exception to this general rule includes any abstraction of water from a source of supply in the course of, or resulting from, any operation for purposes of land drainage, or in so far as the abstraction is necessary to prevent interferences with any mining, engineering, building or other operation or to prevent damage to works resulting from any such operation 1/, and anything done for fire-fighting purposes or to test apparatus used for such purposes or training or practice in its use 2/. Moreover, other exceptions may be granted by order of the Secretary of State for the Environment. Such an order is granted on application by the relevant water authority on the grounds that the application of the general rule is not required in relation to a given source, or sources of supply, as the case may be 3/.

In certain cases, a user is entitled to a licence of right. This kind of licence constitutes a reminiscence of the "prior appropriation doctrine" retained by Blackstone in his Commentaries and according to which a water right is created in favour of the first who claims and uses water on the principle "first in turn, first in law". Thus, a licence of right protects prior acquired rights. Since the 1963 Water Resources Act, however, this theory has found a strong limitation and practically all water uses are subjected to administrative control, except in two cases. The first one occurs where, by virtue of a statutory provision in force on 1st April 1965 other than an order under the 1958 Water Act, a user is entitled to abstract water from a source of supply within the area of a given river authority 4/. The second case occurs where a user has, other than by virtue of a statutory provision, effectively abstracted water from a source of supply at any time within a five year period, prior to 1st April 1965 5/. Licences of right cover only the abstraction of water.

Besides the licence of right, there is the licence to use water which may be either to abstract water, for impounding works 6/, or a combined licence for water abstraction and impounding works 7/.

A water use licence may be obtained only if it is applied for by a duly entitled applicant 8/.

In so far as a licence to abstract surface water is concerned, an application may be made provided the applicant is either the occupier of the riparian land or he satisfies the water authority that he has, or that at the time when the proposed licence is to take effect, he will have a right of access to such land 9/. As to the abstraction of underground water, a licence may be acquired by any applicant being the occupier of land overlying an aquifer 10/. Licences are granted by the competent water authority.

1/ Water Resources Act, 1963, s.24 (4)
2/ Ibidem, s.24 (8)
3/ Ibidem, s.25 (1)
4/ Ibidem, s.33 (1) (a)
5/ Ibidem, s.33 (1) (b)
6/ Ibidem, s.36 (1) and (6)
7/ Ibidem, s.37 (3)
8/ Ibidem, s.27 (1)
9/ Ibidem, s.27 (2)
10/ Ibidem, s.27 (3)

The application for a water use licence may only be taken into consideration if it is made in the manner prescribed by regulation, includes the prescribed particulars and is verified by the prescribed evidence 1/. In the case of a licence other than a licence of right, the application must be accompanied by a copy of a notice which names a place within the relevant locality where a copy of the application and of any map, plan or other document submitted with it will be open to inspection by the public, free of charge, during a specified period, and states that any person may make representations in writing to the water authority with respect to that application. It must furthermore be accompanied by the prescribed evidence that the notice has been duly published in the London Gazette and at least once in each of two successive weeks in one or more other newspapers circulating within the relevant locality 2/. The water authority may then not grant the licence so as to interfere with any right which, at the time the application is determined by the water authority, is a protected right under the 1963 Water Resources Act 3/. Protected rights include:

(i) licenced water rights 4/, and

(ii) water rights exercised without a licence by lawful occupiers of land for domestic and agricultural purposes 5/ in accordance with the statutory quantitative limitation and other legal restrictions 6/.

Specifications to appear in every water use licence include the quantity of water authorized to be abstracted and the period or periods in which that quantity is to be measured or assessed; the means whereby water is authorized to be abstracted by reference either to specified works, machinery or apparatus fulfilling specified requirements; the land on which and the purpose for which the abstracted water is to be used; the person to whom the licence is granted; and whether the licence is to remain in force until revoked or is to expire at a specified time 7/.

In the case of a licence of right covering a statutory right acquired prior to 1st April 1965, the provisions of the licence, including those relating to the quantity of water authorized to be abstracted, must correspond as nearly as possible to those of the statutory provision 8/. If the quantity of water authorized to be abstracted had not previously been specified or otherwise limited, the quantity of water authorized to be abstracted in pursuance of the licence during a specified period or periods shall be determined by reference to the requirements of the applicant, as indicated by the quantities of water proved to the reasonable satisfaction of the water authority to have been abstracted from the same source of supply by the applicant or his predecessors from time to time during a period of 5 years up to 1st April 1965, or during the period between the coming into operation of the corresponding statutory provision and 1st April 1965, whichever is the shorter 9/.

1/ Water Resources Act, 1963, s.54 (1)
2/ Ibidem, s.28
3/ Ibidem, s.29 (2)
4/ Ibidem, s.26 (1) (a)
5/ Ibidem, s.24 (2),(3)
6/ Ibidem, s.26 (1) (b)
7/ Ibidem, s.30
8/ Ibidem, s.34 (1),(2)
9/ Ibidem, s.34 (1),(3)

In the case where water has been effectively abstracted otherwise than by virtue of a statutory provision within 5 years prior to 1st April 1965, the quantity of water authorized to be abstracted in pursuance of the licence during a specified period or periods shall then be determined by reference to the requirements of the applicant, as indicated by the quantities of water proved to the reasonable satisfaction of the water authority to have been abstracted from the same source of supply by the applicant or his predecessors from time to time during a period of 5 years up to 1st April 1965, or during the period between the date on which he or his predecessors began to abstract water and 1st April 1965, whichever is the shorter, and to have been so abstracted for use on the land on which, and the purpose for which authorisation to abstract water in pursuance of the licence is applied for 1/. When water is to be used for spray irrigation however, the requirement of relating the authorised quantity to the applicant's requirements does not apply unless he or his predecessors have abstracted water from that source of supply for spray irrigation before 31st July 1963, or began before that date to construct a reservoir for water to be abstracted from that source and to be used for spray irrigation and that it was brought into use before 1st April 1965 2/.

In so far as impounding works are concerned, there is a general restriction whereby no one may begin, or cause or permit any other person to begin, to construct or alter any impounding work, that is, any dam, weir or other works whereby water may be impounded, and any work for diverting the surface water flow in connection with the construction or alteration of such works 3/, at any point within the area of a water authority, unless authorized by a licence granted by the authority to obstruct or impede the flow at that point by means of impounding works 4/. Such a restriction does however not apply if the construction or alteration, or the resulting obstruction or impeding of the flow is authorized by virtue of an alternative statutory provision, nor does it apply to constructions or alterations undertaken by a navigation, harbour or conservancy authority in the performance of its functions 5/.

A combined licence for water abstraction and impounding works may be granted in accordance with the provisions relating to the submission, notice and determination of applications for licences to abstract water 6/.

A licence to abstract water, a licence for impounding works and a combined licence for water abstraction and impounding works may be revoked or modified by the competent water authority upon request of the holder of the licence 7/. Water authorities may also propose the revocation or modification of a licence 8/ but are required to pay the licence holder concerned, after reference to the Secretary of State for the Environment, compensation for costs incurred in carrying out work rendered abortive or other loss and damage directly attributable to such a revocation or modification 9/.

1/ Water Resources Act, 1963, s.35
2/ Ibidem, s.35 (5)
3/ Ibidem, s.36 (2)
4/ Ibidem, s.36 (1)
5/ Ibidem, s.36 (4)
6/ Ibidem, s.37 (3),(5)
7/ Ibidem, s.42
8/ Ibidem, s.43 (1)
9/ Ibidem, s.46 (1)

Where water undertakers or others are authorised by an alternative statutory provision 1/ to obstruct or impede the flow of surface waters by means of impounding works, the same provisions as to revocation, modification and compensation apply as if such an authorisation were a licence 2/. Furthermore, where a licence other than a licence of right authorises an abstraction from a water resource for which no minimum acceptable flow has been determined, any holder of fishing rights may apply to the Secretary of State for the Environment with a view to having the same revoked or modified. Application therefore may however not be made within a year from the date of the grant or after a minimum acceptable flow has been determined; it must further be made on the grounds that, in his capacity as an owner, the applicant has sustained loss or damage directly attributable to the licenced water abstraction 3/.

V - ORDER OF PRIORITIES

There are no specific provisions laying down generally any order of priorities in water uses. However, in considering an application for a licence to abstract water, other than a licence of right, water authorities must be satisfied that a copy of a corresponding notice has been served on any navigation, harbour or conservancy authority having functions in relation to the relevant water resource at any proposed point of abstraction, and on any internal drainage board within the district whereof any proposed point of abstraction is located 4/.

VI - LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic uses

The occupier of land riparian to surface waters and the occupier of land overlying an underground aquifer may use water for his domestic and household purposes freely 5/.

Water for domestic purposes is supplied to consumers by the water authorities and by statutory water companies on behalf of the water authorities 6/.

(b) Municipal uses

Water authorities or statutory water companies are required to supply water for the cleansing of sewers and drains, the cleansing and watering of highways and for any public pump, bath and wash-house 7/. Municipal water must be supplied at such rates, in such quantities and upon such terms and conditions as may be agreed between local authorities and the undertakers or, failing agreements, as may be determined by the Secretary of State for the Environment 8/. In addition, each water authority is required to provide such public sewers as are necessary to effectively drain their areas. If a water authority is of the opinion that a drain or private sewer is not sufficiently maintained and kept in good repair, and can be sufficiently repaired at a cost not exceeding £ 50 9/, it may, provided not less than a 7 day notice has been served on the person or persons concerned, cause the drain or sewer to be repaired and recover the expenses reasonably incurred in so doing and, where more than one person are concerned, in such proportions as the water authority may determine 10/.

1/ Water Resources Act, 1963, s.36 (3)
2/ Ibidem, s.48
3/ Ibidem, s.47 (1),(2)
4/ Ibidem, s.28 (1)
5/ Ibidem, s.24 (2)
6/ Water Act, 1973, S. 11 (12)
7/ Water Act, 1945, Sch. 3, Part VIII, s.37 (1)
8/ Ibidem, s.37 (2)
9/ One US dollar equals approximately 0.414 British Pound in September 1974
10/ Public Health Act, 1961, s.18 (1)

The owner or occupier of a premise or the owner of a private sewer is however entitled to have his drains or sewers made to communicate with the public sewerage network of the water authority concerned and to discharge his surface and foul water therein. Before constructing, diverting or closing a public sewer within the area of a local authority, the water authority has to consult with and inform that local authority accordingly 1/.

(c) Agriculture, including irrigation and the watering of animals

The use of surface water for agricultural purposes other than spray irrigation does not necessitate a licence 2/. A licence is however required for the abstraction of groundwater for agricultural purposes as far as spray irrigation is concerned. In the case of exceptional shortages of rain or other emergencies, the water authority may serve a notice on the holder of a spray irrigation licence reducing for a specified period the authorized quantity of water to be abstracted 3/.

(d) Fishing

In so far as salmon and freshwater fisheries are concerned, every water authority must, except where the number of licences for fishing in a public water has been limited, grant any qualifying applicant a licence to fish for salmon or trout provided lawful fishing gears will be used and the licence fee has been paid 4/. The amount of licence fees is determined from time to time by the water authority with the approval of the Minister of Agriculture, Fisheries and Food. Where no other licence fee has been fixed for any particular gear in any area, the amount due is £ 1.00 5/. In addition, water authorities are entitled to make byelaws for the purpose of protecting, preserving and improving fisheries within their areas. Among the matters regulated by byelaws are the sizes of fish which may be taken and the types of bait which may be used 6/.

(e) Industry and mining

Statutory water undertakers have a duty to meet the needs of industrial consumers subject to satisfactory terms being agreed upon and provided the water supply to domestic users is not endangered thereby. As far as the Greater London area is concerned, the Thames Water Authority is under an obligation to supply upon request metered or otherwise measurable quantities of water to owners or occupiers of premises located on or adjoining streets in which a main or service pipe of the Authority is laid and who require a quantitatively specified water supply for other than domestic purposes. The consent of the water authority concerned is required for the disposal of trade effluents in running waters; consent is granted subject to such conditions as may reasonably be imposed, in particular with respect to the prevention of pollution 7/.

As far as mining is concerned, the discharge of water raised or drained from the underground part of a mine into a stream in the condition in which it is raised or drained from underground does not constitute an offence of pollution 8/.

1/ Water Act, 1973, s.14
2/ Water Resources Act, 1963, s.24 (2)(b)
3/ Ibidem, s.45 (1),(2)
4/ Salmon and Freshwater Fisheries Act, 1923, s.61 (a),(c)
5/ Ibidem, s.61 (a)
6/ Water Resources Act, 1963, Sch.3, s.5 (8)
7/ Rivers (Prevention of Pollution) Act, 1951, s.7 (1)
8/ Ibidem, s.2 (4);and Rivers (Prevention of Pollution) Act, 1961, s.1 (2)

The same applies, with the consent of the water authority concerned, to the deposit of solid refuse from a mine or quarry on land so that it falls or is carried into a stream, provided no other site for the deposit is reasonably practicable and that all reasonably practicable steps are taken to prevent the refuse from entering that stream 1/.

(f) Transportation

All waters which are tidal and in which navigation is possible are subject to a public right of navigation. Local authorities are empowered to provide a boating pool in any park or pleasure ground provided by them or under their management and control 2/. In specified waterways, navigation rights are controlled by the British Waterways Board 3/.

(g) Other public uses

All water authorities, and statutory water undertakers, may take steps to secure the use of water and land associated with water for the purpose of recreation; it is furthermore the duty of all such undertakers to take such steps as are reasonably practicable for ensuring the best possible use of land and water resources for this purpose. In discharging their duties statutory water undertakers have to consult with and to take into due consideration any proposal made by the water authority for the area in which these resources are located. In the exercise of their recreational functions, water authorities shall however not obstruct or otherwise interfere with navigation which is under the control of the harbour or navigation authority concerned 4/.

In Wales, the Welsh National Water Development Authority is responsible, upon consultation with the Severn-Trent Water Authority, for the preparation of a land and water use plan for recreational purposes and for the coordination of the activities of both authorities in this field 5/. The water authority is also empowered to make byelaws prohibiting or regulating boating, swimming and other recreational activities 6/.

Finally, local authorities and The Metropolitan Borough Council are empowered to provide public baths and wash-houses and public swimming pools and bathing places within the London area 7/.

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood Control

Water authorities have a general responsibility for the prevention of floods within their areas. Water authorities are entitled to maintain works designed to keep the embankments of existing water courses in an efficient state of repair, to improve existing waterworks, to remove mill dams, weir and other obstructions and to construct new works, including water conveyance structures. For these purposes, water authorities hold rights of access and of inspection and have power to acquire land 8/. Furthermore, the 1970 Agriculture Act confers additional powers upon water authorities in respect of flood warning, such as to provide and operate a flood warning system for their areas 9/.

1/ Rivers (Prevention of Pollution) Act, 1951, s.2 (5)
2/ Public Health Act, 1961, s.54
3/ Transport Act, 1968, s.110
4/ Water Act, 1973, s.20
5/ Ibidem, s.21
6/ Water Resources Act, 1963, s.79 (3); Countryside Act, 1968, s.22 (6)
7/ Public Health Act, 1936, s.221
8/ Water Resources Act, 1963, s.111 and s.65 (2)
9/ Agriculture Act, 1970, s.88

Within the Greater London area, the Greater London Council has a duty to supervise bank protection and flood protection works. It may itself carry out emergency works or can request the Common Council of the City of London, the metropolitan borough councils and land owners to execute and maintain the necessary works 1/. In this connection, the Greater London Council may further provide and maintain in the public interest a system of warnings of high tides in the river Thames.

(b) Drainage

Land drainage includes defense measures against sea water and irrigation water other than for spray irrigation, flood warning and the provision of flood warning systems 2/.

The Minister of Agriculture, Fisheries and Food is responsible for land drainage and is to secure that effective measures are taken to this end by the relevant regional and local land drainage committees. These are established by the water authorities concerned for which they prepare local land drainage schemes. Such schemes cover a number of districts within each water authority area and are submitted to the Minister by the water authorities for approval 3/. Approved schemes are subsidized by the Minister in so far as improvements to or the construction of new works is concerned. The remainder of the necessary expenditures to be met by the water authorities is normally covered by precept on local authorities such as the county councils and the internal drainage boards 4/; water authorities are furthermore empowered to levy general and special drainage charges on agricultural land outside drainage districts.

In low-lying rural areas, local drainage problems are often entrusted to internal drainage boards established in accordance with rules issued by the Minister of Agriculture, Fisheries and Food 5/. Internal drainage boards levy drainage charges on properties within their areas 6/ and may be requested to contribute towards the cost of drainage works while water authorities may subsidize corresponding expenditures, where justified, proportionately to the quantity of surface water entering a drainage district 7/.

In the case where a complaint is raised against a water authority having failed to perform any of its functions, the Minister may cause a local enquiry to be held 8/.

Within the London excluded area, land drainage is not exercised by the Thames Water Authority nor by any other water authority, but by the Greater London Council as if that Council were a water authority and the London excluded area were its water authority area. However, if the Greater London Council intends to carry out land drainage works in a manner likely to affect the exercise by the water authority of any of its functions within the London excluded area, the Council is bound to notify the water authority in writing of its intention. In any case, the Minister of Agriculture, Fisheries and Food may give the Greater London Council directions, either of a general or of a particular character, as to the exercise of its land drainage functions 9/.

1/ London County Council (General Powers) Act, 1962, s.29; Thames River Prevention of Floods Acts, 1879 - 1961
2/ Water Act, 1973, s.38
3/ Ibidem, Sch. 5
4/ Land Drainage Act, 1930, s.21 (1)
5/ Ibidem, s.33 (1),(2)
6/ Ibidem, s.24
7/ Ibidem, s.21 (3)
8/ Water Resources Act, 1963, s.108 (1),(8)
9/ Water Act, 1973, Sch. 5, Part 4

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and misuse of water

Statutory water undertakers may make byelaws for the prevention of waste, undue consumption, misuse and contamination of the water they supply 1/. On producing evidence of their authority, if required, authorized officers may enter any premise supplied with water by the undertakers in order to examine if there is any waste or misuse of such water 2/.

(b) Health preservation

Water authorities have the right to obtain take-away samples of any effluent discharging into surface or underground water within their areas 3/. Failing agreement between the water authority and the occupier of land or premise from which the effluent is discharged as to the point or points at which samples are to be taken, the water authority applies to the Secretary of State for the Environment, who may make the decision. The Secretary of State may review or vary his decision from time to time upon request of the water authority or of the occupier of the land or premise concerned 4/.

It is furthermore the duty of every local authority to take from time to time such steps as may be necessary to ensure the sufficiency and wholesomeness of water supplies within their area and to notify the relevant water authority of any deficiency in this respect. When a local authority notifies a water authority that the supply of water to specified premises within their area is insufficient or of unfit quality to the extent of causing a danger to public health, or that a supply of wholesome water is required on those premises for domestic purposes and that it is not practicable to provide such a water supply in pipes but otherwise and at a reasonable cost, the water authority is then under the obligation to provide an alternative supply of water to, or within a reasonable distance of, those premises. Any dispute between a local and a water authority as to the insufficiency or unwholesomeness of a supply of water or to the likeliness thereof to endanger public health is determined by the Secretary of State for the Environment 5/. Local authorities may provide laboratory facilities for the making of such bacteriological, chemical and other examinations as may assist them in the performance of their corresponding functions 6/.

The Thames Water Authority which obtains its supply of water from the Thames and Lee river systems as well as from springs and wells located within its area may, and if required to do so, is bound to provide and maintain therein, or in such parts thereof as may be required, a constant supply of pure and wholesome water sufficient for the domestic purposes of the residents 7/. The Authority is required to cause chemical and bacteriological examinations of, and experiments as to the condition of, the water it supplies and to provide buildings, apparatus, plant, staff and such other works as may be required in order to conduct such examinations and experiments efficiently 8/.

1/ Water Act, 1945, s.17
2/ Ibidem, Sch. 3, s.62
3/ Water Resources Act, 1963, s.113
4/ Rivers (Prevention of Pollution) Act, 1961, s.10
5/ Water Act, 1973, s.11
6/ Public Health Act, 1936, s.196
7/ Water Act, 1945, Sch. 3, Part VII, s.31; Part IX, s.39
8/ Metropolis Water Act, 1902, s.25 (1),(2)

Data on these examinations and experiments are periodically reported to the Authority which is bound to take and record such observations as may be required by the Secretary of State for the Environment 1/.

(c) Pollution

The consent of the water authority concerned is required prior to the discharge of effluents, from sewage disposal works, into surface, certain tidal and underground water 2/.

Water authorities may grant their consent subject to reasonable conditions 3/, such as, in the case of a new or altered outlet, conditions as to the point of discharge into the stream or as to the construction of the outlet itself and, in the case of the use of that or of any other outlet for the discharge of trade or sewage effluent from the same land or premises or in the case of a new discharge, conditions as to the nature and composition, temperature, volume or rate of effluent discharge 4/. Water authorities may make byelaws for the purpose of protecting surface water against pollution 5/. Where it appears to a water authority that any poisonous, noxious or polluting matter is present in a surface water body within its area and that such a matter has entered that surface water as a consequence of an accident or other unforeseen act or event, it may carry out such operations it deems necessary or expedient to either remove that matter and dispose of it in an appropriate manner, or remedy or mitigate the pollution caused by the presence thereof in that surface water 6/. Water authorities have furthermore the power to acquire land to the extent required for the purpose of preventing the pollution of water in any reservoir it owns, operates or proposes to acquire or construct and operate 7/.

The wilful or negligent discharge into a stream of any poisonous, noxious or polluting matter constitutes an offence, as does the discharge therein of any matter so as to tend, directly or in combination with similar acts, to impede the proper flow of the water in a manner leading, or likely to lead to a substantial aggravation of the existing or resulting pollution due to other causes 8/. When a water authority has reasons to believe that a contravention of the provisions prohibiting the use of streams for the disposal of poisonous, noxious or polluting matter is likely to occur, it may apply to the County Court 9/. If satisfied with the evidence of the application, the Court may make an order prohibiting such a disposal or permitting it only on terms designed to remove grounds of complaint, or take any such other measure as it deems fit 10/. The Court may as well, if so requested by the water authority, make an order authorizing it to undertake the removal, and to dispose of the removed matter in a specified manner 11/.

As concerns underground water 12/, water authorities may at any time revoke or modify their consent to the discharge of trade or sewage effluent 13/. A person aggrieved by such a revocation or modification, or by the refusal of a requested modification may appeal to the Secretary of State for the Environment 14/.

1/ Metropolis Water Act, 1902, s.25 (3),(4)
2/ Water Act, 1945, Sch. 3, s.62, 72 (1),(9)
3/ Rivers (Prevention of Pollution) Act, 1961, s.7 (3)
4/ Rivers (Prevention of Pollution) Act, 1951, s.7 (2)
5/ Water Resources Act, 1963, s.79 (1)
6/ Ibidem, s.76 (1)
7/ Ibidem, s.68 (1)(a)
8/ Rivers (Prevention of Pollution) Act, 1951, s.2 (1)
9/ Rivers (Prevention of Pollution) Act, 1961, s.1 (9); Rivers (Prevention of Pollution) Act, 1951, 2.3.
10/ Rivers (Prevention of Pollution) Act, 1951, s.3 (1)
11/ Ibidem, s.3 (3)
12/ Water Resources Act, 1963, s.72
13/ Ibidem, s.74 (1)
14/ Ibidem, s.74 (2),(5)

Water authorities are also entitled to make byelaws for the prevention of underground water pollution within their area 1/ and to acquire land required for this purpose with respect to those resources from which they are authorized to abstract water in pursuance of a licence granted or deemed to have been granted under the Water Resources Act 2/.

IX - LEGISLATION ON UNDERGROUND WATERS

While there can be no right of ownership in underground water which flows in defined and known channels, underground water other than flowing in known and defined channels becomes the property of the person who abstracts and retains it in his possession.

In both cases, however, and with the exception of statutorily limited quantities, the abstraction of underground water is subject to a licence granted by the water authority concerned 3/. Furthermore, any person who, for the purpose of searching for or abstracting water, proposes to sink a well or borehole intended to reach a depth of more than 50 feet below land surface, is under an obligation to give the Natural Environment Research Council notice in writing of his intention to do so and is required to keep a journal of the progress of his work 4/.

In addition, anyone proposing to construct within a water authority area a well, a borehole or other works to be used solely to abstract underground water for purposes not requiring a licence, is compelled to the extent necessary in order to prevent interferences with the execution or operation of any existing underground works, to give the water authority notice of his intention to do so before he begins construction 5/. Notice must similarly be given when it is proposed to extend such a well, boring or other works or to construct or extend a boring for the purpose or searching for or extracting minerals 6/.

X - LEGISLATION ON CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

The consent of the statutory water undertakers concerned is required for any activity which, whether directly or indirectly, detrimentally interferes or is likely to interfere with works of the water undertakers 7/. Officers of statutory water undertakers have a right to enter premises at all reasonable hours for the purpose of ascertaining whether or not circumstances exist which would authorize their taking the required conservation or redress measures 8/.

In the case of waterworks located near mines, the authorized officers of the statutory water undertakers concerned may, subject to a 24 hours prior notice, enter the land in, on or near which such works are located, for the purpose of ascertaining whether any mine or quarry is being, has been or is about to be worked so as to cause damage thereto 9/.

1/ Water Resources Act, 1945, s.17; Rivers (Prevention of Pollution) Act, 1951, s.5
2/ Water Resources Act, 1963, s.68 (1)(b)
3/ Ibidem, s.23 (1)
4/ Water Act, 1945, s.7 amended by Science and Technology Act, 1965, Sch. 2
5/ Water Resources Act, 1963, s.78 (1)
6/ Ibidem, s.78 (2)
7/ Land Drainage Act, 1930, s.61; Water Act, 1945, Sch. 3; Water Resources Act, 1963, s.69 (4)
8/ Water Act, 1945, Sch. 3, s.82
9/ Ibidem, Sch. 3, s.17; Water Resources Act, 1963, s.69 (3)

Statutory water undertakers may however not be authorized, without the consent of the navigation authority concerned, to execute any works in, across or under any dock, harbour, pool or land belonging to such an authority or to execute any work likely to interfere with the improvement or access works connected with a river, canal, dock, harbour, reservoir, or with any appurtenance thereof 1/.

Finally, where a water authority proposes to construct or alter waterworks within an internal drainage district other than in the exercise of its compulsory powers, it is required to consult the relevant internal drainage board 2/.

XI - LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

Water authorities have been given wide powers to take appropriate measures within part or whole of their area with respect to both beneficial uses and harmful effects of water. Water authorities are in particular empowered to act either directly or in consultation with the Nature Conservancy Council, the Water and Space Amenity Commission and local authorities in districts or areas concerned with problems of water conservation and supply 3/, sewerage and pollution 4/, fisheries 5/, drainage 6/, recreation and nature conservancy 7/.

With respect to fisheries, the former fisheries districts established under the 1923 Salmon and Freshwater Fisheries Act and subsequently transferred to the River Boards under the 1948 Act, have now been suppressed but corresponding functions taken over by the water authorities 8/.

Land drainage activities are entrusted to regional and local land drainage committees and, in low-lying rural areas, to internal drainage boards established by each water authority. To this end, water authority areas are divided into local land drainage districts 9/.

Finally, special powers are conferred upon water authorities for taking, in cooperation with the local authorities concerned, any measure to avert, alleviate or eradicate existing or imminent emergencies or disasters involving the destruction of or damage to life or property within whole or part of their area 10/.

1/ Water Act, 1945, Sch. 3, s.93
2/ Water Resources Act, 1963, s.7 (1),(2)
3/ Water Act, 1973, S.10, 11
4/ Ibidem, s.14, 17
5/ Ibidem, s.18
6/ Ibidem, s.19
7/ Ibidem, s.20 (3), 22, 23
8/ Ibidem, s.18 (1)
9/ Ibidem, Sch. 5
10/ Ibidem, s.28; Local Government Act, 1972, s.138

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

(a) At the National Level

1. The Secretary of State for the Environment promotes jointly with the Minister of Agriculture, Fisheries and Food a national water resources policy in England and Wales. It is his duty to secure the effective execution of so much of that policy as relates to the conservation, augmentation, distribution and proper use of water resources; the provision of water supplies, sewerage and the treatment and disposal of sewage and other effluents; the restoration and maintenance of the wholesomeness of rivers and other inland waters; the use of inland water for recreation; the enhancement and preservation of amenities in connection with inland water; and the use of inland water for navigation 1/. It is furthermore his duty to collate and publish information from which assessments can be made of the actual and prospective demand for water and of present and prospective water resources availability in England and Wales 2/.

The Secretary of State may give water authorities directions of a general character as to the exercise of other functions in so far as these appear to him to affect the execution of the national water resources policy or otherwise affect the national interest. He may give a direction either to a particular water authority or to water authorities generally, but before doing so he is required to consult the National Water Council 3/. In addition, the Department of the Environment has since 1971 taken over the functions formerly entrusted to a Ministry of Transport with respect to navigation or functions of navigation, harbour and conservancy authorities 4/. The Secretary of State for the Environment may thus grant powers of entry and inspection to water authorities 5/. He appoints the British Waterways Board 6/ and the Inland Waterways Amenity Advisory Council 7/, and receives from the Transport Tribunal an annual report on all its proceedings 8/.

With respect to Wales and Monmouthshire, the Secretary of State for Wales exercises the functions of the Secretary of State for the Environment.

2. The Minister of Agriculture, Fisheries and Food has the duty, jointly with the Secretary of State for the Environment to promote a national water resources policy in England and Wales. It is his duty to secure the effective execution of that policy as relates to land drainage and to fisheries in inland and coastal waters 9/; accordingly, he may give water authorities directions of a general character as to the exercise of their functions with respect to fisheries and land drainage in so far as the exercise of such functions appear to the Minister to affect the execution of the national policy or otherwise affect the national interest 10/. The Minister may as well give directions either to a particular water authority or to water authorities generally subject to consultations with the National Water Council 11/.

1/ Water Act, 1973, s.1 (1),(2)
2/ Ibidem, s.1 (6)
3/ Ibidem, s.5 (2),(3)
4/ Water Resources Act, 1963, s.135 (2)
5/ Ibidem, s.111 (2)
6/ Transport Act, 1962, s.1 (2)
7/ Transport Act, 1968, s.110 (1)
8/ Transport Act, 1962, Sch.10, para. 16
9/ Water Act, 1973, s.1 (1),(3)
10/ Ibidem, s.5 (1)
11/ Ibidem, s.5 (3)

3. The National Water Council is an advisory body which provides common services to the regional water authorities. It consists of a chairman appointed by the Secretary of State for the Environment, the chairman of the water authorities and not more than 10 other members, of whom not more than 8 are appointed by the Secretary of State for the Environment and not more than 2 by the Minister of Agriculture, Fisheries and Food. The members of the Council, other than the chairman and the chairmen of the water authorities, are persons appearing to the Secretary of State or the Minister, as the case may be, to have special knowledge of matters relevant to the functions of the water authorities, As far as the functions of the Council are concerned, it is its duty to:

(i) consider or advise any Minister on any matter relating to the national water resources policy and consider and advise any Minister and the water authorities on any other matter of common interest to those authorities, including in either case any such matter as may be referred to the Council by any Minister,

(ii) provide, promote and assist the efficient performance by water authorities of their functions in general and, in particular, as regards research activities and the preparation, review and provision of regional water management plans,

(iii) consult with statutory water companies in England and Wales, regional water boards and water development boards in Scotland 1/, the Ministry of Development in Northern Ireland, the Greater London Council and such associations of manufacturers, professional associations, local authority associations, trade unions and other organizations as the Council deems appropriate for the establishment, throughout the United Kingdom, of a scheme for the testing and approval of water fittings and for ascertaining whether regulations and byelaws for the prevention of water waste, misuse or contamination are complied with,

(iv) prepare, upon consultation with statutory water companies and with such associations of employees, educational and other authorities or bodies (including bodies and authorities in Scotland and Northern Ireland) as the Secretary of State for the Environment may direct, a training and education scheme in connection with water authority services in England and Wales and with the corresponding services in Scotland and Northern Ireland, and facilitate and assist the work of other agencies concerned with the activities of water authorities. The Council may furthermore furnish to any person or body for the benefit of any country or territory outside the United Kingdom technical assistance in connection with related training and education programmes.

The Council may also receive from the appropriate Minister or Ministers directions of a general character as to the exercise and performance of their functions in relation to matters they consider affect the execution of the national water resources policy or otherwise affect the national interest, or as to the limitation or discontinuance of any activity either wholly or to a specified extent 2/.

4. The Water Space Amenity Commission consists of members appointed by the Secretary of State for the Environment and the chairmen of the water authorities. It is its duty to advise the Secretary of State on the formulation, promotion and execution of the national water resources policy so far as recreation and amenity in England are concerned and to advise water authorities on the discharge of their functions in this field. The Commission collates and publishes information and reports on matters relating to recreation and amenity in connection with water resources 3/

1/ The Water (Scotland) Act, 1967
2/ Water Act, 1973, s.4
3/ Ibidem, s.23

5. The Inland Waterways Amenity Advisory Council consists of a chairman and at least 12 members appointed by the Secretary of State for the Environment upon consultation with the chairman of the British Waterways Board 1/. Its functions are to advise the British Waterways Board and the Secretary of State on the commissioning or closing of cruising waterways; to consider and, when considered desirable, to make recommendations to the Waterways Board or to the Secretary of State with respect to any other matter affecting the use or development of cruising waterways for amenity or recreational purposes, including fishing, or relating to the provision for these purposes of services and facilities in connection with these or commercial waterways 2/. The Council may not make recommendations to the Secretary of State on any of these matters without first consulting with the British Waterways Board 3/.

6. The Secretary of State for Energy appoints the members of the Central Electricity Generating Board and of the Electricity Council 4/. He may give the Electricity Council or any of the Electricity Boards in England and Wales such directives of a general nature as to the performance of their functions as appear to him to be required in the national interest 5/. He approves the general programme drawn up by each electricity board from time to time for carrying out re-organizations or developments involving substantial capital outlay 6/. He is furnished by the Electricity Council with accounts and other information which he may require with respect to the property and activities of the Council and electricity boards in England and Wales 7/.

(b) At the Regional Level

The Regional Water Authorities

Provision is made for the national water resources policy to be implemented through regional water authorities established by joint order of the Secretary of State for the Environment and of the Minister of Agriculture, Fisheries and Food; nine such authorities have accordingly been established in England, and one in Wales which is known as the Welsh National Water Development Authority 8/. Each regional water authority consists of the following members: a chairman appointed by the Secretary of State for the Environment, not less than two or more than four members appointed by the Minister of Agriculture, Fisheries and Food who have had experience of, and shown capacity in agriculture, land drainage or fisheries; members appointed by the Secretary of State who have had experience of, and shown capacity in matters relevant to the functions of water authorities; and members appointed by local authorities. The total number of members appointed by the Secretary of State and the Minister must however be less than the number of members appointed by local authorities 9/.

Water authorities may arrange for the discharge of any of their functions by a committee, a sub-committee, an officer of the authority or by any other water authority. However, a water authority may not delegate any of its functions exercisable by its regional land drainage or local land drainage committees, or with respect to issuing precepts, levying drainage fees or borrowing money 10/

1/ Transport Act, 1968, s.110 (1)
2/ Ibidem, s.110 (2)
3/ Ibidem, s.110 (3)
4/ Electricity Act, 1957, ss.2 (2), 4 (1)
5/ Ibidem, s.8 (1)
6/ Ibidem, s.8 (4)
7/ Ibidem, s.8 (5)
8/ Water Act, 1973, s.2 (1)
9/ Ibidem, s.3
10/ Ibidem, s.6 (1),(3)

The water authorities have assumed the functions relating to water abstractions, land drainage, pollution, fisheries and recreation formerly exercised by the River Authorities. Water authorities have a general duty to take all necessary action for the purpose of conserving, redistributing or otherwise augmenting water resources within their areas, (including the treatment of salt water by any process to remove impurities therefrom, to secure the proper use of water resources within their areas, or to transfer any such resource to the area of another water authority 1/. Water authorities have furthermore specified duties such as the supply of sufficient and wholesome water for domestic purposes by means of pipes and, in certain circumstances otherwise 2/; where the area of a water authority includes the whole or part of a statutory water company network, the authority discharges its water supply obligation through that company. It nevertheless remains the duty of the water authority, on whose behalf water is being supplied by a statutory water company, to take all reasonable steps for making water available to that company so as to enable it to meet the foreseeable demand of consumers depending on its supply network 3/. In addition, every water authority is under an obligation to provide public sewers for effectively draining their areas and to provide sewage disposal works or otherwise to effectively deal with sewage. In this latter respect, water authorities exercise functions formerly assumed by local authorities. Water authorities discharge their sewage functions, that is the maintenance, cleansing and emptying of all public sewers, by making arrangements with the relevant local authorities within their areas. Within the Greater London area, the relevant local authorities are the district and outer London borough Councils, the common Council of the City of London and, in relation to a new town, the development corporation and any council within whose area the town is wholly or partly situated. Such arrangements can however not be made for the disposal of sewage or for the maintenance or operation of any sewer which, before the promulgation of the 1973 Water Resources Act, vested in a joint sewerage board or the Greated London Council 4/.

Water authorities provide also public sewers for the drainage of domestic wastes from premises within their areas, provided the owners thereof or the relevant local authority undertake to meet corresponding expenses. A sewer is considered to be used for domestic purposes if it serves for the removing of lavatory contents or of water used for cooling and washing, but not for the business of a laundry or of preparing food and beverages for consumption outside the premises 5/.

It is furthermore the duty of water authorities to maintain, improve and develop salmon, trout, freshwater and eel fisheries within the areas in which they exercise prerogatives under the Salmon and Freshwater Fisheries Acts (1923 to 1972), and to establish for the whole area one regional advisory committee and such local advisory committees as they consider necessary to ensure the adequate representation of the various fisheries interests therein 6/.

Water authorities exercise a general supervision over all matters relating to land drainage within their areas. They are called upon to arrange for regional and local land drainage committees to discharge all their land drainage functions, except the making and levying of drainage charges and the borrowing of money. In the London excluded area however, land drainage functions are exercised by the Greater London Council exclusively 7/. It is further provided that the Council will, by order of the

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1/ Water Act, 1973, s.10 (1,2)
2/ Ibidem, s.11
3/ Ibidem, s.12
4/ Ibidem, s.15
5/ Ibidem, s.16
6/ Ibidem, s.18
7/ Ibidem, s.19

Secretary of State for the Environment, take over from the Thames Water Authority all the functions thereof relating to recreation and amenity 1/. These functions are however expected to remain within the prerogatives of the water authorities in the other areas.

Another function of the water authorities is to carry out as soon as practicable a survey of the water resources in their areas, existing management procedures, the purposes for which water is used and of its quality in relation to existing and future uses, and to prepare a report setting out the result of the survey together with an estimate of the water demand for the next twenty years. This survey is then to serve in the preparation of a plan of measures to be taken during that period for the purpose of securing a more efficient management of water resources within water authority areas, including the meeting of the future water demand and the water quality requirements 2/. As to land drainage, water authorities are required to carry out periodical surveys within their areas.

Where a statutory water company is supplying water within a water authority area however, the water authority may require that company to carry out at any time the survey of the existing consumption of and demand for water supplies within its limits of supply, together with an estimate of future requirements, to formulate proposals for meeting the existing and future water demand therein, including proposals for the use of any existing or proposed new source of water supply jointly with any other statutory water undertaker. Water authorities prepare accordingly one or more programmes of a general nature for the discharge of their functions over a period of not more than seven years and submit the same to the appropriate Minister for approval 3/.

(c) At the Local Level

1. Local water rights administrations and institutions

In the London excluded area, local authorities include the Greater London Council, London borough councils and the common councils. The Greater London Council acts as the main drainage and sewage disposal authority and the London boroughs as local sewage authorities.

Outside Greater London, local authorities are county and district councils. Within their areas of jurisdiction, these councils hold responsibility with respect to the needs of agriculture and forestry, economic and social interest in rural areas and the protection against pollution of the water resources controlled by statutory water undertakers 4/. On the application of a county council with jurisdiction within whole or part of a water authority area, the water authority concerned is compelled to arrange for the powers of any internal drainage board to be transferred to that council 5/. Where necessary, such powers include as well flood damage prevention, remedying and mitigation 6/.

2. Water users' associations

Internal drainage districts established in rural areas of England and Wales for the protection of land against soil erosion or encroachment by water are managed by a board elected by rate payers, that is to say by occupiers of agricultural land and buildings, excluding grazing and woodlands other than commercial woodlands. Some internal drainage boards are however administered directly by a water authority.

1/ Water Act, 1973, s.25
2/ Ibidem, s.24
3/ Ibidem, s.24
4/ National Parks and Access to Countryside Act, 1949; Countryside Act, 1968, ss.37-38
5/ Land Drainage Act, 1930, s.10 (4)
6/ Land Drainage Act, 1961, s.34

(d) At the Inter-regional Level

The responsible water authorities for any river situated partly in England and partly in Scotland may together constitute a joint committee which is charged with the consideration of any matter relating to the prevention of pollution of that river and with the making of recommendations on such matters to those authorities 1/. As far as coordination between local water authorities in Scotland is concerned, the English water authority, the area of which includes much of the river Esk, exercises the functions specified in the Salmon and Freshwater Fisheries Acts (1923 to 1935) and the 1937 Diseases of Fish Act with respect to the whole of that river together with its banks and tributary streams up to their source 2/.

XIII - SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

1. The British Waterways Board is a public authority with executive powers consisting of a chairman appointed by the Secretary of State for the Environment, a vice-chairman and not more than nine or less than four other members similarly appointed 3/. It is a body corporate with perpetual succession and a common seal 4/ charged with the maintenance of inland waterways which have been divided into commercial, cruising and other waterways 5/. The Board provides services and facilities for the commercial cruising waterways, ports and harbours it owns or manages 6/; it is further required to ensure that each inland waterway which is not a commercial or cruising waterway is dealt with in the most economical way, whether by maintaining, managing, developing, eliminating or disposing of it 7/. The board is also empowered to carry goods and passengers by inland waterway and to provide facilities for traffic on the inland waterways it owns or manages. Such services and facilities cover also the use of amenities for recreational purposes, including fishing, in likely owned or managed inland waterways and reservoirs 8/.

2. The Central Electricity Generating Board is a body corporate with perpetual succession and a common seal consisting of a full-time chairman appointed by the Secretary of State for Energy and such other members as the Secretary of State may appoint from time to time 9/. The Board develops and maintains an efficient, co-ordinated and economical system of bulk electricity supply for all parts of England and Wales; for that purpose, it generates or acquires supplies of electricity for distribution by area boards 10/.

3. The Electricity Council is also a body corporate with perpetual succession and a common seal that functions as a central authority 11/. The Secretary of State for Energy appoints its full-time chairman and two deputy chairmen; three other members

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1/ The Border Rivers (Prevention of Pollution) Act, 1951
2/ Water Resources Act, 1963, s.126 (1)
3/ Transport Act, 1962, s.1 (6)
4/ Ibidem, Sch. 1, para 1
5/ Ibidem, s.10 (1)
6/ Ibidem, s.10 (2)
7/ Ibidem
8/ Transport Act, 1968, s.50 (6)
9/ Electricity Act, 1957, s.2(2), 4(1)
10/ Ibidem, s.2 (5)
11/ Ibidem, s.3 (6)

are the chairman and members designated by the Central Electricity Generating Board; the remaining members are the chairmen of the area boards 1/. The Council advises the Secretary of State on questions affecting the supply of electricity to industries and matters relating thereto, and promotes and assists the maintenance and development of an efficient,coordinated and economical system of power supply by electricity boards in England and Wales 2/.

4. The Port of London Authority was constituted for the general purposes of administering, preserving and improving the Port of London. It has the power to take such steps as it may consider necessary for the improvement of the River Thames and of the accomodation and facilities afforded in the Port of London as far as navigation of the River Thames below the landward limit of the Port of London is concerned. The Authority has in addition taken over all the functions vested until 31st March 1909 with the Thames Conservators.

XIV - LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES

(a) Government Financial Participation

Water authorities and the National Water Council may borrow temporarily such sums of money as they require to meet their obligations and discharge their functions from the Secretary of State for the Environment and, with his consent and the approval of the Treasury, from a person other than the Secretary of State. On his side the Secretary of State may, with the approval of the Treasury, allocate to a water authority out of Parliament grants such amounts of money as he deems fit 3/. The Minister of Agriculture, Fisheries and Food makes grants to water authorities for the provision or installation of flood warning systems 4/.

(b) Reimbursement policies

Loans extended by the Secretary of State for the Environment are repaid to him at such times, by such methods and with such interest rates as he may determine from time to time with the approval of the Treasury 5/.

(c) Water Rates and Charges

Water authorities are expected to be financially self-supporting and are accordingly bound to ensure that the water charges they levy properly contribute to the discharge of their functions, taking into account present circumstances, future prospects and any directive given to them by the Secretary of State for the Environment 6/. Water authorities have thus the power to fix, demand, take and recover charges for the services performed, facilities provided or rights granted. In fixing charges for services, facilities or rights, water authorities have to consider the cost of performing services, providing facilities or granting rights. They may make different charges for the same service, facility or right in different cases, but it is their duty to ensure that, as from 1st April 1981, at the latest, their charges will be such as not to show undue preference to, or discriminate unduly against, any class of persons. The Secretary of State may, upon consultation with the National Water Council, give all or any of the water authorities directions as to the criteria to be applied or the system to be adopted by them in fixing their charges 7/.

1/ Electricity Act, 1957, ss. 3(1), 4(1), (2)
2/ Ibidem, s.3 (4)
3/ Water Act, 1973, Sch.3, s.34
4/ Agriculture Act, 1970, s.89
5/ Water Act, 1973, Sch.3, s.35
6/ Ibidem, s.29
7/ Ibidem, s.30

In any case, when charges are payable to a water authority by reference to the volume of the water supplied or of the effluent discharged, the authority may install a meter to measure such a volume; the register of the meter then constitutes the prima facie evidence of the volume so measured 1/.

Revenue from land drainage is raised by precepts on local authorities and by drainage charges levied on the occupiers of land 2/. Apart from contributions to certain overhead expenses, payments to the National Water Council and allocations to reserve funds, the revenue so raised is used solely for the discharge of land drainage functions or for the benefit of the local land drainage district in which it has been raised.After 31st March 1978, water authorities will be authorized to apply for an order to be issued under which they will cease to raise revenue for land drainage in that manner, but will do so by a system of charges as is done for all other purposes.

Charging schemes are however to secure that no charges will be levied in respect of water abstracted from underground strata insofar as such an abstraction has been authorized for agricultural purposes other than spray irrigation 3/. As far as charges for spray irrigation are concerned, the holder of a licence may apply to the water authority with a view to reaching an agreement on corresponding charges 4/.

In the case of water being supplied by a water authority under the 1936 Public Health Act to any premise for domestic purposes, water rates are assessed on the net annual value of the premise as appears in the valuation list in force or, if that value does not appear in the list, on the net annual value of that premise as determined, in the event of a dispute, by the Lands Tribunal 5/.

As concerns charges levied by the Thames Water Authority, the rate per annum for a domestic supply is such as the Authority may fix from time to time, but may not exceed ten per cent of the net annual value of the house or building so supplied and such a rate must be charged uniformly in like circumstances to all entitled consumers 6/. In fact, a scale of maximum charges for metered water supply has been established and the charge per thousand gallons varies with the amount consumed; there is in addition a minimum quarterly charge.

(d) Other related problems

Provision is also made for financial cooperation among water and certain other authorities. Where, on the application of a navigation, harbour or conservancy authority, it appears to a water authority that any works constructed or maintained by the applicant have made, or will make, a beneficial contribution towards the fulfillment of its purposes, that water authority contributes to the applicant such sums of money as both parties may agree to be appropriate 7/. In like circumstances, it is the navigation, harbour and conservancy authorities which contribute to the water authority 8/.

1/ Water Act, 1973, s.32
2/ Ibidem, Sch. 5
3/ Water Resources Act, 1963, s.60 (6)
4/ Ibidem, s.63 (1),(5), (11)
5/ General Rate Act, 1967, s.77
6/ Ibidem, s.77
7/ Water Resources Act, 1963, s.91(1)
8/ Ibidem, s.91

XV - IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

(a) Juridical protection of existing water rights

In any action brought against the holder of a water use licence, he can defend himself if he can prove that the water is being used in pursuance of a licence and that the provisions thereof are being complied with 1/. In the case where existing water rights are exercised without a licence, these are protected as are ordinary rights in land.

(b) Modification and re-allocation of water rights

A water use licence may be revoked or modified either on application of the licence holder or as appears necessary to the competent water authority 2/. In the case where a water authority proposes to revoke or modify a licence, it is required to pay to the licence holder, upon reference to the Secretary of State for the Environment, compensation for the expenditure incurred in carrying out work rendered abortive thereby or for other losses and damages directly attributable to such a revocation or modification 3/.

(c) Water Tribunal, Courts and other judiciary Water Authorities

Provision is made for the Secretary of State for the Environment to establish by order a tribunal to which cases or classes of cases as may be specified or determined in the order and appeals normally made to the Secretary of State, may be referred to 4/.

Other special courts such as the Land Tribunal 5/, the Transport Tribunal 6/ and the High Court 7/, as appellate jurisdiction, are competent to deal with disputes relating to water rights.

(d) Penalties

The non-observance of the terms and conditions of a water use licence is sanctioned by the modification or revocation of the licence by the competent water authority, with or without compensation as the case may be 8/. Prosecution in cases of negligence, breach of contract or of criminal offences is reserved 9/.

Water authorities are empowered to enforce the water legislation and to prosecute offenders against the provisions thereof 10/. In addition to the modification and revocation of licences or to specific penalties such as fines in the case of unauthorized waste disposal 11/ or underground water drilling for instance 12/, provision is made for the wilful interference with water meters, for instance, to be liable to imprisonment up to two years on conviction or indictment, or up to three months on summary convictions, and to a fine or both 13/.

1/ Water Resources Act, 1963, s.31 (1)
2/ Ibidem, s.42-43
3/ Ibidem, S.46 (1)
4/ Ibidem, s.116 (1)
5/ Ibidem, s.46 (5); General Rate Act, 1967, s.77
6/ The Transport Tribunal has the same privileges and rights as vested in the High Court - Transport Act, 1962, Sch.10, para 10 (7)
7/ Water Resources Act, 1963, s.117; Rivers (Prevention of Pollution) Act, 1961, s.6 (5)
8/ Ibidem, s. 43 and 46
9/ Ibidem, s.37 (2), 118 (2)(b)
10/ Ibidem, s.118
11/ Ibidem, s.72 (8); Rivers (Prevention of Pollution) Act, 1951, s.2(7)
12/ Water Resources Act, 1963, S.78 (7)
13/ Ibidem, s.115 (3)

Cases of interference with protected water rights other than as expressly covered under the water legislation benefit from common law remedies.

(e) Water law implementation

Provision is made for the water legislation to be implemented by regulations and orders issued, with or without parliamentary endorsement, by the Secretary of State for the Environment or jointly with the Minister of Agriculture, Fisheries and Food 1/, and through byelaws made by the Secretary of State, the Minister, water authorities, statutory water undertakers and internal drainage boards, each under its corresponding enabling enactment 2/.

1/ Water Resources Act, 1963, s.134; Water Act, 1973, S. 36
2/ Water Act, 1973, S. 36 and Sch. 7.

FRANCE 1/

France occupies part of the Atlantic margin of Europe. With a land surface of some 544,000 square kilometers (including Corsica), it is the largest country in western Europe. It extends for more than 900 kilometers from Dunkerque in Flanders to the Spanish border in the Pyrénées, and its maximum breadth from the tip of the Brittany peninsula to the Rhine is roughly of the same distance. Except on the north-east where it marches with Belgium, Luxembourg and Germany, France is bounded by natural frontiers in the form of sea and mountains such as the Alps forming the frontier with Italy on the south-east and the Jura between France and Switzerland in the east.

The surface of France shows a well-balanced distribution of highlands and lowlands. The lowland areas include the Paris Basin in the north-west, the Basin of Aquitaine in the south-west, the Rhône-Saône valley in the south-east and the north-east, which intercommunicate easily by lowland gaps separating the highland areas. These include the Massif Central in the south-centre, the Armorican massif in the north-west and the frontier mountains of the Pyrénées in the south-west, the Alps in the south-east, the Jura in the east, the Vosges in the north-east and the Ardennes in the north.

The Paris Basin is drained for a large part by the Seine river system in the west. In the east, the Moselle and Meuse carry drainage northward through the Ardennes-Rhenish massif. In the south-west, late tilting of the basin floor has allowed the lower Loire to cut back and capture drainage from the Massif Central that was earlier directed toward the Seine in the centre of the Basin. On either side of the lower Seine drainage, coastal areas in Picardy and Normandy are drained independently to the English Channel by such rivers as the Somme. East of Paris, the prominent semi-circular escarpment of the Ile-de-France cut through the middle by the Marne extends from the Oise to the Yonne, all three rivers feeding the Seine drainage system. Outside the metropolitan area of greater Paris and the industrial areas of Lorraine and the lower Seine, the Paris Basin is predominently agricultural.

The Basin of Aquitaine forms a great triangle of lowland occupying the south-west of France between the Massif Central, the Pyrénées and the Bay of Biscay; it is connected with the Paris Basin through the gate of Poitou. The Basin is essentially drained by the Garonne emptying into the Bay of Biscay by the great estuary of the Gironde. Other independent streams such as the Charente and Sèvre farther north and the Adour in the extreme south-west flow directly into the sea. The Garonne valley and that of its tributaries present extensive tracts of usually light, sandy, easily cultivated, if not always very rich soils; the low-lying flood plains are used for meadows or market gardens while the higher, flanking terraces are under corn and vines.

Between the Massif Central and the Alps and Jura mountains, the Rhône-Saône valley occupies a structural depression that consists of several components linked by the river; it is neither physically nor climatically a unit. North of the Rhône is an ill-drained and only partly reclaimed area; to the south, the valleys of the Alpine tributaries of the Rhône form trenches of rich farming between ridges still carrying much woodland. South of the Saône confluence, the Rhône valley is a succession of gorge sections opening out below Montelimart into a funnel-shaped lowland that was originally a gulf of the sea. There, the Durance which drains the south eastern Alpine region, discharges into the Rhône. From Alpine in the north, the climate of the Rhône-Saône valley becomes continental then mediterranean south of Donzère, the gateway to the Midi.

1/ Prepared for the F.A.O. Legislation Branch by Miss T. Aptekman, Lic. dr., LLM, Rome, Italy, March 1973 (Original French)

The north-east consists in a variety of regions, extensions of physical units of Belgium and Germany. The north-east frontier region contains most of France's mineral wealth, the principal heavy industries and textile manufactures. In this area of subdued relief and sluggish streams, the canalized rivers are connected by a dense network of canals linking them also with Dunkerque and, by the Oise, with the Paris Basin waterways system. As to the Rhine valley in the east which separates the Vosges Massif and the Black Forest across the Rhine, its sheltered, dry and sunny climate makes it a richly cultivated area. In addition, the lower valley has the great river-port of Strasbourg with its well developed surrounding industries.

France has varied climates characterized by western Atlantic airmasses and frontal rain, by strong north-eastern continental and Alpine influences and, except for periodically violent blasts of the Mistral - a local wind - into the Rhône valley, by a mild mediterranean coastal environment. In winter, frost may vary from 60 days in the Paris Basin to over 100 days in the highlands. Summer temperatures are temperate. As to precipitations, the great range of altitudes and varying degrees of exposure to maritime influences make for great local contrasts. While parts of the mediterranean coastlands and of Alsace receive on the average barely 500 mm of rain annually, the higher parts of the highlands get more than 2,000 mm. Over most of the lowlands however, precipitation varies between 625 and 1,000 mm.

The juridico-political history of France 1/ and of her water resources management experience may be divided into three main periods, from the origins until the end of the Ancien Régime, the period of the Napoleonic Civil Code until the two World Wars, and the post-war or present period which culminates in the promulgation of the 1964 water law.

Neither the Germanic invasions of Gaul in the 5th century, nor the establishment of the Frankish Kingdom by Clovis in the 6th century did affect the then prevailing principle of "personality of laws" according to which Roman Law continued to apply to the Gallo-Roman populations while the Germanic clan-centered customs continued to govern the populations of the northern provinces. From the 8th century and until the 10th century however, the royal capitularies, often incorporating principles of Canon Law which constituted the bond between the different peoples within Christianity, were made to apply to everybody. With the substitution of royal power by feudalism in the late 10th century, Gallo-Romans, Franks and Visigoths as such disappeared and, with them, the principle of personality of laws; local customs took over. Canon Law developped parallelly under the influence of the Popes who enacted numerous decretals. Roman Law was however revived in the early 12th century under Italian influence, especially in the southern "written-law provinces", but customs were maintained in the North, or "customary-law provinces". The recording of provincial customs into the "coutumiers" was initiated in the 13th century.

As from the mid-12th century however, Frank kings having regained power promulgated more and more public law statutes, leaving civil law matters to local customs of which they ordered the compilation in 1453 while reserving to themselves the power and duty to abolish "bad customs". These compilations were achieved only in the 16th century while local customs, and that of Paris in particular, had parallelly developed , often at the expense of Roman Law. Out of these compilations arose however the notion that

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1/ See Encyclopaedia Britannica, Vol. 9, p. 872, 1971 Ed.; Considérations sur l'évolution et la situation actuelle de la législation française sur les eaux, by A. Vibert, in l'Eau, No. 9, September 1967, p. 393-400, Ed. 23, Rue de Madrid, Paris VIIIè, France

there existed a common law of France which later found its expression, through the Revolution of 1789, in the law unification process of the various Napoleonic codifications. To contribute to this development were also the numerous Great Ordinances of Louis the XIVth and, in particular, his Edict of 1669 which had institutionalized the distinction made in France between navigable and non-navigable rivers and which had incorporated the former category into the Public Domain of the State. This date may then be said to mark the origin of the water resources law theory known as State ownership doctrine 1/. Accordingly, a law promulgated on 20 August 1790 subjected the use of such public waters to the prior authorization, or permit system.

The Civil Code of 1804 did not only achieve the unification of French civil law, but met as well with the objective of making accessible to every citizen a complete, logically arranged and clearly written set of general rules based on experience. While some of the earlier customs no doubt found their way into the Civil Code, the intricate system inherited by the Ancien Régime from feudalism had been rejected by the Revolution in favour of the clear and simpler concepts of Roman Law which, in fact, constitute its principal source. The basic features of the Civil Code as regards water resources had however been to vest not only groundwater, but non-navigable surface waters as well into the ownership of the riparian landowner. While the right to use private flowing surface water was assorted with a detailed regime of easements and servitudes, thereby reconstituting somehow for these waters the Roman system of riparian rights, the overlying landowner was maintained fully in the ownership of the groundwater occuring on or under his land, his right including that of "uti, fruendi et abutendi" and extending "usque ad coelum, usque ad inferos" as had been sanctioned by the Gloss. Such a situation was soon found in opposition with development and public interest imperatives, and a whole series of subsequent laws was promulgated to gradually exclude these waters from the land ownership regime of the civil law. Among these, mention may be made of the law of 8 April 1898 which constituted the first attempt towards an integrated water law, the law of 15 February 1902 on Public Health which for the first time regulated the quality of groundwater used for drinking, the law of 16 October 1919 on the production and use of hydro-electric power, and the Decree-Law of 8 August 1935 which transferred to the Public Domain deep aquifers in most areas of the Paris Basin.

Post-war developments, in particular urbanization, public health, industrialization, new sources of pollution and corresponding requirements led to the consideration of measures of a more general nature in the field of water resources conservation, development and utilization. An interministerial Water Commission was set up in 1959 to review the overall water management situation and to propose a unified water legislation. A draft law was completed in July 1963 and subsequently promulgated in December 1964. The 1964 Law on the regime and distribution of water and on pollution control thus constitutes the framework of the current French water legislation which has been supplemented by numerous enabling decrees and sectoral regulations. Basic innovations include the distinction between public and private waters irrespective of the criterion of navigability, the creation of a class of "composite watercourses" whereof the water is public while the bed remains part of the riparian landowner's dominion, the subjection of all non-domestic groundwater extractions to the prior authorization regime and, by the creation of basin agencies, the transfer of the water resources administration from political or administrative to geohydrographical areas of jurisdiction.

1/ For further details, see L. Teclaff, Abstraction and Use of water: A Comparison of Legal Regimes, United Nations, New York, 1972.

II - LEGISLATION IN FORCE

The legislation in force on the conservation, development and use of water resources is contained, among others, in the following texts :

1. Civil Code
2. Rural Code
3. Public Waterways and Inland Navigation Code
4. Public Health Code
5. Local Administration Code
6. State Property Code
7. Penal Code
8. Forestry Code
9. Mining Code
10. Law of 21 June 1898 on the rural police administration
11. Law of 19 December 1917 on dangerous, unhealthy and noxious premises
12. Law of 16 October 1919 on the use of hydropower
13. Decree-Law of 8 August 1935 on the protection of underground waters
14. Decree of 4 May 1937 issuing statutory provisions for the implementation of the Decree-Law of 8 August 1935
15. Decree of 21 April 1939 on loans and conditions of subsidies for public works
16. Law of 8 April 1946 on the nationalization of electricity
17. Decree No. 46-2843 of 9 November 1946 organizing the control of public water supplies
18. Decree No. 47-1554 of 13 August 1947 approving a standard specification for the concession of a public drinking water supply
19. Decree No. 48-1698 of 2 November 1948 on the tariffs of the rates provided for by Art. 44 of the Law of 8 April 1898
20. Decree of 31 October 1950 on the undertaking by the State of the creation of water points
21. Decree No. 51-859 of 6 July 1951 approving a standard specification for the exploitation, by lease, of a public drinking water supply system
22. Decree No. 54-1238 of 14 December 1954 fixing the tariff and procedures for the establishment and collection of the rates provided for by Art. 409 of the Local Administration Code
23. Decree of 22 October 1955 fixing the membership of the advisory committee provided for by Art. 410 of the Local Administration Code
24. Decree No. 59-96 of 7 January 1959 on the institution of easement for the free passage of maintenance equipment on the banks of private rivers
25. Decree No. 61-859 of 1 August 1961 issuing statutory provisions for the implementation of chapter 2, Title One, of the Public Health Code with respect to drinking water
26. Decree No. 61-987 of 24 August 1961 on the Board of Health in France
27. Decree No. 62-1448 of 24 November 1962 on the policing of waters

28. Decree No. 64-303 of 1 April 1964 on dangerous, unhealthy and noxious premises

29. Law No. 64-1245 of 16 December 1964 on the regime and allocation of water and on pollution control

30. Decree No. 65-749 of 3 September 1965 on the creation of the National Water Committee

31. Decree No. 65-1048 of 2 December 1965 on the reorganization of the administrative committees operating at provincial department level

32. Decree No. 66-173 of 25 March 1966 on the definition of the responsibilities of the Ministries of Interior and of Agriculture with regard to drinking water supply and drainage

33. Decree No. 66-700 of 14 September 1966 on the Basin Finance Agencies

34. Decree No. 67-945 of 24 October 1967 on the establishment, collection and allocation of the rates payable by users of drainage systems and treatment plants

35. Decree No. 67-1093 of 15 December 1967 issuing statutory provisions for the implementation of Art. L. 20 of the Public Health Code as amended by Art. 7 of Law No. 64-1245 of 16 December 1964

36. Decree No. 67-335 of 5 April 1968 on interministerial coordination in the field of water

37. Decree No. 68-654 of 10 July 1968 amending Decree No. 66-173 of 25 March 1966

38. Decree No. 69-1042 of 19 November 1969 specifying the procedure for the creation of the public institutions established by the law of 16 December 1964 and the conditions of their operation and of the participation of private individuals in their creation and management

39. Decree No. 70-871 of 25 September 1970 on the dumping in water, sale and marketing of certain products

40. Decree No. 70-1115 of 3 December 1970 on the classification of public waterways

41. Decree No. 71-94 of 2 February 1971 on the powers of the minister delegated by the Prime Minister to be responsible for the protection of nature and of the environment

42. Decree No. 72-1240 of 29 December 1972 specifying the procedures for the collection of the annual charge applicable to certain classified public institutions

43. Decree No. 72-1241 of 29 December 1972 specifying the list of activities subject to levy of the annual charge applicable to certain classified public institutions

44. Decree No. 73-218 of 23 February 1973 regulating the discharge, dumping, throwing and depositing of liquid or other matters likely to contaminate surface and underground water

45. Decree No. 73-219 of 23 February 1973 issuing statutory provisions for the implementation of Art. 40 of Law No. 64-1245 of 16 December 1964.

III - OWNERSHIP OF WATERS

(a) Surface waters

Surface waters are divided into public waters, private waters and composite watercourses. In addition to the provisions of the 1964 law on water, surface waters are governed by provisions of the Civil Code, the Rural Code and the Public Waterways and Inland Navigation Code.

1. Public waters. Public waters consist of the rivers, lakes and canals that have been listed in the schedule of navigable or floatable waterways; of those which, although deleted from the schedule, have been maintained as State property; and of those which are not listed in the schedule but have been classified as State property, after public interest inquiry, by Order of the Council of State 1/. In addition, State property also covers dams built on public rivers, provided that the land thus flooded had been acquired by the State or by its concessionary on condition of restoration to the State upon expiry of the concession, as well as public works constructed in the bed or on the banks of navigable or floatable waterways for safety and ease of navigation or towing 2/.

Waters classified as State property are inalienable, subject to the rights and concessions duly granted before the Edict of Moulins of February 1566 and to legally conducted sales of national property 3/.

2. Private waters. Waters which, in accordance with the law, are not public waters may be subject to private ownership. Their use is free, subject to the relevant provisions of the 1964 law on water and to other specific provisions of the Civil Code 4/ and of the Rural Code 5/.

3. Composite watercourses. Composite watercourses are those for which the right to use the water belongs to the State 6/, subject to rights founded in title and to rights held at the time of classification 7/, while the bed thereof belongs to the riparian landowners.

Classification of a river, section of river or lake as a composite watercourse is declared, after public interest inquiry, by Order of the Council of State 8/.

The procedure for State ownership declaration and the conditions of verification of rights founded in title and of water rights already held in accordance with the provisions of the Civil Code 9/ are established by decree 10/.

1/ Public Waterways and Inland Navigation Code, Art. 2-1, as amended by Art. 29 of Law No. 64-1245 of 16 December 1964
2/ Ibidem, Art. 1
3/ Ibidem, Art. 23
4/ Civil Code, Arts. 640 - 644
5/ Rural Code, Art. 97
6/ Law No. 64-1245 of 16 December 1964, Art. 35
7/ Ibidem, Art. 38
8/ Ibidem
9/ Civil Code, Arts. 644, 645
10/ Decree No. 71-415 of 1 June 1971

(b) Underground waters

Underground waters are classified as private waters. The Civil Code establishes, in this respect, that ownership of the soil carries with it ownership of what is above and below, and that every landowner possesses the right to use and avail himself of the water of springs rising on his land 1/.

(c) Mode of acquisition

Ownership of private surface waters is acquired only by virtue of the law 2/ and by the various modes of acquisition of property ownership in general, i.e. by inheritance, by donation or by will, and by contract 3/. Ownership of underground water is acquired by acquisition of ownership of the overlying land 4/.

IV - RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of acquisition

The right to use private waters is vested in users by virtue of the law as concerns land ownership 5/. Thus, the right to use water can derive from inheritance, transfer of ownership, gift, alienation of the land on or beneath which the waters occur, contract, and easement.

Permanent easements are acquired by title or by acquisitive prescription of 30 years; temporary easements can be established only by title 6/.

Nevertheless, the right to use private waters is subject to administrative control. Riparian users are thus required to apply for an authorization for all works, such as dams, in the bed of watercourses 7/.

The right to use public waters is acquired only by the issuance of an authorization 8/, a concession 9/, a lease 10/, a permit 11/, a "régie" - that is a concession to a mixed public/private enterprise - 12/, or an adjudication 13/.

1/ Civil Code, Arts. 552, 641
2/ Law No. 64-1245 of 16 December 1964, Title II, chapter I, section 1.
3/ Civil Code, Art. 711
4/ Ibidem, Arts. 552, 711
5/ Civil Code, Arts. 552, 642
6/ Ibidem, Arts. 690, 691
7/ Rural Code, Arts. 106 and 113; Decree of 8 August 1935 on the protection of underground waters, Art. 1.
8/ Law of 8 April 1898, Arts. 41, 43; Public Waterways Code, Arts. 25, 36; Law of 16 October 1919, Art. 2
9/ Decree No. 47-1554 of 13 August 1947, Art. 1; Law of 19 October 1919, Art. 2
10/ Decree No. 51-859 of 6 July 1951, Art. 1
11/ Public Waterways Code, Art. 38
12/ Public Health Code, Art. L 22
13/ Public Waterways Code, Art. 62; Rural Code, Art. 413

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

Authorizations are granted by Prefectorial 1/, Ministerial or Interministerial Order 2/ or Order of the Council of State 3/. However, when the authorization relates to a temporary occupancy of public watercourses and lakes, it is the Chief Navigation Engineers who make the decision, by virtue of powers permanently delegated by the Prefects 4/. The issuance of an authorization is subject to an application filed with the Prefect on an official form. This application must contain the names of the watercourses and of the district wherein works are to be established; the names of the waterworks located immediately upstream and downstream; the use for which the undertaking is intended; the predicted changes that the completion of the works will cause in the level and the flow regime of the waters both upstream and downstream; and the probable duration of the works 5/. Following this, the application is subjected to an investigation. Firstly, the ordinary engineer makes a visit to the site and, secondly, the Prefect commands, by order, the opening of an inquiry that may not exceed 15 days. At the end of this period, after receipt of the representations and the considered opinions of the mayors of the districts where notifications have been posted, the Prefect decides whether the matter falls within his jurisdiction 6/.

The issuance of a conformatory authorization to an existing but non-controlled establishment is subject to the same formalities as applications submitted by private individuals 7/. However, this procedure does not apply to authorizations for temporary establishments 8/.

When the required authorization concerns the drilling of a well or a bore-hole, the application must provide certain additional information on the well or bore-hole, and the Prefectorial Order must specify the technical conditions that are imposed in order to ensure the protection of underground waters during both the drilling and the operation of the well or bore-hole 9/.

If the authorization refers to a water supply for the requirements of a community 10/, the application must contain the following additional information : the report of an official geologist, two detailed water analyses carried out on two different occasions by a laboratory specially appointed by the Minister of Public Health 11/, a descriptive and justificatory statement, a topographical survey indicating the location of all existing and proposed installations, a plan specifying the nature of these installations, the opinion of the competent local authorities and the decision of the municipal council or councils, or those of the association or the districts concerned 12/.

1/ Rural Code, Art. 107; Decree of 8 August 1935, Art. 2; Law of 8 April 1898, Art. 41
2/ Circular of 23 January 1970, VIII, 5th paragraph
3/ Rural Code, Arts. 108 and 113; Law of 8 April 1898, Art. 43; Decree of 8 August 1935 on the protection of underground waters, Art. 3
4/ Public Waterways Code, Arts. 31, 32
5/ Decree of 1 August 1935, Art. 2
6/ Decree of 1 August 1905, Arts. 1-2, 4-6, 8-11, 14
7/ Ibidem, Art. 18
8/ Ibidem, Art. 19
9/ Decree of 4 May 1937, Arts. 2, 3, 8
10/ Decree No. 61-859 of 1 August 1961, Art. 3
11/ Ibidem, Art. 4
12/ Order of 10 August 1961, Art. 7

When the authorization is accompanied by a declaration of public interest of the proposed works, the procedure of application requires additional formalities such as the consultation of the relevant local and central authorities together with preliminary inquiries into the diversion of water and its possible consequences, the design and siting of the works and, lastly, into water intake regulations 1/.

Should the authorisation concern the creation or operation of a swimming pool, the application is to be accompanied by a detailed schedule including construction and fitting plans in accordance with the special instructions covering these establishments 2/.

Where the requested authorization concerns the production of bottled water, excluding mineral waters which are subject to special regulations 3/, the applicant is required, in support of his application, to submit a descriptive report on the bottling plant indicating the nature of the water to be bottled and of that used for washing the bottles, together with the opinion of the local Director of Health on the feasibility of observing the obligations imposed by the geological report 4/.

Concessions are granted by a district or by an association of districts 5/ in accordance with the standard specification established by the Minister of Public Works 6/ and approved by Order of the Council of State 7/. The standard specification and, consequently, the concession agreement, governs the various elements of the concession such as its purpose, establishment, exploitation and financing 8/.

Leases are granted by a district in accordance with a standard specification approved by Order of the Council of State 9/. The standard specification and, consequently, the lease agreement govern its various clauses.

Permits for parking and temporary warehousing on rivers, ports and embankments are granted by the mayor in districts other than Paris and, in Paris, by the Chief Navigation Officer 10/.

The "régie" is granted to districts and to associations of districts. The Municipal Council designates the institution that it proposes to operate accordingly and determines the provisions to be included in the internal regulation of the said institution. This decision of the Municipal Council is subject to the approval, granted by order, of the minister concerned in cases where an internal regulation departs from the standard regulation approved by Order of the Council of State, and to that of the Prefect in all other cases 11/.

1/ Circular of 23 January 1970, II and III
2/ Circular of 24 May 1963, Art. 73
3/ Decree No. 64-1255 of 11 December 1964
4/ Decree No. 61-859 of 1 August 1961, Art. 9
5/ Decree No. 47-1554 of 13 August 1947
6/ Public Waterways Code, Art. 5
7/ Decree No. 47-1554 of 13 August 1947, Art. 1; Local Administration Code, Art. 349
8/ Decree No. 47-1554 of 13 August 1947
9/ Decree No. 51-859 of 6 July 1951, Art. 1
10/ Public Waterways Code, Art. 38
11/ District Administration Code, Art. 355 and 357

V - ORDER OF PRIORITIES

There are no legislative provisions establishing a general order of priority between different uses, areas or existing rights. However, in cases where a priority of use has to be established, the National Water Committee, at the national level, and the relevant Basin Committee, at the local level, are consulted and the decision granting priority to one use or area is adopted by Order of the Council of State 1/.

Priorities among existing rights to the use of private waters is regulated by the provisions of the Civil Code relating to land ownership. As to the use of public waters, existing rights are taken into consideration during the procedure of inquiry preceding the issuance of water use titles.

VI - LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic and municipal uses

The production and supply of drinking water to the population can be public 2/ or private 3/; it is public when supplied from public waters under a concession, a lease or a "régie"; it is private when supplied from private waters through private networks or when bottled water intended for the public is distributed by an establishment operating a bottled water industry.

Establishments operating public drinking water supply systems under a concession are required to feed street fountains, washing and sprinkling hoses, and fire hydrants 4/.

(b) Agricultural uses

The Rural Code regulates the use of water for agricultural purposes 5/. It establishes in particular, and without prejudice to special agreements or provisions governing the control of the waters of the Durance, the possibility of creating a public administrative institution responsible for the regulation of matters relating to irrigation networks supplied from a basin or a watercourse 6/. It also regulates conditions for the exercise of free sprinkle irrigation rights 7/ and irrigation taxes 8/.

(c) Fishing

The Rural Code regulates as well the exercise of fishing rights 9/. In private watercourses and lakes 10/ and in composite watercourses 11/, riparian landowners possess, each on his own bank, fishing rights extending to the middle of the watercourse, without prejudice to concurrent or competitive rights established by possession or title. In public watercourses and lakes, the exercise of fishing rights is subject to a rental which can be effectuated only by public adjudication or by concession under a licence 12/

1/ Law No. 64-1245 of 16 December 1964, Arts. 15, 13
2/ Decree No. 47-1554 of 13 August 1947; Decree No. 51-859 of 6 July 1951; Local Administration Code, Art. 407
3/ Public Health Code, Art. L.24
4/ Decree No. 47-1554 of 13 August 1947, Arts. 21 - 23
5/ Rural Code, Art. 126
6/ Ibidem, Art. 128.1
7/ Ibidem, Arts. 128.4, 128.5
8/ Ibidem, Arts. 129 - 130, 132 - 133
9/ Ibidem, Vol. 3, Title II, chapter I
10/ Ibidem, Art. 407
11/ Law No. 64-1245 of 16 December 1964, Art. 36
12/ Rural Code, Art. 413

(d) Hydropower

The use of water for the production of hydroelectric power is subject to concession and authorization 1/. Power plants with a maximum capacity exceeding 500 kW are subject to a concession; all the others are subject to an authorization. Establishments which have been granted concessions by virtue of the provisions relating to the nationalization of enterprises for the production, transportation and distribution of electricity and gas are "Electricité de France" and her private power production plants producing less than 12 million kW annually. Hydroelectric power concessions are granted for a maximum term of 75 years 2/.

Although the diversion, tapping and, more generally, all works likely to change the regime or conditions of the water flow within special water management zones are subject to administrative authorization, this provision does not apply to the use of water for the production therein of hydroelectric power because the instrument declaratory of public interest or granting concession or authorization for the production of hydroelectric power is deemed to serve as such an authorization 3/.

(e) Industry and mining

The use of both public 4/ and private 5/ water for industrial purposes is subject to authorization 6/.

(f) Transportation

For the purposes of navigation, rivers are classified as either navigable or non-navigable. For a river to be classified as navigable, it is not sufficient for it to be capable of carrying ferries or small boats serving only the riparian landholdings; the nature of the river must allow navigation with a view to transportation. The bed and water of navigable rivers are classified as State property and are accordingly inalienable and imprescriptible. It is a prerogative of the government to declare whether a river is navigable; this is done by decree.

The Public Waterways and Inland Navigation Code imposes certain interdictions with a view to ensuring safety of navigation 7/. To the same end, motor-boat traffic on a private watercourse may be prohibited or regulated by Prefectorial Order 8/. In addition, and in the interest of navigation services, a right of way is imposed upon land riparian to navigable watercourses 9/.

Finally, leasing for ferries and river-crossings on public waters is carried out either by means of adjudication or by mutual agreement 10/. The terms and conditions of the lease are specified in the lease contract 11/. The administration, policing and collection of river crossing fees are the responsibility of the Prefect of the territorial department in which the crossing is located 12/.

1/ Law of 16 October 1919, Arts. 1-2, 32
2/ Ibidem; Law of 8 April 1946
3/ Law No. 64-1245 of 16 December 1964, Art. 47
4/ Public Waterways Code, Art. 25
5/ Rural Code, Art. 106
6/ Ibidem, Arts. 107-108, 113; Law of 8 April 1898, Arts. 41-43; Decree of 8 August 1935 on the protection of underground waters, Art. 3; Public Waterways Code, Arts. 31-32; Circular of 23 January 1970, VIII, 5th paragraph
7/ Public Waterways Code, Arts.24, 27
8/ Law No. 64-1245 of 16 December 1964, Art. 25
9/ Public Waterways Code, Art. 15
10/ Ibidem, Art. 62
11/ Ibidem, Art. 63
12/ Ibidem, Art. 65

(g) Medicinal and thermal uses

Whether of State, district or private property, all natural mineral water installations and all thermal establishments are subject to a prior authorisation issued by the Minister of Public Health and Population after an inquiry, an official report on the site and related works, and water analyses 1/.

As regards the bottling of mineral water, establishments which operate bottling industries are required to obtain an authorization issued by the Minister of Public Health. The only waters which may be bottled as mineral water are those for which exploitation and, where applicable, processing, long-distance transportation by means of piping systems or mixing have been authorized 2/. The form in which applications are to be presented and the control and revocability of authorizations are also regulated 3/.

(h) Other public uses

Water may also be used to supply swimming pools that are open to the public. The creation or exploitation of a swimming pool is in all cases subject to certain conditions relating to hygiene 4/.

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood control and embankment protection

Flood control and embankment protection are regulated both by the Public Waterways Code and by the Rural Code. The Public Waterways Code specifies the procedures for carrying out flood protection works 5/, while the Rural Code establishes the possibility of revoking or modifying, without compensation on the part of the State, authorizations granted for the establishment of works or installations on private watercourses, in order to prevent or control floods 6/.

Responsibility for flood protection is assigned, at the national level, to the Minister of Public Works and Transport 7/ and, at the intermediate level, to departmental, district authorities and their groupings and to combined associations and public administrative establishments empowered to undertake the study, construction and operation of all public interest works necessary for flood protection 8/.

(b) Soil erosion

The Forestry Code stipulates that certain forests necessary for soil erosion control may be classified as protected forests for reasons of public interest 9/.

(c) Drainage and sewerage

The establishment of the servitude of drainage is regulated by the Rural Code 10/.

1/ Decree of 28 March 1957
2/ Ibidem; Decree of 11 December 1964
3/ Circular of 23 July 1969 on the processing of mineral waters and table waters
4/ Circular of 24 May 1963, Art. 73; Order of 13 June 1969
5/ Public Waterways Code, Arts. 45-61
6/ Rural Code, Art. 109
7/ Decree No. 62-1448 of 24 November 1962, Art. 7
8/ Law No. 64-1245 of 16 December 1964, Arts. 11 and 16
9/ Forestry Code, Art. 187
10/ Rural Code, Art. 135

The Land Credit Bank of France is authorized to extend loans intended for the construction of drainage works under the conditions determined by law 1/.

As regards the discharge of domestic effluents, an individual discharge or filtering installation may be constructed provided the number of users does not exceed 150 2/; where a sewerage system exists, however, to connect premises to the main sewer is compulsory 3/.

When the number of users exceeds 150, district authorities are responsible for the discharge and treatment of water wastes of domestic origin 4/. In addition, the district council is responsible for the construction and maintenance of sewerage systems 5/. The conditions required for the construction of sewers and for the treatment of waters as well as procedures for the treatment of sewage are specified by a circular 6/. Drainage networks and public treatment plants are operated financially as undertakings of an industrial and commercial nature 7/.

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and misuse of water

Provision is made for measures against the waste of water during the construction and operation of public and private waterworks and installations to be determined by Order of the Council of State 8/.

(b) Health protection

Water supplied for human consumption must be fit for drinking 9/. This condition is satisfied when drinking water is not likely to impair the health of those who consume it 10/, that is, provided such water does not contain any parasitic or pathogenic organisms, does not display any chemical traces of pollution, does not contain algae and has neither a disagreeable smell nor a disagreeable taste 11/. Monitoring of the water quality is provided by regular analyses carried out in predetermined technical conditions by laboratories appointed by the Minister of Public Health and Population 12/; technical conditions are specified in relation to regular monitoring analyses of water supplies 13/.

1/ Law of 28 May 1858, Art. 1; Law of 17 July 1856, Art. 1
2/ Order of 14 June 1969 on septic tanks
3/ Public Health Code, Art. C.33
4/ Order of 14 June 1969 on septic tanks
5/ Public Health Code, Art. C.34
6/ Circular No. 93 of 12 May 1950
7/ Finance Law for 1966, Art. 75
8/ Law No. 64-1245 of 16 December 1964, Art. 58
9/ Public Health Code, Art. L.19
10/ Decree No. 61-859 of 1 August 1961.
11/ Order of 10 August 1961, Art. 1
12/ Decree No. 61-859 of 1 August 1961, Art. 2
13/ Circular of 15 March 1962

A sanitary inspection of collective water supplies may be carried out at any time in order to ensure that the installations deliver a water that satisfies the required criteria 1/. In addition, various control measures provide for regular monitoring analyses of water supplies such as those for consumption after treatment and those relating to tanks and pipes; a special regulation also specifies the procedures for disinfecting drinking water tanks and pipes 2/.

For the purposes of health protection, at least every two months an analysis is made of water being bottled and bacteriological tests are carried out on empty bottles after washing, disinfection and rinsing, on the surface of corks, caps or seals coming into contact with the water, as well as on the rinsing water in cases where the rinsing is not done with the water to be bottled or with water from the officially tested public water supply 3/. In the case of manufactured ice, control takes the form of analyses made during manufacture every two months 4/ and of regular inspection of the installation 5/.

Certain safety and hygiene measures are also obligatory in premises used for swimming with a view to verifying the quality criteria that are imposed for the water of swimming pools and their sanitary equipment 6/.

Finally, with respect to the drainage of solid wastes, two guiding principles are aimed, firstly, at discharging rapidly all wastes of human or animal origin that are likely to cause putrefaction, and secondly, at ensuring that the final destination of the products discharged does not make it possible for them to contaminate waters 7/. Certain regulations are therefore stipulated for the construction of sewers, for treatment plants and related procedures.

(c) Pollution

The basic pollution control law is applicable to any action that is likely to cause or increase the deterioration of waters by altering their physical, chemical, biological or bacteriological properties 8/. This law is aimed at providing a solution to the problem of pollution by instituting two types of measure : some intended to adapt and reinforce existing legislation and regulations by reorganizing the conditions in which protection areas may be established around intake points for water intended for human consumption 9/ ; and others, of an economic nature, that are intended to encourage private individuals or bodies to undertake works to improve the quantity and quality of water resources. These latter measures grant, in particular, facilities of a financial nature for carrying out works of common interest to basins or to groups of basins 10/. Besides these facilities, there are always the possibilities of subsidies offered by the State, notably in cases of collective drainage 11/.

1/ Public Health Code, Arts. L.21 and L.22; Decree No. 61-859 of 1 August 1961, Art. 6; Order of 10 August 1961, Arts. 7-10
2/ Circular of 15 March 1962
3/ Order of 10 August 1961, Art. 12; Circular of 15 March 1962
4/ Decree No. 61-859 of 1 August 1961, Art. 20
5/ Order of 10 August 1961, Art. 21; Circular of 15 March 1962
6/ Circular of 24 May 1963; Order of 13 June 1969
7/ Circular No. 93 of 12 May 1950
8/ Law No. 64-1245 of 16 December 1964, Art. 1; Decree No. 73-218 of 16 February 1973
9/ Public Health Code, Art. C.20, as amended by Law No. 64-1245 of 16 December 1964; Decree No. 67-1093 of 15 December 1967; Decree No. 61-859 of 1 August 1961, Arts. 4.1 and 4.2
10/ Law No. 64-1245 of 16 December 1964, Art. 14
11/ Order of 1 December 1967

Drainage networks and public treatment plants are operated financially as undertakings of an industrial and commercial nature 1/. As from 1 January 1968 however, all public drainage services may levy a drainage fee 2/.

The 1964 Law has however not abrogated the provisions previously adopted with a view to pollution control; earlier provisions have, though amended, been maintained in force and regulate the specific pollution originating from dangerous, unhealthy and noxious premises. These provisions 3/ aim at the control of the various pollutions such as smells, noises and water contamination originating from such establishments and constitute, in the field of water pollution control, norms of particular application which fit well into the basic 1964 Law. In addition, inspectors of classified premises are empowered, firstly, to carry out the various monitoring analyses of the receiving waters and of the wastes discharged therein from such classified premises and, secondly to ascertain the infringements established by the 1964 Law and by implementing regulations 4/. The opening and operation of classified establishments is accordingly subject to observance of conditions restricting nuisances resulting for adjacent owners 5/. The provisions making the discharge of waste water from main sewers subject to conditions necessary to avoid any adverse effect upon the quality of the river receiving such wastes are also applicable 6/.

The first national inventory of pollution, aimed at providing a general survey of river pollution, was carried out in 1971. The regulation which governed its execution has provided as well that a regular revision should take place every 5 years and that permanent monitoring stations should be sited at certain characteristic points 7/.

The VIth Economic and Social Development Plan for the period 1971-1975 states that the minimum objective is to achieve a state of affairs where present pollution does not increase which implies, as measures that will make it possible to initiate a medium-term abatement of pollution, a doubling of the present rate at which treatment plants are being established, a programme of supervision and technical assistance to promote the proper operation of installations, as well as regulatory measures for the prohibition or restriction of the sale of products causing water pollution 8/.

IX - LEGISLATION ON UNDERGROUND WATERS

Since the ownership of underground waters vests in the overlying landowner 9/, the latter is entitled to use and benefit from water springing on his land 10/. However, the tapping of underground water undertaken in the general interest by a public collectivity or its concessionaire, by a combined association or by any other public establishment, must be authorized by a public interest declaration. This declaration determines the maximum permissible volume of water to be extracted and the conditions to which the extraction is subject 11/.

1/ Finance Law for 1966, Art. 75; Commercial Administration Code, Art. 185, 20e
2/ Decree No. 61-859 of 1 August 1961
3/ Law of 19 December 1917, as amended by Decree No. 64-303 of 1 April 1964 on dangerous, unhealthy and noxious premises; Decree No. 73-218 of 16 February 1973
4/ Law No. 64-1245 of 16 December 1964, Art. 9
5/ Decree No. 52-578 of 20 May 1953 regulating the application of Arts. 5 and 7 of the Law of 19 December 1917, as amended and supplemented by the Decrees of 16 April 1958, 17 October 1960, 19 August 1964, 24 August 1965, 15 September 1966, 24 October 1967 and 16 October 1970.
6/ Rural Code, Art. 112; Circular of 9 January 1936; Circular No. 93 of 12 May 1950
7/ Order of 18 August 1970 on the programme for inventory of surface waters
8/ Law No. 71-567 of 15 July 1971 approving the VIth Economic and Social Development Plan
9/ Civil Code, Art. 552
10/ Ibidem, Art. 641
11/ Rural Code, Art. 113; Decree of 8 August 1935, Arts. 1-2, 4-5

When the extraction of underground water is carried out by the landowner on his own land for irrigation purposes, the provisions which allow either for the modification of the authorized water allocation or for the restriction of free sprinkle irrigation rights are not applicable 1/.

However, any installation intended for extracting underground waters for non-domestic purposes must be notified to, and is subject to the supervision of, the government administration 2/. In addition, all works likely to modify the regime or conditions of flow of underground waters specified in the decrees relating to special water management zones are subject to a prior authorization 3/.

Abandoned wells, bore-holes or underground galleries must also be notified to, and are subject to the supervision of, the government administration. The discharge or dumping of waste water or wastes of any kind therein is also prohibited 4/.

When underground water occurs in an area declared as a special water management zone, provision is made for all tapping and extraction thereof likely to modify their regime or conditions of flow is subject to an administrative authorization which will take into account the water distribution schedules and intake programmes established for that zone. Administrative authorizations granted previously remain however valid 5/. In addition, the owner or operator of water extraction and tapping installations is required to declare his installations to the responsible government administration, must allow access thereto for authorized representatives of the administration, and must provide these representatives with full details of the volumes of water extracted, the conditions of extraction, and the use of the water 6/; following an inquiry, the Prefect may order the modification and restriction of drilling and water extraction operations when these hinder the application of the distribution schedules and intake programmes of waters having been declared of public interest 7/.

In order to control the depletion of aquifers, a system of prior authorization has been introduced for wells or bore-holes to depths of more than 80 meters in the Seine, Seine-et-Oise and Seine-et-Marne departments; these provisions have been extended to other departments, specifying in each case the depth beyond which no drilling or boring may be undertaken without authorization 8/. These measures have been extended to the Nord et Pas-de-Calais department and to the Gironde department. For the Nord et Pas-de-Calais department, the depth beyond which no well excavation or drilling may be undertaken without authorization has been set at 10 meters at the most (5 meters for the Dunes region), and for the Gironde department it has been set at 60 meters 9/. For drillings between these specified depths and a depth of 80 meters, no authorization is required when the estimated volume of extraction does not exceed 250 cubic meters per day.

1/ Rural Code, Art. 128.5
2/ Law No. 64-1245 of 16 December 1964, Art. 40; Decree No. 73-219 of 21 February 1973
3/ Ibidem, Arts. 46-47
4/ Ibidem, Art. 40; Decree No. 73-219 of 21 February 1973
5/ Ibidem, Art. 47
6/ Ibidem, Art. 48
7/ Ibidem, Art. 49
8/ Decree of 8 August 1935, Art. 11; Decree No. 73-200 of 21 February 1973
9/ Decree of 3 October 1958, Art. 2; Decree of 21 April 1959

In the case of wells or bore-holes the daily outflow whereof exceeds 250 cubic meters and the depth is less than 80 meters, the Chief Mining Engineer is compelled to consult the Chief Agricultural Engineer responsible for the agricultural water management in the area.

As regards interferences with other uses, the Mining Code stipulates that, if exploration or exploitation works of a mine are such as to threaten the use of springs and aquifers which supply towns, villages, hamlets and public premises, appeal thereagainst may be lodged with the Prefect 1/. It is also stipulated that, where works relating to the underground storage of gas are such as to threaten the conservation of mineral waters, the use of springs and aquifers which supply inhabited areas, agricultural and industrial activities and public establishments, the Prefect is empowered to decree necessary protection measures. The holder of the exploration and storage licence is then required to re-establish water conditions equivalent to those which he has disrupted 2/.

X - LEGISLATION ON CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

(a) Legal and administrative provisions

In the case of private water, the construction of waterworks is undertaken by the riparian landowner, subject to a prior administrative authorisation and with the proviso that the flow regime will not be prejudiced and that no damage is caused to adjacent properties 3/. The Minister of Public Works and Transport may however carry out on private watercourses management works intended exclusively for drinking water supply 4/. Department and district administrations, their groupings and combined associations construct work for the protection of the banks and bed of private watercourses as well as other management works which are deemed to be urgently required or of general interest from an agricultural or water management point of view 5/.

In the case of public water, the construction of waterworks is carried out by concession holders or by the Minister of Public Works and Transport who may carry out, among other things, management works on waters intended exclusively for public supply or the improvement of canals and navigable or floatable watercourses 6/; here too department and district administrations, their groupings and combined associations undertake such works when these are deemed to be urgently required or of general interest 7/.

Supervision of the construction of works affecting the regime or conditions of flow of waters in non-navigable or non-floatable watercourses, of water intakes on navigable or floatable streams and rivers which do not modify the regime thereof or of works requiring a prior authorization, is carried out by the ordinary engineer after expiry of the period of time stipulated by the instrument authorizing such works 8/.

1/ Mining Code, Art. 84
2/ Ordinance of 15 November 1958 on underground gas storage, Art. 8
3/ Rural Code, Arts. 105, 106
4/ Decree No. 62-1448 of 24 November 1962, Art. 1
5/ Rural Code, Art. 175
6/ Decree No. 62-1448 of 24 November 1962, Art. 1
7/ Rural Code, Art. 157
8/ Decree of 1 August 1905, Arts. 1, 16

The construction of waterworks relating to underground water is carried out by the owner of the land on which such water occurs 1/. However, with a view to the protection of underground water resources, well excavation and drillings more than 80 meters deep may be undertaken in certain departments only with a prior authorization 2/.

Supervision of underground water extraction works is carried out by the Chief Mining Engineer 3/; initial construction works for a public drinking water distribution system carried out under concession is subject to the supervision of the district authorities 4/.

The operation and maintenance of waterworks constructed on private watercourses is taken over by the Prefect 5/. Corresponding costs are however shared among beneficiaries under the supervision of the Prefect 6/. Where waterworks are urgently required or of general interest from an agricultural or water management point of view, they are carried out and financed by the relevant department or district administrations, their groupings or combined associations 7/.

The operation and maintenance of waterworks constructed on public watercourses is carried out either by the concessionaire 8/, or leaseholder 9/, or by the district administration in the case of a "régie".

The supervision of waterworks maintenance is carried out by the Ministry of Public Works and Transport on specified public and private watercourses and by the Ministry of Agriculture on the others 10/. The Ministry of Interior is also responsible for ensuring the control of public water supplies, except in cases of the combined distribution of drinking and irrigation water, of the piping of water for agricultural use, or of public water supplies relating to the city of Paris and to the districts of the Seine department 11/.

(b) Technical and economic provisions

There are technical provisions establishing easements intended to enable the maintenance of waterworks and structures with mechanized equipment. These provisions concern irrigation canals 12/, drainage channels 13/, and works associated with private watercourses 14/.

These provisions relate mainly to waterworks maintenance cost. Thus, the allocation of maintenance costs for waterworks associated with private watercourses is decided under the supervision of, and enforced by the Prefect. Collection of related charges is in the same form and with the same guarantees as in the case of direct taxes 15/.

1/ Civil Code, Art. 552
2/ Decree of 8 August 1935, Art. 1
3/ Decree of 4 May 1937, Art. 10
4/ Decree No. 47-1554 of 13 August 1947, Art. 6
5/ Rural Code, Art. 115
6/ Ibidem, Art. 117
7/ Ibidem, Art. 175
8/ Decree No. 47-1554 of 13 August 1947, Art. 9
9/ Decree No. 51-859 of 6 July 1951, Art. 9
10/ Decree No. 62-1448 of 24 November 1962, as amended by the Order of 5 January 1971
11/ Decree No. 46-2483 of 9 November 1946, Art. 7
12/ Rural Code, Art. 128-6; Decree No. 61-605 of 13 June 1961
13/ Ibidem, Art. 138-1; Decree No. 61-605 of 13 June 1961
14/ Ibidem, Arts. 115, 121; Decree No. 5996 of 7 January 1959; Decree No. 60-419 of 25 April 1960
15/ Rural Code, Art. 117

When maintenance operations are carried out on licenced waterworks built on public watercourses, the concession holder is responsible for both their cost and execution 1/. When maintenance operations concern navigation works, levees, dams, channels and locks of direct interest to owners of mills or factories, the costs thereof are shared between the State and these owners in accordance with a statutory regulation 2/. When maintenance operations relate to treatment plants for the waste water of a district, costs are borne by that district 3/.

XI - LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

(a) In the case of beneficial uses of water

The 1964 Law provides for the creation of "special water management zones" in which the water regime is strictly controlled. These special zones are established by Order of the Council of State, following public inquiry. These orders establish and declare the public utility nature of the water distribution schedules in these zones in accordance with the nature and location of requirements to be satisfied 4/. As from the date on which these orders come into force, the tapping, diversion or extraction of the waters so declared is subject to an administrative authorization following public inquiry 5/.

Within special water management zones, every owner or operator of tapping or diversion installations or of works likely to modify the regime or conditions of flow of water therein is required, except for certain categories of works, to declare his installations 6/. Provision is also made for the Prefect to establish, by order and following an inquiry, modifications and restrictions to water tappings, diversions, and works of any kind affecting waters declared to be of public interest when the existence or operation thereof hinder the implementation of distribution schedules and diversion programmes 7/. Public administrative establishments have been instituted for the pursuance of the objectives established by decree within special water management zones 8/.

When the general measures adopted by decree cause damages, compensation is fixed as in the case of expropriations; however, the responsible administration can avoid payment of compensation partly or completely by offering an alternative source of water supply to the user whose water rights would have been modified or nullified 9/.

(b) In the case of water quality and pollution control

The Public Health Code institutes three protection areas around intake points for water intended for the supply of human communities : in the immediate vicinity, close by and, where necessary, at a distance 10/. The basic conditions for the demarcation of protection areas, and also the measures to be imposed with a view to ensuring effective protection, such as the prohibition or control of all activities, premises and installations likely to cause direct or indirect harm to the quality of the water, are defined by decree 11/.

1/ Decree No. 47-1554 of 13 August 1947, Arts. 9 and 10
2/ Public Waterways Code, Art. 39
3/ District Administration Code, Art. 185
4/ Law No. 64-1245 of 16 December 1964, Art. 47
5/ Ibidem
6/ Ibidem, Art. 48
7/ Ibidem, Art. 49
8/ Ibidem, Art. 51
9/ Ibidem, Art. 52
10/ Public Health Code, Art. L.20, as amended by Law No. 64-1245 of 16 December 1964, Art.7
11/ Decree No. 61-869 of 1 August 1961, Art. 4.2 as amended by Decree No. 67-1095 of 15 December 1967

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

The administrative organization responsible for the control of water resources in France is characterized by a centralization of executive functions at the basin level between coordinating agencies at the national level and the Prefect who coordinates administrative and technical units at the regional level.

(a) At the national level

Government authorities responsible for water resources are :

1. The Minister delegated by the Prime Minister to be responsible for the protection of nature and of the environment.

This Minister has overall water resources coordination functions and is responsible, in particular, for preventing, abating or eliminating pollution and nuisances of all kinds, whether originating from private individuals, communities, large-scale enterprises, or agricultural, commercial or industrial activities 1/. He exercises the powers previously vested in the Minister of Agriculture with special reference to fishing, and in the Minister delegated by the Prime Minister to be responsible for Planning and Land Use Management with reference to Interministerial coordination on matters relating to water 2/. He is obligatorily consulted by the ministers concerned on proposals for legislative and regulatory measures concerning the policing of surface, underground and maritime waters and the control of all types of pollution 3/. He is chairman of, among other bodies, the Supreme Committee for the Environment and of the National Water Committee 4/. The Minister drafts the resolutions of the Committee and oversees the implementation of its adopted decisions 5/.

The Minister is assisted by an Interministerial Water Commission which groups together representatives of the Secretariat of State for scientific research, atomic and space matters and of the Ministries of Interior, Economy and Finance, Supply and Housing Agriculture, Industry and Social Affairs as well as a representative of the Commissariat General for Planning 6/. The Interministerial Water Commission is assisted, at basin level, by six delegated commissions 7/.

2. The National Water Committee.

This Committee is responsible for stimulating, coordinating and controlling action on the protection of nature and the environment. It is responsible, in particular, for problems requiring Interministerial coordination in the field of water resources, in particular with all water management and supply projects of national relevance and large-scale regional programmes 8/. The National Water Committee is an advisory body 9/ composed in equal numbers of representatives of different categories of users, of representatives of the general and municipal councils, and of representatives of the State. Its secretariat is provided by the Permanent Secretariat for the Study of Water Problems. The Permanent

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1/ Decree No. 71-94 of 2 February 1971 on the powers of the minister delegated by the Prime Minister to be responsible for the protection of nature and of the environment, Art. 1
2/ Ibidem, Art. 2
3/ Ibidem, Art. 6
4/ Ibidem, Art. 7
5/ Ibidem, Art. 5
6/ Decree No. 68-335 of 5 April 1968, Art. 2
7/ Ibidem, Art. 5
8/ Decree No. 71-94 of 2 February 1971 on the powers of the minister delegated by the Prime Minister to be responsible for the protection of nature and of the environment, Art. 5; Law No. 64-1245 of 16 December 1964, Art. 15
9/ Law No. 64-125 of 16 December 1964, Art. 5; Decree No. 65-749 of 2 September 1965

Secretariat undertook in particular the inventory of water resources in order to determine their degree of pollution as had been stipulated that should be done within a period of two years after promulgation of the 1964 Law 1/. A twelve months inventory programme was begun on 1 October 1970 in the Artois-Picardie basin and on 1 January 1971 in the Seine-Normandie, Adour-Garonne and Rhône-Mediterranée-Corse basins 2/. Furthermore, the National Water Committee is concerned with water resources inventory by virtue of its responsibility for collecting documentation and formulating recommendations on all matters dealt with by the 1964 Law 3/.

The Minister delegatedis further assisted in water resources project coordination by the Standing Interministerial Committee for Problems of Regional Action and Land Use Planning, by the Minister delegated for Planning and Land Use Management, and by the Interministerial Water Commission 4/. The objectives of coordination at the project level include medium and long-term programming, financing of investments in the common interest, legislative and regulatory action and State loans 5/.

3. Other interministerial coordinating bodies directly or indirectly concerned with water resources matters include :

(i) The Standing Interministerial Committee for Problems of Regional Action and Land Use Planning which is responsible for investigating problems that require interdepartmental coordination in relation to water 6/.

(ii) The Supreme Board of Hygiene which is an advisory body 7/ to which the Minister of Public Health and Population submits, for approval, all enactments which he issues 8/. It is obligatorily consulted on water supply and drainage projects for towns that are required to have a town planning programme, and for districts and groups of districts with 10,000 inhabitants or more. It may also be consulted by the Council of State when the latter is regulating or prohibiting the discharge of certain products into waters 9/.

(iii) The Supreme Board of Classified Establishments which is called upon to advise on all cases where the law and regulations so require, to study proposals for the reform of legislation and all other matters concerning classified establishments which the Ministry of Industrial and Scientific Development deems fit to submit to it 10/; and

(iv) The Supreme Fisheries Board which studies all problems relating to inland fishing that are submitted to it by the ministers concerned. It undertakes the central collection and allocation of fish-breeding taxes. It gives advice to public bodies on measures aimed at ensuring the protection of fish, on the major works programme for fish-breeding development, and on measures for the control and coordination of local federations and associations for fishing and fish breeding.

1/ Law No. 64-1245 of 16 December 1964, Art. 3
2/ Order of 18 August 1970 on the programme for inventory of surface waters, Art. 1
3/ Law No. 64-1245 of 16 December 1964, Art. 15
4/ Decree No. 68-335 of 5 April 1968, Arts. 1 and 2
5/ Circular of 8 May 1968
6/ Decree No. 68-335 of 5 April 1968, Art. 1
7/ Decree No. 61-987 of 24 August 1961
8/ Circular of 21 January 1960; Decree No. 61-859 of 1 August 1961
9/ Decree No. 70-871 of 25 September 1970, Art. 1
10/ Decree No. 64-303 of 1 April 1964, Art. 27; its organization was fixed by the Order of 1 September 1969 of the Minister of Industrial and Scientific Development.

4. In addition, the following ministries hold direct or indirect prerogatives in the water resources field:

(i) The Minister of Public Works and Transport whose responsibilities include the implementation of waterworks intended exclusively for public water supply, the protection against floods, the control of all other waterworks and water policing on certain public and private watercourses 1/;

(ii) The Minister of Agriculture who is responsible, on certain public and private watercourses, for water policing and for the control of all works other than water management works intended exclusively for public supply or for the improvement of canals and navigable or floatable watercourses, and for the necessary protection measures against harmful effects of water 2/. Water policing and management under the authority of the Minister of Agriculture is carried out in all departments by the Rural Engineering Service whose representatives are sworn in to this effect 3/;

(iii) The Minister of Public Health and Population who specifies the properties required of drinking water 4/. The procedures for sanitary inspection during the exploitation of community water supplies and tariffs for the recouping of monitoring and analysis costs are stipulated by order 5/. Such orders also determine the conditions for the installation, maintenance and use of bottling equipment for bottled water 6/. The Minister may pronounce the forfeiture of a water right in the event of conviction of the holder of a drinking water supply concession for infringement of certain provisions of the Public Health Code 7/. Sanitary inspection of water is carried out by laboratories specially appointed by the Minister of Public Health 8/;

(iv) The Minister of the Interior exercises general control over district administrations on water resource matters; he is responsible for establishing the standard specifications obligatorily applicable to water uses practised under concession or lease, as well as the standard terms and conditions applicable to uses practised under licence. In addition, the Minister of Interior is responsible in the name of the State for the technical, administrative and financial control of public drinking water supplies, except in cases of combined distributions, for the conveyance of water for agricultural uses and for municipal water supplies to the city of Paris and to the districts of the Seine department 9/. This control is exercised in each department by the Prefect, with the assistance of the Civil and Rural Engineering Services. The Minister further approves concessions and leases departing from the standard specifications.

(v) The Minister of Industrial and Scientific Development is responsible for the prevention of nuisances, pollution problems, and the regulation of classified establishments. He takes part in the drafting and implementation of legislation and regulations applicable to underground and mineral waters, and exercises general control over large water consumer industries and over power uses. He is responsible for industrial water use and requirements and for industrial water pollution and waste treatment. In addition, he exercises State powers in the field of electricity, regulating and controlling hydroelectric plants and dams.

1/ Decree No. 62-1448 of 24 November 1962; Order of 5 January 1971
2/ Decree No. 62-1448 of 24 November 1962, Art. 2
3/ Ibidem, Art. 1
4/ Decree No. 61-859 of 1 August 1961, Art. 1
5/ Ibidem, Arts. 6, 7
6/ Decree No. 65-859 of 1 August 1961, Art. 13; Order of 10 August 1961, Art. 15
7/ Public Health Code, Art. 23
8/ Decree No. 61-859 of 1 August 1961, Art. 13; Circular of 15 March 1962, Appendix C
9/ Decree No. 46-2483 of 9 November 1946

(vi) The Minister of Supply and Housing is responsible for navigation, canal improvement, flood control, and public water management and policing in relation to general infrastructural development and city planning.

At the national level, water rights are administered by ministerial or inter-departmental decrees and by Orders of the Council of State. At the local level, the administration of water rights is entrusted to the Prefect, who issues rulings by Order.

In the case of private waters, their use is subject to a preliminary prior authorization 1/.

The right to use underground waters is subject to a preliminary prior authorization, which specifies all the conditions to which such extraction is subject 2/. In addition, the authorities must be notified and must inspect any installation intended for extracting underground waters for non-domestic purposes 3/.

Special water management zones are designated as such by Order of the Council of State, after public enquiry 4/. In these zones, all works likely to change the regime or conditions of flow of waters are subject to a prior authorization; this authorization specifies the conditions to which the works are subject and, where applicable, the destination of waters exploited in this way 5/.

(b) At the basin level

All executive and operational functions in the water resources field have been centralized at the basin level. To this end, six basin finance agencies have been created for the Artois-Picardy, Rhine-Meuse, Seine-Normandy, Loire-Brittany, Adour-Garonne and Rhone-Mediterranean-Corsica basins, or groups of basins 6/. As at the national level, coordinating and consultative bodies have been established to assist basin finance agencies.

1. The Basin Finance Agency 7/

Basin finance agencies are public administrative establishments having financial autonomy and entrusted with the task of facilitating all activities of common interest within their basin or group of basins. Each agency is managed by a board of directors composed of an equal number of representatives from competent administrative authorities and from local communities and water users. Basin finance agencies hold responsibility for the study, research and development of common interest water resources works and for the financing thereof. Where public establishments or private individuals or associations undertake such works, basin finance agencies extend to them subsidies and loans to the extent that such works correspondingly discharge them from part of their responsibilities. They are however entitled to levy water charges and rates on beneficiaries proportionately to the benefits these derive therefrom.

1/ Rural Code, Art. 106
2/ Ibidem, Art. 113; Decree of 8 August 1935, Arts. 1-2, 4-5
3/ Law No. 64-1245 of 16 December 1964, Art. 40
4/ Ibidem, Art. 46
5/ Ibidem, Art. 47
6/ Order of 14 September 1966, Art. 2
7/ Law No. 64-1245 of 16 December 1964, Art. 14

2. The Basin Committee 1/

Basin Committees are advisory bodies which give advice to basin finance agencies on the suitability of common interest works and management operations that are proposed in the zone for which they are responsible, on disputes arising between the communities or groups concerned and, more generally, on all the matters dealt with by the 1964 Law. Basin committees are composed, in equal numbers, of representatives of the different categories of users and other competent persons, of representatives designated by the local communities, and of representatives of administrative authorities.

3. The Delegated Basin Commission 2/

Delegated basin commissions are responsible for preparing the work of the Interministerial Water Commission on problems concerning the basin area, for providing, at area level, the essential liaison between the various administrative authorities and technical services, for collecting, for the consideration of the central government administration, the information required to draw up general water resources management plans, and for giving advice on matters referred to them.

Public administrative bodies, which may be created by Order of the Council of State and placed under the guidance of the State, have as their objectives, at basin level, water pollution control, water supplies, flood protection, and the maintenance and improvement of private rivers, lakes and ponds and of drainage and irrigation canals and ditches 3/.

(c) At the regional level

In France, the national territory is administratively divided into twenty-one Regions, themselves subdivided into departments and smaller administrative units. Each region is administered by a Regional Prefect.

1. The Regional Prefect

For purposes of water resources management, basin areas include several departments and may cover more than one region. Each Regional Prefect participates for his area of jurisdiction in basin development planning and implementation. His chief responsibility is, as the representative of the Central Government, to coordinate the work of the Regional Directorates with the assistance of a Technical Water Committee.

2. The Technical Water Committee constitutes, under the chairmanship of the Regional Prefect, a standing inter-service body responsible for stimulating, intensifying and coordinating studies undertaken under the auspices of the Delegated Basin Commission. It supervises the execution of approved programmes, assists in the preparation of, and control the operational stages of the Water Resources Modernization and Rationalization Plan for its region 4/.

3. The Regional Directorates constitute decentralized offices of the Central Government administration. Their representatives are called into a Regional Administrative Conference by the Regional Prefect to guide, coordinate and supervise the work of the Technical Water Committee 5/.

1/ Law No. 64-1245 of 16 December 1964, Art. 13; Decree No. 66-699 of 14 September 1966
2/ Decree No. 68-335 of 5 April 1968, Art. 3
3/ Law No. 64-1245 of 16 December 1964, Arts. 16, 17; Decree No. 69-1047 of 19 November 1969
4/ Decree No. 68-335 of 5 April 1968, Art. 4; Circular of 8 May 1968
5/ Circular of 8 May 1968

(d) At the local level

1. Local water rights administration

The ninety-five French departments are subdivided into administrative circonscriptions, cantons and districts. Departments are administered by a Prefect, circonscriptions and cantons by a Deputy Prefect and districts by a Mayor.

(i) The Prefect represents each minister, in particular for water affairs 1/. For private watercourses, he decides, after public inquiry on applications for water use authorisations 2/; he makes the necessary arrangements for the dredging of such watercourses 3/ and allocates maintenance operation costs between beneficiaries 4/. For public watercourses, the powers of the Prefect are more limited since the management of public waterways is carried out by the Chief Navigation Officers by virtue of a permanent delegation of powers 5/. The Prefect nevertheless establishes by Order the limits of public watercourses 6/. He also exercises powers with a view to public health protection. To this end, he lays down sanitary regulations that are applicable to all districts within his department 7/; he has powers to authorise the bottling of water intended for public consumption as well as the tapping and distribution of drinking water through private supply networks 8/.

(ii) The Departmental Hygiene Council is an advisory body which the Prefect consults in order to draw up sanitary regulations for his department 9/ and for the issuance or withdrawal of authorizations for the operation of bottled water industries, of manufactured ice industries 10/ and of swimming pools 11/. The Council also studies the precautions that need to be taken in order to prevent the water pollution by noxious wastes from industrial establishments and, where necessary, takes all necessary measures in order to deal with this hazard.

(iii) The Departmental Director of Health has an essentially supervisory function. He ensures that district administrations which collect and distribute drinking water under a "régie" arrange for the proper quality monitoring of the water being distributed 12/; he also supervises monitoring analyses carried out in the course of cooperative water supply operations, on the water and containers used for bottling and on the water used in ice manufacturing 13/.

1/ Decree No. 53-896 of 26 September 1953, Art. 1
2/ Rural Code, Art. 107; Decree of 8 August 1935
3/ Ibidem, Art. 115
4/ Ibidem, Art. 117
5/ Public Waterways Code, Arts. 30, 31
6/ Decree No. 70-115 of 3 December 1970, Art. 2
7/ Public Health Code, Art. L.1
8/ Ibidem, Art. L.24
9/ Ibidem, Art. 1; Decree No. 65-1048 of 2 December 1965, Art. 3
10/ Decree No. 61-859 of 1 August 1961, Arts. 8, 15, 17 and 20
11/ Order of 13 June 1969, Art. 26
12/ Public Health Code, Art. L.22
13/ Decree No. 61-859 of 1 August 1961, Arts. 6, 11 and 20

(iv) The Mayor, under the authority of the Prefect, takes at the district level the necessary measures for the policing of private watercourses 1/ and for the prevention or eradication of transmissible diseases 2/, and supervises, from the point of view of health requirements, the state of streams, rivers, ponds, pools and other water bodies 3/. In districts other than Paris, the Mayor may in addition issue permits for parking and temporary wharehousing on rivers, ports and embankments 4/. At the municipal level, the Mayor is assisted by the Municipal Council .

(v) The Municipal Council specifies, among others and under the control of the Prefect, the conditions for the collection of sewerage rates 5/.

(vi) The Municipal Hygiene Bureau exercises within its district, by delegation from and under the control of the Departmental Director of Health, the supervisory functions entrusted for the department to the Director of Health to whom it is answerable 6/.

2. Water users' associations

Water users' associations include irrigation cooperatives 7/, combined associations for the drainage of land by means of ditches and all other land reclamation methods 8/, and combined fishing associations comprised of landowners riparian to private watercourses which have been declared by decree as being of common fishing interests 9/.

(e) At the international level

France is riparian to international water resources with all her neighbours. International agreements exist with respect to almost all of them. However, international river commissions or committees have been established only with respect to the Rhine, the Moselle, the Saar and Lake of Geneva. These are the following:

1. The Central Commission for the Navigation of the Rhine was instituted by the Congress of Vienna on 9 June 1815. This Commission exercises regulatory power and administrative authority. It not only draws up regulations for the policing of navigation but also administers the policing of navigation; it controls navigation itself, as well as the other uses to which the river is put, insofar as they could prejudice navigation. As regards the policing regulations drawn up by the Commission, their provisions are binding in the countries concerned only if they have been enforced by corresponding internal legislation. The Commission also possesses powers with respect to waterworks; it specifies those works which member countries are required to carry out in the interest of navigation and prohibits those which are prejudicial to it. In addition, the Commission examines all complaints arising from the application of the agreement. Article 45 of the Mannheim Agreement of 1868 stipulates that the Commission shall decide on cases of appeal brought before it against the judgements of the tribunals of first instance for the navigation of the Rhine.

1/ Rural Code, Art. 111
2/ Public Health Code, Art. L.2
3/ Law of 21 June 1898, Art. 21
4/ Public Waterways Code, Art. 38
5/ Public Health Code, Arts. L.35.4 and L.35.5
6/ Order of 10 August 1961, Art. 8
7/ Rural Code, Arts. 128.3, 130 and 133
8/ Ibidem, Art. 137
9/ Ibidem, Arts. 407 - 410

2. The Moselle Commission, established by Article 32 of the Agreement of 27 October 1956, is a body responsible for carrying out supervision with respect to conditions of navigation on the Moselle. In general, the commission takes action to ensure the maintenance, to the highest possible degree, of favourable conditions for navigation on the Moselle. More specifically, it decides on toll procedures and their collection, and takes all the necessary decisions to adapt to the Moselle the provisions applied on the Rhine. It also examines the projects for waterworks submitted to it by riparian countries and comments thereon with regard to the safeguarding of navigation interests. As regards jurisdictional powers, the competent tribunals of first instance for matters concerning navigation on the Moselle are, insofar as governments deem it necessary, either specially created or are selected from among those already forming part of a national judiciary system. In the case of appeals, the parties concerned may choose either between the appeals tribunal of the country in which the judgement has been issued or the Appeal Committee of the Moselle Commission. This Committee is a jurisdictional body separate from the Moselle Commission and independent of national governments. It has penal and civil jurisdiction.

3. The International Commission for the Protection of the Rhine against Pollution was created by an agreement signed on 29 April 1963 and is one of the largest river commissions by virtue both of its activities and of the geographical extent of its area of jurisdiction.

4. The International Commission for the Protection of the Waters of the Saar was instituted by a formal agreement of 20 December 1961.

5. The International Commission for the Protection of the Waters of the Lake of Geneva against Pollution was established by the Franco-Swiss agreement of 16 November 1962.

6. The Standing Tripartite Commission on Polluted Waters was created by virtue of an agreement signed on 8 April 1950. Member countries are France, Belgium and Luxembourg.

XIII - SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

(a) At the national level

Since 1946, the production, transportation, distribution, import and export of electricity have been nationalized 1/. The management of the nationalized electricity enterprises is in the hands of a public establishment called "Electricité de France", Service National (E.D.F.). The national services of E.D.F. are administered by a Council of 15 members nominated for 5 years by decree issued on the report of the Minister of Industry and Commerce 2/.

As regards administrative and financial management, the services of E.D.F. have financial autonomy and, as a consequence, technical and commercial independence. They are subject to the control of auditors designated by the Minister of Finance from among those entered in the rolls of the courts of Appeal. The management of the national and distribution services is conducted in such a way as to meet all operating, capital and investment costs. Operational deficits are underwritten, in part at least, by the State, particularly insofar as they result from the application of tariffs laid down by decisions of the pricing board 3/. Profits accrued by E.D.F. are paid into an account opened in its name and known as the National Electricity Development Fund.

1/ Law of 8 April 1946, Art. 2
2/ Ibidem, Art. 20, as amended by the Decree of 17 December 1953
3/ Law of 1 January 1949

(b) At the regional level

The Société du Canal de Provence et d'aménagement de la région provençale (S.C.P.), is a special and autonomous agency responsible for water resources and their use in the Provençal region. It is governed by the laws and regulations covering semi-nationalized companies 1/. The company has as its objective the management of the Provençal region with a view to its development, notably by means of irrigation and of water supply for domestic, agricultural and industrial uses 2/. Thus, the S.C.P. undertakes, on its own account or on that of the State or of local communities, the technical, economic and agronomic studies necessary to the development of the general economy with particular reference to the rational use of water. It constructs and operates, on its own account, waterworks that are of general benefit; its major undertaking is currently the construction of the Provence Canal which is a diversion from the Verdon. The S.C.P. also lends its assistance to third parties (local communities, agricultural cooperatives, etc.) for the design, construction and operation of waterworks. In liaison with State and professional bodies, it studies and popularizes modern methods of sprinkling irrigation, participates in the attempt to achieve better crop selection, and studies the possibilities of an improved flow of agricultural production. Finally, its participates, at the regional level, in studies and projects aimed at the rural land use management.

The S.C.P. is thus responsible for the construction and operation of waterworks created or modernized under the conditions fixed by the general concession agreement of 15 May 1963 3/ and by general and special specifications. The duration of the concession is of 75 years, renewable under the conditions of the general specification. The lifetime of the S.C.P. has been set at 99 years as from the date of its effective establishment 4/. This company is administered by a board of directors, two auditors, a government representative and a general meeting.

For the period of the concession covering the construction works on the Provence Canal and with respect to the water resources and agricultural management of the Durance basin, the S.C.P. is substituting for the Minister of Agriculture in the exercise of the rights and obligations incumbent upon him in application of the convention he concluded with "Electricité de France" for the storage of the water required for the planned diversions and for the transportation of water by certain industrial works 5/.

2. The Compagnie Nationale du Rhône (C.N.R.) is a public joint-stock company with a special form of organization 6/. The objective of this company is,under a concession, the management of the Rhône between the Swiss frontier and the sea from the threefold aspects of the exploitation of hydropower, navigation, and irrigation and other agricultural uses. The general specification stipulates that the programme of works for which the concession is granted comprises river management with a view to the exploitation of hydropower and the simultaneous creation of a navigable channel to be cleared gradually along its entire length, the improvement and, where necessary, the creation of navigation waterworks, and the possible construction of works for the re-establishment and development of agricultural production 7/. The duration of the concession is fixed to extend up to 31 December 2023, renewable under the conditions defined in the general specification 8/; the lifetime of the

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1/ Statutes of the S.C.P., Art. 1
2/ Ibidem, Art. 2
3/ Decree No. 63-509 of 15 May 1963, Art. 1
4/ Statutes of the S.C.P., Art. 3
5/ Decree No. 63-509 of 15 May 1963, Art. 8
6/ Statutes of the C.N.R., Art. 1
7/ General specification of 12 October 1968 replacing the general specification appended to the Concession Agreement of 20 December 1933, as amended by the Decree of 7 October 1968, Art. 1
8/ Ibidem, Art. 31

company is set at 99 years as from the date of its entry in the Trade Register. This company is administered by a Board of Directors, two auditors and a general meeting. The State participates in the management and in the control of this institution. To this end, the Board of Directors includes five State representatives nominated by decree of the Minister responsible for electricity 1/; the chairman of the Board of Directors is chosen from among the members of the Board and is nominated by Order of the Council of State 2/. In addition, a government representative designated by decree of the Minister responsible for electricity sits on the Board of Directors and represents the State at general meetings 3/. The commission for audit of semi-public corporations in which the State owns the majority of shares is responsible for auditing the accounts and controlling the management of the C.N.R. 4/.

3. Compagnie d'aménagement des Côteaux de Gascogne (C.A.C.G.). This semi-public corporation has as its objective the agricultural management of the hill region of Gascony, particularly with a view to its development by means of irrigation and water supply for domestic, agricultural and industrial uses 5/. The functions of the corporation include the undertaking of pre-investment studies, the implementation of works in successive stages and the operation and maintenance of already constructed works. These functions attach to general economic and social measures aimed at the removal of regional disparities. The corporation is administered by a Board of Directors comprising 12 members and 3 technical advisers. The nomination of the chairman of the Board, of the directors and of the permanent representatives of those corporate bodies appointed as directors is effective only upon approval of the Minister of Finance, the Minister of the Interior and of the Minister of Agriculture 6/. The State participates in the management of the corporation through the agency of a Government representative designated by decree who sits on the Board of Directors 7/.

The lifetime of the company is set at 99 years as from the date of its effective establishment 8/. Its statutes were approved by decree on 6 January 1959. The duration of the concession granted to the Compagnie d'aménagement des Côteaux de Gascogne, by decree of 14 April 1960, is 75 years, renewable 9/.

XIV - LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES

(a) Government financial participation

The financial participation of the State can be outright or combined. It is combined when costs are underwritten by the State with the subsequent financial participation of the user communities. Combined financing of waterworks applies in the case of flood control 10/ and for the creation of water intakes for the implementation of rural drinking water supply projects 11/. Outright financing of waterworks applies in cases of drinking water supply 12/ and drainage networks, of treatment plants 13/ and of scientific research on

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1/ Administrative Regulation of 26 June 1959, Art. 10; Decree No. 62-358 of 30 March 1962
2/ Ibidem, Art. 8
3/ Ibidem, Art. 9
4/ Order of 6 May 1959, Art. 1
5/ Statutes of the C.A.C.G., Arts. 1, 2
6/ Ibidem, Art. 17
7/ Ibidem, Art. 30
8/ Ibidem, Art. 3
9/ Agreement appended to Decree No. 60-383 of 14 April 1960, Art. 1
10/ Public Waterways Code, Art. 47
11/ Decree of 31 October 1960; Rural Code, Art. 151
12/ Decree of 21 April 1939; Law No. 47-580 of 30 March 1947; Law No. 47-1501 of 14 August 1947; Law No. 56-780 of 4 August 1956; Decree No. 66-173 of 25 March 1966, as amended by Decree No. 68-654 of 10 July 1968.
13/ Decree No. 66-173 of 25 March 1966

water supply and drainage 1/.

The legislative provisions relating to subsidies specify their rates, the date on which State financial obligations are perfected, the method of payment of the subsidy and the competent authority to pay the subsidy, that is the Minister of the Interior for works carried out in urban districts, the Minister of Agriculture for works carried out in rural districts, or the district council 2/.

At the national level, the national fund for the development of water supply networks created under the auspices of the Minister of Agriculture constitutes a special item in the Treasury books managed by the Minister of Agriculture with the assistance of an advisory committee whose membership is fixed by decree 3/. The purpose of the fund is to relieve the burden of annual instalments paid by local communities which provide drinking water supplies in rural districts and, secondarily, to advance loans for financing works relating to drinking water supplies in these districts 4/. The resources of the fund are derived from a fee on the consumption of water distributed in all districts benefiting from a public drinking water supply, from profits made on the annual instalments paid on loans extended by the fund, and from all subsequent monies and endowments registered by the fund 5/.

In addition, the VIth Plan for Economic and Social Development for the period 1971-1975 establishes that the financing of various works aimed at improving the conditions of water storage and of protection against harmful effects of waters shall receive considerable assistance from the State. Provision is made for the total sums voted for authorizations of water treatment and management programmes to amount to 1.2 thousand million francs, 700 million francs of which have been allocated with priority for State participation in joint water treatment projects implemented by local communities 6/.

At the basin level, the Basin Finance Agency is responsible for facilitating various works that are of general interest to the basin or group of basins 7/, either by allocating subsidies and loans to public and private institutions for the carrying out of such works, or by contributing towards the cost of studies and research. Each Agency constitutes a public establishment of an administrative nature, with juridical personality and financial autonomy 8/. The objective of Basin Finance Agencies is intended to provide, for operations which they consider as carrying priority, a substantial complement of financing to correspondingly reduce the burden that the originator of the works has to bear. On average, the subsidies allocated to local communities represent approximately 25 per cent of the cost of the works while, in the industrial sector they reach approximately 50 per cent thereof; this difference in percentage is due to the fact that local communities benefit from State subsidies whereas industries do not.

1/ Order of 1 December 1967
2/ Decree No. 47-1554 of 13 August 1947, Art. 2
3/ Local Administration Code, Arts. 408 and 410; Decree of 22 October 1955
4/ Ibidem, Art. 408
5/ Ibidem, Art. 409; Law No. 56-1327 of 29 December 1956
6/ Law No. 71-567 of 15 July 1971, approving the VIth Plan for Economic and Social Development, Appendix C6.
7/ Law No. 64-1245 of 16 December 1964, Art. 14
8/ Decree No. 66-700 of 14 September 1966; Order of 14 September 1966

The VIth Plan for Economic and Social Development for the period 1971-1975 stipulates that the involvement of Basin Finance Agencies shall be intensified in order to allow them to relieve the self-financing responsibilities of districts and industries while maintaining at least their present level of financial assistance to infrastructural development projects and extending the scope of their involvement 1/.

(b) Water rates and charges

Water rates and charges are payable on various counts. In addition to the charges attaching to the use of rivers and navigation canals such as fees for locks, towing, navigation permits and crew and skipper certificates, water rates are payable by the holders of water intake rights on public rivers and on navigation canals 2/. Other rates are levied on the consumption of water distributed in districts which benefit from a public drinking water supply 3/. These charges are payable by the drinking water suppliers whatever the mode of operation 4/. For example, in the case of the concession of a public drinking water supply system, charges owed to the State both for the occupancy of State property and for the extraction of public water are payable by the concession holder 5/.

As regards fishing, this right may be exercised only by those who belong to a fishing or fish-breeding association and who, over and above their statutory subscription, pay an annual fee to the State. The Supreme Fisheries Board collects this fee, the amount of which varies between 5 and 100 French francs 6/ per fisherman depending upon the mode of fishing 7/.

For hydroelectric power, the concession holder is liable to charges proportional to the number of kW/h produced 8/. In addition, the concession holder may also be liable to a fixed charge representing the annual rent on State property when the plant is built on a public river 9/.

Drinking water supply services 10/, operators of bottled water industries 11/ and operators of manufactured ice industries 12/ bear the monitoring and analysis costs of their water supplies in accordance with a tariff fixed by Order of the Minister of Public Health and Population 13/.

The users of drainage networks and public treatment plants, whatever their mode of exploitation is, pay corresponding service charges 14/.

Dangerous, unhealthy and noxious premises are to pay a fee at the time of issuance of the authorization or of the classified establishment declaration 15/.

1/ Law No. 71-567 of 15 July 1971 approving the VIth Plan for Economic and Social Development, Appendix C6.
2/ Public Waterways Code, Art. 35; Decree No. 48-1698 of 2 November 1948
3/ Local Administration Code, Art. 409
4/ Decree No. 54-1238 of 14 December 1954
5/ Decree No. 47-1554 of 13 August 1947, Art. 40
6/ One US dollar equals approximately 4.10 French Francs
7/ Finance Law for 1973 No. 72-1121 of 20 December 1972
8/ Law of 16 October 1919, Art. 9
9/ Order of the Council of State of 30 October 1935, Art. 38
10/ Decree No. 61-859 of 1 August 1961, Art. 6
11/ Ibidem, Art. 18
12/ Ibidem, Art. 20
13/ Order of 18 October 1967
14/ Finance Law for 1966; Decree No. 67-945 of 24 October 1967
15/ Law No. 71-1025 of 24 December 1971 rectifying the Finance Law for 1971, Art. 12

This fee is of 3000 francs for premises classified in the first and second categories, and of 1000 francs for premises classified in the third category. In addition, an annual charge is payable on such of these establishments as, by virtue of the nature or volume of their activities, present particular hazards to the environment and so require detailed and regular inspections. This annual charge is payable on all classified establishments which practice one or more activities included in a list laid down by Order of the Council of State. Where applicable, these establishments are liable to payment of the charge only if their activity exceeds a certain level 1/. The base rate of this annual charge is 500 francs. For the year 1973 for example, the rate of this annual charge and the multiplication factor to be applied to this basic rate was specified by Decree 2/.

Finally, Basin Finance Agencies levy charges on water users within their basin insofar as, by their effect on the natural environment, water extractions or pollution render the intervention of the Agency necessary or advisable, or to the extent water users benefit therefrom.

XV - IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

(a) Juridical protection of existing water rights

Juridical protection of existing water rights on private waters that may be used without need of prior authorization is provided by the provisions of the Civil and Penal Codes relating to the protection of land ownership. In addition, the Rural Code stipulates that disputes arising from the establishment of easements, siting of water pipe runs, and compensation payable either to the owner of the land crossed or to the owner of the land receiving drainage water, shall be brought before the appeal tribunals which, in deciding the case, are to reconcile the benefit of the operation with the deference that is due to ownership rights. The procedure used is that of summary proceedings and, if expert opinion is required, the tribunal may appoint only one expert 3/.

Juridical protection of water rights acquired on public waters by prior authorization or concession is provided by the legal provisions controlling the use of these waters. The standard specification for the concession of a public drinking water supply stipulates for instance that disputes arising between the concession holder and the granting authorities with regard to the implementation and interpretation of the provision thereof, are to be settled by the administrative tribunal without recourse to the Council of State 4/. In addition, vested private rights that may exist on public watercourses and lakes are recognized and protected provided these had been granted legally prior to the Edict of Moulins of 1566 or had been acquired by legally conducted sale of national property 5/.

(b) Modification or re-allocation of water rights

In the case of private watercourses, authorizations or permits granted for the establishment of works or factories may be revoked or modified without compensation on the part of the State when exercising its policing powers in certain cases specified by law 6/.

In the case of public watercourses however, water intakes and other installations, even established with a prior authorization, may be modified or revoked at any time. Compensation is then due only when water intakes or installations whereof the modification or removal is ordered have been legally constituted 7/.

1/ Decree No. 72-1240 of 29 December 1972 specifying the procedures for levy of the annual charge applicable to certain classified establishments, Art. 1
2/ Decree No. 72-1241 of 29 December 1972 specifying the list of activities liable to levy of the annual charge applicable to certain classified establishments
3/ Rural Code, Arts. 125, 128 and 138
4/ Decree No. 47-1554 of 13 August 1967, Art. 50
5/ Public Waterways Code, Art. 23
6/ Rural Code, Art. 109
7/ Public Waterways Code, Art. 26

(c) Water tribunal, courts or other judiciary water authorities

As there is no special water tribunal or court in France, litigation arising out of the implementation of legislative norms and the prosecution of offences thereagainst fall under the competence of the regular courts of law. However, administrative tribunals have been established 1/ to deal with all contentious matters arising out of the implementation of decrees of the Council of State, interministerial and ministerial orders and administrative circulars which constitute the body of what is known in France as Administrative Law. There are presently twenty-five administrative tribunals in metropolitan France which function under the control of the Council of State, itself the highest administrative jurisdiction.

Administrative judicial decisions are enforceable as are regular judicial decisions.

(d) Penalties

Penalties sanctioning the non-observance of or contraventions to the provision of the water legislation are either specified or referred to the penal legislation in the relevant enactments. Such penalties include the recovery of damages, a fine, imprisonment or a combination thereof.

In the case of breach of an administrative provision, penalties include in addition the modification, suspension or cancellation of the relevant water rights. As to ultra vires action against the act of a representative of an administrative authority while exercising official functions or against the implementation of an administrative rule the competent administrative tribunal takes corresponding disciplinary measures or is entitled to modify or cancel the contentious provision. Appeal to the Council of State, or the unique jurisdiction thereof in specific cases, is reserved.

(e) Water Law implementation

The provisions of the 1964 water law are implemented to decrees promulgated by the Council of State and, under its control, by the competent ministers. The provisions of these decrees are further implemented through orders, regulations and administrative circulars issued by the regional and departmental prefects, by the municipal councils and the mayors. Officers of the government administration are correspondingly empowered to enforce these provisions either directly or with the assistance of the police forces.

1/ Law of 18 December 1968; Decrees No. 73-682 and No. 73-683 of 13 July 1973 issuing the Administrative Tribunals Code.

ISRAEL 1/

I - INTRODUCTION

Lying along the eastern coast of the Mediterranean Sea, the State of Israel is bounded on the north by Lebanon, on the north-east by Syria, on the east by the Hashemite Kingdom of Jordan, and on the south and south-west by Egypt.

Although of a rather small size, the country presents surprisingly complex geographical features. In the north, the uplands of Galilea reach a maximum height of 1200 metres; these fall away steeply to the Jordan Valley on the east, to a narrow coastal plain on the west and to Esdraelon Vale, or Emek Yezrael, on the south. A rather irregular gorge with a flat floor and steep sides, the Vale runs south-eastwards from the Bay of Acre on the Mediterranean to the Jordan Valley. With a fertile soil and an annual rainfall of 400 mm, less irrigation than in the more arid south is sufficient for a reasonable agricultural production.

South of Esdraelon, an upland plateau reaching 900 metres extends for nearly 160 km. A moderate rainfall in the north has eroded the plateau of ancient Samaria into valleys, some of which are fertile though less than those of the Esdraelon or Galilea. Further south, reduced rainfall and erosion have allowed for a better defined ridge to stand with fewer streams and a barer, open landscape characteristic of the more arid and dusty Judaea. While the south-eastern part of Judaea is a semi-desert, in the extreme south the plateau falls down to 380 metres and opens on the Negev, an almost desert-like region comprising half the total superficies of the country where 250 mm of annual rainfall make agriculture fully dependent on large scale irrigation schemes.

The Plain of Shephelah, however, a shallow upland basin lying in the first foothills of the Judaean Plateau east of the Plain of Sharon, benefits from a fertile soil and moister climate which allow for intensive cultivation.

Finally, between the uplands of Samaria-Judaea and the Mediterranean Sea, a low lying coastal plain stretches southwards from Haifa. Extending from the fertile lowland Plateau of Sharon down through the broader but more arid and sandy ancient Philistia, the plain finally merges into the Sinai Desert.

The juridico-political history of Israel is particularly complex as its origin may be dated back to the 3rd millenium B.C.; it is however extremely interesting as a great variety of legal systems have chronologically succeeded each other leaving their more or less marked imprints in what has become today in Israel an example of the State ownership doctrine as applied to water resources law and administration. Schematically, five periods can be identified: the ancient or Biblical, the Greco-Roman, the Islamic, the Mandatory, and that of the modern State of Israel, or current period.

The ancient, or Biblical period, originates somewhere around 3000 B.C. with the settlement of a few Semitic tribes, among which were the forefathers of Abraham, at Ur in Mesopotamia. There, the cyclopean irrigation works of the 2nd Babylonian Empire and the irrigation regulations of the Code of Hammourabi had allowed for unprecented agricultural development. Around 1760 B.C. however, the tribes led by Abraham, migrate

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1/ Prepared for the FAO Legislation Branch - except the Introduction which has been added - by Dr. M. Virshubski, City Attorney, Municipality of Tel'Aviv-Yafo, Israel, August 1974. The author wishes to acknowledge the kind collaboration of Dr. Ernest Katin, member of the Israel, Minnesota and Illinois Bars, in the preparation of this study.

to Canaan where, at Hébron, the Makhpela field was bought from the Hittite Ephron. Although settled, the tribes reverted to limited water resources development by means of isolated wells for animal watering and small irrigation. Because of droughts and under the pressure of the Hittites, the tribes moved however southwards and joined Joseph in Egypt where the marvels of Nile irrigation and water management were witnessed and made use of. It is during the Egyptian period in the XIIIth century B.C., that Moses received the Ten Commandments on Mount Sinai and led the Exodus until Canaan was reconquered in the XIIth Century B.C. There, Josua institutionalized a collegiate type of government, the Judges, established a cadastral survey of the conquered land which he distributed among the tribes. Following the royal period (1020-586 B.C.) during which King David proceeded with an administrative reform (987 B.C.) and the establishment of the Royal Domain, the year 930 B.C. witnessed the split of the Nation into the Kingdom of Israel in the north and that of Juda in the south and the building of the Temple in Jerusalem by King Solomon. It is during that time that great water supply works such as the famous underground aqueduct of Siloé at Jerusalem were built and that centralized municipal water supply management was institutionalized. Then follows the first destruction of the Temple in 586 B.C., the exodus to Babylon, the Persian conquest in 538 B.C., the return to Jerusalem under the Edict of Cyrus and the rebuilding of the Temple; the State is then governed by the High Priest under the Great Synagogue, or legislative assembly.

The Greco-Roman period starts with the conquest of Alexander in 332 B.C. and witnesses the introduction in Israel of technical irrigation coupled with a centralized management based on almost four centuries of experience with the wise laws of Solon and the firm administration of Pisitrate. The conquest of Judea by the Romans in 63 B.C. under Pompeus however led to the gradual disuse of irrigation facilities and, the Temple having been destroyed again in 70 A.D., to the full occupation of Israel by the Romans. Not an agricultural civilization, the Romans nevertheless maintained and developed municipal and intermunicipal water supply systems together with the corresponding administration. As to the water jurisprudence of the Talmud, a digest of Jewish law based on scriptural sources and traditions, it did not differ much from Roman Law principles. It provided, among others, the principle of community ownership in natural waters, the right of the traveller to use the water of public wells, and a system of easements and servitudes in connection with common or public waters; accordingly, detailed water use regulations were formulated for domestic and irrigation purposes, in particular as concerns priorities of use among riparians and for human, animal and crops requirements, and with respect to waterworks maintenance and water rights administration 1/.

Jewish communities were nevertheless allowed to maintain their traditions and laws provided, however, these did not conflict with the immediate interests of the dominating power. Around 500 A.D., the area fell under Persian rule. The Arab conquest began in 633 and Jerusalem was conquered in 638. These dates mark the origin of the Islamic period and the introduction of Moslem water law throughout the Mediterranean basin, a legal system altogether not dissimilar, conceptually, from Talmudic principles in this field 2/. Political unrest marked by the successive fall of Jerusalem in Christian or Moslem hands, starting with the Crusades in 1099 and culminating in Mameluke occupation between 1244 and 1516, prevented organized water resources development. This period is however of considerable importance in that, from the Ottoman occupation and until World War I, Moslem water law was codified as part of the Ottoman civil law - the Majelle Code - which crystallized a basically private law oriented water legislation concerned more with the regulation of neighbourliness and private litigation than with centralized water resources administration.

1/ See, Abraham M. Hirsh, International Rivers in the Middle East, Columbia University, New York, 1957. 329.1.

2/ See, Water Laws in Moslem Countries, Irrigation and Drainage Paper No. 20/1. FAO, Rome, 1973.

The following period covers the British Mandate from 1922, date of the Council Resolution of the League of Nations, until independence on 15 May 1948. Although Britain, a technologically advanced nation with a legal tradition in both central and local government administration, had maintained the Ottoman water legislation, centralized water resources control was institutionalized in 1940 by an Order of the King in Council which vested all rights to surface water in the High Commissioner and subjected the use thereof to subsidiary regulations. The Order was however not implemented before 1940, after the establishment of the State of Israel. Other important Mandatory enactments were the 1934 and 1936 Municipalities Ordinances, which centrally regulated water supply. In the meantime, Jewish settlers had initiated regional water resources planning and development programmes which, after independence, led to the national water resources development plan.

With the establishment of the State of Israel in 1948, a central authority was enabled to apply technology effectively. Israel utilises over ninety percent of its present water resources which include the Jordan River, the Kinneret (Lake Tiberias), ground water, the surface water flow of ravines and wadis as well as the recycling of sewerage water. Sea water desalination is being undertaken at Eilat. To meet the needs of its population and development growth, Israel has increased its water supply from 300 million cubic metres at the time of its establishment in 1948 to over 1.5 billion cubic metres today. In order to ensure efficient water resources utilization, Israel has undertaken the building of a single national water supply system, the decisive phase of which was the implementation of a national water carrier in 1964. Dependent regional water resources projects include flood retention structures and canals, pumping stations and reservoirs which accumulate most of the available water for supply to consumers in most parts of the country.

The present water legislation of Israel was formulated to develop and regulate this system. The State, on its establishment, applied the King's Order in Council of 1940 to assert its ownership over water and to develop a national water resources policy. The drafting of a basic water law enacted in 1959 took seven years. Prior to this enactment, three laws regulating drainage and flood control, water metering, and drilling had been promulgated between 1955 and 1957.

II - LEGISLATION IN FORCE

The basic water legislation in Israel consists in:

1. Forests Ordinance, 1926 Laws of Palestine, Chap. 6.1.
2. Electric Concession Ordinance, Laws of Palestine, Chap. 52, No. 9/27.
3. Mining Ordinance, Drayton Law of Palestine, Chap. 94.
4. Port Authorities Law, Dinei Medinat Israel Nusach Chadash, No. 20, p. 443.
5. Workers Safety Ordinance (New Version), Dinei Medinat Ysrael No. 16, p. 208.
6. Criminal Code Ordinance 1936, Palestine Gazette No. 652, supp. 1, p. 285 and Amendment (5666-1966), Sefer Ha-Chukkim No. 481, p. 64, 20 Laws of the State of Israel (1965-66) 256.
7. National Health Ordinance, 1948 Palestine Gazette No. 1065, supp. 1, p. 239 and Amendment No. 4, 1970 Sefer Ha-Chukkim No. 596, p. 202.

8. Petroleum Law 5712 - 1952, Sefer Ha-Chukkim, N° 109, p. 122, 0 Laws of the State of Israel (1951-52) 129.

9. The Water Measurement Law 5715 - 1955, Sefer Ha-Chukkim N° 182, p. 8, Laws of the State of Israel (1955-56) 85, amended by the Water Measurement (Amendment) Law 5719 - 1959, Sefer Ha-Chukkim N° 292, p. 230, 13 Laws of the State of Israel (1958-9) 256. 1/

10. The Water Drilling Control Law 5715 - 1955, Sefer Ha-Chukkim N° 182, p. 84, 9 Laws of the State of Israel (1954-5) 10, and Amendment 5722 - 1962, Sefer Ha-Chukkim N° 360 p. 30, 16 Laws of the State of Israel. 2/

11. Drainage and Flood Control Law 5718 - 1957, Sefer Ha-Chukkim N° 236, p. 4, 12 Laws of the State of Israel (1957-58) 5 and Amendment 5721 - 1961, Sefer Ha-Chukkim N° 336, p. 90, 15 Laws of the State of Israel (1960-61) 89.

12. The Water Law 5719 - 1959, Sefer Ha-Chukkim N° 288, p. 169, 13 Laws of the State of Israel (1958-59) 173, as amended by Water Law (Amendment N° 2) 5721 - 1961, Sefer Ha-Chukkim N° 346, 15 Laws of the State of Israel (1960-61) 193, Water Law (Amendment N° 3) 5721 -1961, Sefer Ha-Chukkim N° 348 p. 193, 15 Laws of the State of Israel (1960-61) 216, Water Law (Amendment N° 4) 5725 - 1965, Sefer Ha-Chukkim N° 439, 19 Laws of the State of Israel (1964-65) 10, Water Law (Amendment N° 5) 5732 - 1971, Sefer Ha-Chukkim N° 640, p. 8. 3/

13. Abatement of Nuisances Law 5721 - 1961, Sefer Ha-Chukkim N° 332, 15 Laws of the State of Israel (1960-61) p. 52.

14. Local Authorities (Sewerage) Law 5772 - 1962, Sefer Ha-Chukkim N° 376, p. 96, 16 Laws of the State of Israel (1962-63).

15. National Parks and Nature Reserves Law 5723 - 1963, Sefer Ha-Chukkim N° 404, p. 149, 12 Laws of the State of Israel (1962-63) p. 184.

16. Municipalities Ordinance (New Version), Dinei Medinat Ysrael (Nusach Chadash) N° 8 (5724 - 1964) p. 197; 1 Law of the State of Israel (New Version) 242.

17. Streams and Springs Authorities Law 5725 - 1965, Sefer Ha-Chukkim N° 457, p. 150, 14 Laws of the State of Israel (1964 -65) 149.

18. Planning and Building Law 5725 - 1965, Sefer Ha-Chukkim N° 467, p. 307, 19 Laws of the State of Israel (1964-65) p. 330.

19. Civil Wrongs Ordinance (New Version), 1968 Dinei Medinat Ysrael (Nusach Hadash) N° 10, p. 266.

20. Land Law 5729 - 1969, Sefer Ha-Chukkim N° 575. 4/

1/ English version in S. Aloni, ed. The Water Laws of Israel, State of Israel, Ministry of Agriculture, Water Commissioner 1970.
2/ Ibidem, (1961-2) 20.
3/ Ibidem.
4/ English Version in 5 Israel Law Rev. (1970) 292.

III - OWNERSHIP OF WATERS

The Water Law declares that the water resources of the State are public property, under the control of the State, and intended for the needs of its residents and the development of the country. 1/ "Water resources" are defined as including springs, streams, rivers, lakes and other flowing and stored water, whether surface or underground, natural , regulated or artificial, and whether rising, flowing or still, permanently or intermittently, and including drainage and sewage water. 2/ Furthermore, individual rights in land do not confer the owner or occupier any right in the water resource situated thereon, crossing it or abutting thereon. 3/ The principle of riparian rights is thus expressly rejected.

Accordingly, water resources in Israel are not subject to private ownership and the government is given legal power to control the utilization of the national water resources for public benefit and national development through the issuance of permits for water production, supply and consumption.

IV - THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of Acquisition

All water rights, whether to produce, consume or supply, are acquired by means of a permit or a licence issued by the Water Commissioner and provided these will be exercised in accordance with the conditions stated therein. 4/ Although users have the legal status of consumers rather than of producers of water, their rights are in fact protected as if they were the original producers.

According to the Supreme Court, water rights attach to the area where the water is used and a change in the purpose of use is itself a cause of termination of the permit or licence. In addition, a person holding a right of use in a particular area who voluntarily ceases to exercise it is not entitled to use water in another area. 5/

A water right is similar to a personal licence under English Common Law and may be cancelled or modified by the Water Commissioner should the area wherein it is exercised be declared a "rationing area"; the right goes, however, beyond a mere personal licence in that the Water Commissioner's power to cancel or modify existing rights is not absolute but limited by the law which provides, among others, that production licences may be transferred provided that the Water Commissioner is duly notified. 6/ Water rights may therefore be construed as being analogous to easements in Common Law, and rights acquired many years before the 1959 Water Law, coupled with the confirmation of a production licence, may be construed as public grants. 7/

The right covered by a production licence is sufficiently defined and, within the general class of rights, capable of being created as easement. Since the right benefits the land in connection with which it exists and renders it more valuable and profitable, it is thus entitled to protection against any outside interference and is enforceable against third parties. 8/

1/ 1959 Water Law, Sec. 1.
2/ Ibidem, Sec. 2.
3/ Ibidem, Sec. 4.
4/ Ibidem, Sec. 3, 23.
5/ Ruth Ben-Ami Hatis & Others v. The Water Commissioner, Civil Appeal No. 293/65 (1965) 19 (4) Piskei Din 71, noted in 1 Israel Law Rev. (1966) 352.
6/ 1959 Water Law, Sec. 29; Note, Israel Law Rev., Supra.
7/ Ibidem.
8/ Barz et al v. The Water Commissioner (1965) 19 (3) Piskei Din 519.

(b) Issuance of Water Use Permits, Authorizations and Concessions

Production and supply licences are issued by the Water Commissioner; these are to indicate the quantity of water which the holder is permitted to produce and/or supply per hour, per day, per season or for any other period as well as any other particulars as may be prescribed by regulation. 1/

Except as otherwise provided by regulation, the Water Commissioner may further prescribe any condition which he deems necessary to ensure the efficiency of the supply, storage, conveyance or distribution of water or to prevent the depletion of water resources.

V - ORDER OF PRIORITIES

(a) Between Different Uses

The various uses of water are given the following order of priority: 2/

1. domestic,
2. agricultural and
3. industrial purposes,
4. handicraft, commerce and services.

The placing of domestic uses first reflects a universal principle of water law which has always prevailed in the Middle East and which is expressed in the Talmud. The Minister of Agriculture is thus authorized to declare rationing areas where water resources are not sufficient to meet supply, consumption and quality standards. 3/ Within rationing areas, regulations issued by the Water Commissioner are to respect the same order of priorities. 4/ Outside rationing areas however, the broad authority conferred upon the Water Commissioner with respect to the issuance of licences enables him to allocate water use priorities with maximum flexibility.

The Minister of Agriculture is entitled to prescribe norms for the quantity, quality, price, conditions of supply and use of water for each particular purpose as well as to establish rules for the efficient and economic utilization of water to which water users are bound. 5/

(b) Between Different Existing Rights

Where a person has been producing or supplying water on the day on which the Water Law became effective, or within one year prior to such a day, the Water Commissioner was required to grant him a production licence for the quantity of water previously produced or supplied by him and for the same consumers. 6/

VI - LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic Uses

Pursuant to a regulation issued by the Minister of Agriculture in 1964, household equipment or appliances using water may not be installed unless approved by the Water Commissioner upon consultation with the Committee for Domestic, Commercial and Public Service Supply and with a consultative Committee of the Ministries of Health and Interior. 7/

1/ 1959 Water Law, Sec. 24.
2/ Ibidem, Sec. 6.
3/ Ibidem, Sec. 16.
4/ Kovetz Hatakanot, No. 2347, p. 883.
5/ 1959 Water Law, Sec. 21.
6/ Ibidem, Sec. 26.
7/ Kovetz Hatakanot, No. 1563, p. 1032.

(b) Municipal Uses

Water allocation for local authorities is comprised of two elements: 1) a quota for municipal consumption, including the use of water for domestic purposes, municipal property, parks, public and private services, workshops and factories (excluding factories with a quota exceeding 5000 cubic meters annually); and 2) a quota for industrial plants using more than 5000 cubic meters annually and for agricultural purposes within the boundaries of a local authority.

Municipal consumption is determined on the basis of 80 cubic meters per person residing within the municipality as of the first of April of a given year. The assumption was that an allotment of 80 cubic meters would meet the needs of municipal consumption. In recent years, however, per capita consumption has exceeded this allotment and the Water Commissioner is currently seeking to rectify the situation. 1/

In addition, special provisions regulate the use and storage of water in swimming pools, except for pools using sea or salt water or where the pool is also used as a storage pond or water regulator for other purposes. 2/ Similarly, special norms have been established for the quantity of water permitted for the irrigation of public parks, gardens, trees and other vegetation. 3/

(c) Agricultural Uses

The regulation pertaining to rationing areas issued in 1969 by the Water Commissioner provides that the quota for agricultural uses excluding planned settlements is determined on the basis of maximum consumption levels and of special circumstances as determined by Regulation. 4/

The same Regulation establishes agricultural regions in various parts of the country and specifies the water quality and quantity for each crop dunam. 5/ Individual quotas are determined by multiplying the standard norm by the respective crop area factor.

(d) Fishing

The use of water for fish breeding in specified regions is governed by a regulation issued in 1961. 6/ In addition, fish dealers are required to install measuring devices to regulate the quantity of water used subject to a maximum of 1000 cubic meters annually. The Water Commissioner may, however, authorize exceptions. 7/

(e) Hydropower

The Electric Concession Ordinance, issued during the Mandatory period, granted an exclusive 70 year concession to the Palestine Electric Corporation - now the Israel Electric Corporation - for hydropower generation. The concession provides, inter alia, that the Corporation may exploit the waters of the Jordan River, its springs and the waters of the Yarmuk for the production of electricity. Authority was equally given to use the waters of the Kinneret. The concession requires the Corporation to compensate the water requirements of a consumer or landowner where hydropower development has caused a reduction or interruption of the water supply. 8/

1/ Kovetz Hatakanot, N° 2347, p.883
2/ Ibidem, N° 1070, p. 300.
3/ Ibidem, N° 1054, p. 7.
4/ Ibidem, No. 2347, p. 883
5/ One dunam = 1000 square meters.
6/ Kovetz Hatakanot, N° 1098, p. 890, amended, N° 1272, p. 1388.
7/ Ibidem, N° 1079, p. 60; N° 1928, p. 2802.
8/ Drayton, Laws of Palestine, Chap. 52, N° 9/27.

The concession covers also the Tel-Aviv-Yaffo area and the use of the Yarkon on condition the Corporation refrains from polluting the water resource. The Electric Corporation has however not exercised its rights.

(f) Industry and Mining

The determination of water use quotas for industrial plants requiring more than 5000 cubic meters of water annually is based on norms corresponding to the nature of the product and to the number of units produced. A regulation, issued in 1965, lists such norms for each industrial product. Individual quotas are obtained by multiplying the standard norms by the units produced, as specified in the licence granted to the plant. 1/

A directive, issued in 1961, relates to plants with a permitted consumption exceeding 5000 cubic meters annually but which, complying with water conservation measures established by the Water Commissioner, have reduced their quota below 5000 cubic meters. A separate quota thus was set for these factories and specified in the corresponding water production licence with, as a measure to encourage water conservation, a reduction in standard water rates.

Upon request of a local authority, the Water Commissioner may include an industrial water quota as part of the allocation for a municipality, provided he is satisfied that proper means to effectively supervise the water consumption and conservation at the plant are available in addition to relevant legal or administrative provisions. In such a case, he may increase the industrial water use quota alloted to the municipality if production has increased or if, to fulfill water conservation requirements, the plant needs additional water. Such an increase of industrial water use quotas may however be nullified subsequently.

With regard to mining, ownership rights in the waters of a river, stream, lake, reservoir or channel adjacent to the concession area are expressly precluded. 2/ The holder of a right to search for oil or minerals benefits however from a right to use surface water, and underground water in specified circumstances, provided he does not adversely infringe upon the authorized water use of third parties. 3/

Unless provided otherwise, the holder of a petroleum right is entitled to drill and search for water in the concession area and to use the water discovered by him in the course of drilling or other operations, or any other water located therein, to the extent required for his operations and provided he does not thereby harm the rights of any other licensed water user. 4/ To this effect, a petroleum right holder may require the Minister of Commerce and Industry to supply the quantity of water reasonably required for his operations at the prevailing rate, provided he assumes the cost involved. 5/ In implementing the relevant provisions of the Petroleum Law, the Minister obtains the required water supply by applying to the Water Commissioner. 6/

(g) Transportation

The Port Authorities Law extensively regulates shipping and activities in ports. In addition to the Mediterranean ports of Haifa, Acko, Tel-Aviv, Jaffo and Ashkalon, and of Eilat on the Gulf of Aqaba, the provisions thereof apply as well to Lake Tiberias on the Kinneret. The Minister of Transportation has issued the 1971 Port Regulations which govern related activities 7/ and a Ports Authority has been established by statute. 8/

1/ Kovetz Hatakanot, No. 2347, p. 883.
2/ The Mining Ordinance, Sec. 75.
3/ Ibidem, Sec. 76.
4/ 1952 Petroleum Law, Sec. 45(a).
5/ Ibidem, Sec. 45(b).
6/ 1959 Water Law, Sec. 152.
7/ Kovetz Hatakanot, No. 2650, p. 306.
8/ Sefer Hachukkim, No. 344, p. 145.

(h) Medical and Thermal Uses

So far no special legislation nor regulation has been enacted in this respect; however, legislation pertaining to use of mineral baths near the Dead Sea and in Lake Tiberias is currently being drafted.

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood, over flow and embankment protection, soil erosion and drainage control

Legislation regarding flood control, over flow and embankment protection, soil erosion and drainage control is embodied in the 1957 Drainage and Flood Control Law. A permit from the Water Commissioner is required for the modification of the water flow in any stream or canal, drainage installation or pipe, 1/ for the construction of structures or installations in or over any stream or canal, including the prohibited area thereof, for cultivating or taking herds or animals therein. 2/ Where prohibited areas along streams, canals and waterworks have not been determined, the Minister of Agriculture is entitled to do so in accordance with existing legal provisions. 3/ Where structures or installations have been erected, trees or crops planted within a probibited area, water diverted or the flow modified in contravention to existing legal provisions, the Water Commissioner is entitled to order the restoration of the former conditions if he deems it necessary to obviate a danger of soil erosion, flooding, inmundation or damage to public health or agriculture. 4/ If the order is not complied with, the Commissioner may implement it in place and at the cost of the defaulter.

The Minister of Agriculture is entitled to declare drainage districts following consultation with the Drainage Board, 5/ to establish, drainage authorities and assign to them an area comprising whole or part of a drainage district, or several drainage districts. Drainage authorities are authorized to maintain and develop drainage projects 6/ and, subject to the requirements of an established procedure, to submit proposals of drainage schemes to the Minister of Agriculture for approval. 7/

In order to take emergency measures to avert an immediate danger, to prevent flooding or soil erosion, or to repair damage caused by floods or soil erosion, the Minister of Agriculture is authorized to declare, by order, an area affected by floods to be a protected area and to prohibit therein the pasture or passage of animals, the cultivation of land or any work thereon, including the destroying, cutting, burning or removal of any vegetation. 8/ He may also direct the Water Commissioner to carry out, either by himself or through his agent, any such work or act as in his opinion is urgently required to repair or prevent damage caused by flooding provided no land or right in land is expropriated and no permanent structure or installation erected. 9/

(b) Sewerage

Local authorities are authorized to install sewer systems within their areas and the Minister of Interior is empowered to demand that such sewer systems be installed. Local authorities are required to maintain sewer systems in proper conditions to the satisfaction of the health authority. The installation, filling or demolition of a sewer system must be carried out in such a manner as not to cause a public nuisance. 10/

1/ 1957 Drainage and Flood Control Law, Sec. 4.
2/ Ibidem, Sec. 5.
3/ Ibidem, Sec. 6.
4/ Ibidem, Sec. 7.
5/ Ibidem, Sec. 10.
6/ Ibidem, Sec. 11.
7/ Ibidem, Sec. 12.
8/ Ibidem, Sec. 17 to 35.
9/ Ibidem, Sec. 53.
10/ 1962 Local Authorities (Sewerage) Law, Sec. 2.

Schemes for the installation of a sewer purification system require the approval of the District Building and Town Planning Commission and of the Minister of Health or his appointed representative. 1/ The approval of the Minister of Agriculture is required for the installation of sewerage treatment plants. 2/

In order to ensure the proper discharge of waste water from any property, to protect sewer systems, to ensure the proper functioning thereof, or to prevent or remove a sanitary nuisance therefrom, the chairman of a local council may demand that landowners provide for sewerage disposal. 3/ In the case of non-compliance, the Chairman of the Council may undertake the necessary works in place and at the cost of the defaulter. Correspondingly, anyone owning, controlling or occupying land is prohibited and punishable by fine, from discharging solid or liquid waste therefrom into a sewer system in a manner likely to obstruct or damage the sewer system or the proper flow thereof; 4/ neither may rain water be discharged into a sewer system without the prior authorization of the Chairman of the Local Council. 5/

Sewerage control, overflow and embankment protection are also regulated by the Streams and Springs Authorities Law, which was enacted in 1965 to fill an apparent gap in both the Drainage and Flood Control Law and The Local Authorities (Sewerage) Law. The Ministers of Interior and of Agriculture are empowered thereby, upon consultation with the local authorities concerned, to establish an authority for any particular stream or part thereof, for a spring or for any other water resource, and to define its area or, within the meaning of the Drainage Law, to assign to a drainage authority, all or part of the functions of such a stream authority. The functions thereof include stream flow regulation; draining the area; fixing stream alignment or transferring water from the stream or from a water resource to another bed; abating nuisances connected with pollution or stream flow modification; landscape and natural amenities preservation on the embankments; and water allocation and use regulation. This law has however not been implemented.

(c) Siltation and Salinization

No special legislation has been enacted in this field but effective authority for government action and programs currently in progress derive from the existing legislation. The Drainage and Land Conservation Department of the Ministry of Agriculture has undertaken soil conservation operations which include siltation and salinization control. Legislation is however being drafted for the coordination of drainage and soil conservation measures.

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

The Water Law provides for rights to remain valid as long as the exercise thereof does not lead to the salinization or depletion of the water resource. 6/ Concurrently, water users are required to deal efficiently and sparingly with the water coming under their control to keep installations in working conditions so as to prevent water waste and pollution, and to prevent the retention, depletion and pollution of the water resources. 7/ The Water Commissioner is empowered to order defaulters to rectify the wrong and, in cases of non-compliance, to take whatever measure he deems necessary and, pending such a rectification, to order the discontinuance or restriction of the production, supply or consumption of water as circumstances may require. 8/ He may further take steps to prevent serious imminent damage to a water resource at the cost

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1/ 1962 Local Authorities (Sewerage) Law, Sec. 10.
2/ Ibidem, Sec. 11.
3/ Ibidem, Sec. 13.
4/ Ibidem.
5/ Ibidem, Sec. 40.
6/ Ibidem, Sec. 5.
7/ Ibidem, Sec. 9.
8/ Ibidem, Sec. 11.

of whoever failed to comply with a corresponding order. 1/

Where a water resource is becoming depleted so that the yield thereof is not sufficient to maintain the supply of the ordinary quantity of water regularly produced therefrom, the Water Commissioner is entitled, with the approval of the Minister of Agriculture, to order water users to restrict production from that source, to regulate production, or to adopt other emergency measures as he may deem fit in the circumstances of the case in order to ensure the best possible supply of water. 2/

The Minister of Agriculture may further declare rationing areas in accordance with an established procedure if water resources in a particular area are not sufficient to satisfy the existing water consumption and may regulate the supply and consumption within that area. 3/ To this end, the Water Commissioner is empowered to open, close, or regulate the flow of water in any water conduit, to operate or close wells and water installations, and to direct that a given consumer shall not receive water from the source he was accustomed to receive it, but from another, provided the quality of that water is adequate for the purpose for which it is intended. 4/

In addition, a regulation was recently adopted to encourage orchard and plantation owners to conserve water. 5/ Accordingly, a water user having taken steps for the efficient use of water and who has conserved a significant quantity thereof will nevertheless be entitled to his alloted quota. He may use the conserved amount to irrigate additional crops and, if desired, may transfer the corresponding water allotment to another area in which the Water Commissioner will grant him preference over other requests for water use. A water user wishing to undertake a water conservation program and to benefit therefrom is however required to present a project request to the Water Commissioner for approval. This regulation does not apply within rationing areas.

Following the regulation of the Lake Tiberias water level, the Water Commissioner has been authorized to determine by order from time to time permissible water levels in accordance with seasonal or other requirements. Activities likely to vary the permitted level are forbidden, unless duly authorized by order of the Water Commissioner. 6/

Finally, legislation designed to facilitate both water conservation and the setting of water rates requires that water be allocated by means of a separate metered supply to each consumer, though the Minister of Agriculture may issue exemptions or provide for a joint metered supply to a number of consumers. He may further order any consumer controlling a water resource from which he takes water for his own use, or any water supplier, to meter such water either wholly or for each particular purpose; the order may also be general or cover particular individual water users or types of uses. 7/

(b) Health Preservation

A recent amendment to the National Health Ordinance provides the Minister of Health with broad authority to regulate the sanitary aspects of water. 8/ Where Health Authority directives are likely to infringe upon the authority of, or the directives issued by the Water Commissioner under the Water Law, these are to be issued by the Water Commissioner upon request of the Health authority; and if such directives are not complied with, the Water Commissioner or his duly appointed representative have implementation power. Where immediate action must be undertaken to avert serious damage, the Health Authority may however act and inform the

1/ 1962 Local Authorities (Sewerage) Law, Sec. 12.
2/ Ibidem, Sec. 19.
3/ Ibidem, Sec. 36 to 44.
4/ Ibidem, Sec. 19.
5/ Kovetz Hatakanot N° 2785 p. 386.
6/ Ibidem, N° 2144 p. 335.
7/ 1955 Water Measurement Law.
8/ Amendment N° 4, 1970 Sefer Hachukkim, N° 596, p. 202.

Water Commissioner later. In cases where the Health Authority prohibits the use of a certain body of water for drinking purposes, the Water Commissioner may direct that such water be used for another purpose and the necessary drinking water be supplied from another source. Drinking water regulations formulated by a panel of experts and based on World Health Organization recommendations, have been issued. 1/

The Ordinance provides that, in the case of cholera, plague or typhus outbreaks, the Minister of Health or the Health Ministry Doctor may close, fumigate or reconstruct a water facility, or purify or provide for the protection of the same. 2/ Regulations issued in 1941 provide accordingly for measures to be undertaken to prevent malaria; these regulate at the same time the digging and maintenance of wells, cisterns, reservoirs and canals. 3/

As to the new cemetery sites, these are to be approved by the Minister of Health who is authorized to deny approval if the undertaking is likely to cause the pollution of a river, well or other water supply source. Cemetery grounds are furthermore required to be drained. 4/ In addition, any pool, gutter, water reservoir, sanitary facility, well, public or private water supply found in a condition or place which is harmful or dangerous to public health is declared a nuisance and the Minister of Health empowered to take the required abatment measures. 5/

(c) Pollution

Following extensive preparations, a recent amendment to the Water Law provides for the prevention and regulation of water pollution. 6/

The term "water pollution" is broadly defined as "a change in the physical, chemical, organoleptic, biological, bacteriological, radioactive or other properties of water, or a change as a result of which water is dangerous to public health or likely to harm animal or plant life or has become less suitable for the purpose for which it is used or intended to be used". A cause, or "factor of pollution", includes any industrial or agricultural undertaking, building, installation (including sewerage), machine and means of transport the establishment, operation, maintenance or use of which causes or may cause pollution. "Water" incorporates all water resources, including springs, streams, rivers, lakes and other flows or accumulations of water as well as canals or drains both opened and closed. It is thus provided that any act which directly or indirectly, immediately or later, causes or may cause water pollution is prohibited; whether the water resource was polluted before the act is furthermore immaterial. Such a prohibition covers the throwing or causing of any liquid, solid or gaseous substance to flow or to be deposited into or near a water resource; and the possessor of any installation to produce, supply, transport or store water or to recharge subsoil water resources is required to take all reasonable measures to prevent his installation or the operation thereof from causing water pollution.

To prevent pollution, the Minister of Agriculture is authorized, in consultation with the Water Board, to regulate among others: the location and establishment of specified sources of pollution (with the approval of the Economic Committee of the Knesset, or legislative assembly); the use of certain substances or methods in the production, operation and use of sources of pollution, including soil cultivation, fertilizer application and crop spraying (in consultation with the Minister of Health); the production, importation, distribution and marketing of certain substances and products (in consultation with the Minister of Commerce and Industry and upon notification of the Economic Committee of the Knesset); and the stoppage and use of means of transport on or near water resources (with the consent of the Minister of Transport).

1/ Kovetz Hatakanot, No. 3117, p. 556.
2/ National Health Ordinance, Sec. 17.
3/ Palestine Gazette, No. 1121, Supp. 2, p. 1089 (1941), as amended, Kovetz Hatakanot, No. 1073, p. 394.
4/ National Health Ordinance, Sec. 7.
5/ Ibidem, Sec. 53.
6/ 1959 Water Law (Amendment No. 5), 5732 - 1971, Sefer Hachukkim, No. 640 p. 8 (English translation available from the Office of the Water Commissioner).

In addition, the Water Commissioner is authorized to order the possessor of any source of pollution the operation or use whereof requires the disposal of sewage to submit for approval a project request detailing the mode of disposal, the composition of the sewage, and any other requested information. Sewage may not be disposed of until the scheme is approved, though the Water Commissioner may issue directions for a temporary mode of disposal pending approval thereof. Where a scheme has been approved sewage may be disposed of only in accordance with the norms established by the Water Commissioner who may cancel, modify them or add conditions thereto. In cases where a proposed sewerage scheme has not been approved, where the applicant fails to comply with, or has not carried out the required modifications nor fulfilled the attached conditions, the Water Commissioner is authorized to prepare a new scheme and to assess the cost thereof.

In granting licences under the Water Law or the Drainage and Flood Control Law, the Minister of Agriculture, or the Water Commissioner as the case may be may set forth conditions to prevent water pollution. Where pollution has been caused, the Water Commissioner is entitled to order the agent to restore the prior conditions and to prevent a recurrence thereof. If the order is not complied with within a reasonable time as prescribed, the Water Commissioner may undertake remedial measures at the costs of the defaulter.

The Water Commissioner is furthermore given emergency powers to take all measures he deems appropriate to stop or prevent water pollution or the effects thereof; to this end he may use force to the extent necessary.

The Commissioner is also empowered upon consultation with the Ministry of Health to authorize by order the discharge of sewage into a particular water resource for a definite period and in restricted circumstances. The authorization may only be for one year, though subject to extension; the Commissioner is to report on such authorizations to the Economic Committee of the Knesset.

Orders issued by the Water Commissioner may either be general or apply to a particular person, class of persons, a particular source, part or class of sources of pollution, may apply nationwide, to any part of the country or particular water resource.

The Minister of Agriculture is however empowered to regulate the quality of water for different purposes, including flood and sewage water, excluding drinking water quality, and to correspondingly authorize the production, supply or consumption of water.

Pollution has now also been incorporated as a public or private nuisance under the Civil Wrongs legislation. A public nuisance is defined as an unlawful act or omission endangering the life, safety, health, property or well-being of the public or that infringes on the public. Judicial relief thereagainst may only be obtained by injunction of the Attorney General or where financial losses have been incurred. 1/ A private nuisance is defined as arising from the act of an individual who conducts himself, manages his business enterprise or uses his land in such a manner as to infringe upon the reasonable use or enjoyment of land by third party, due consideration being given to the location and type of land use. 2/ In this case, however, financial losses must have been incurred. Accordingly, where an individual so uses his land, conducts himself or manages his business enterprise so as to pollute a water resource and thereby infringe upon the reasonable use or enjoyment of land by a third party who suffers financial losses therefrom, a private nuisance action may be introduced against him.

In addition, the pollution of a spring, a stream or of another water body constitutes a criminal offence subject to a three-year prison sentence. 3/

1/ 1968 Civil Wrongs Ordinance (New Version), Sec. 42, 43.
2/ Ibidem, Sec. 44.
3/ 1936 Criminal Law Ordinance, Sec. 198.

IX - LEGISLATION ON UNDERGROUND WATERS

(a) Exploration and exploitation licences

The drilling of a well requires a licence issued by the Water Commissioner and that the well be sunk in accordance therewith. 1/ The Commissioner enjoys a broadly specified liberty to deny a licence (a) if circumstances exist under which he may refuse to grant a production licence under the Water Law or (b) where he is of the opinion that refusal is necessary to prevent the depletion or salinization of water resources, or to safeguard a water supply for domestic purposes. In the latter case, he may alternatively specify in the licence conditions as to the diameter, depth, or equipment of the well, the quantity of water permitted to be produced, period of production or the purpose for which the water produced may be used. He may also cancel a licence or subject its validity to terms and conditions, this however not later than 60 days following the receipt of the required pumping test. An established procedure regulates the granting or denying of such licences, including the requirement of a public notice and the right to file objections. When rejecting a licence, the Commissioner must state his reasons.

Pursuant to a regulation issued by the Minister of Agriculture, a licence is required for test or experimental pumping. 2/ In undertaking drilling, the licence holder is required to account for the progress of his work and is subject to the directives of the Commissioner.

A licence is also required for the plugging of a well. The licence holder is required to notify the Commissioner accordingly 7 days before undertaking the plugging; the Commissioner may demand in writing that the plugging be undertaken in his presence. The licence holder is further required to maintain a detailed operating log on forms prepared by the Commissioner and to be presented to him in the course of the operation.

(b) Control on Depletion of Aquifers

Where he is of the opinion that it is necessary in order to prevent the depletion or salinization of a water resource or to protect a water supply for domestic purposes, the Water Commissioner is entitled to deny a drilling licence, specify conditions as to the diameter, depth or equipment of the well or the quantity of water permitted to be produced from such well or as to the period of production, or the purpose for which the water produced may be used; or cancel a licence or make its continued validity subject to conditions or additional conditions, but not later than 60 days after the receipt of a report on a test drilling.

In addition to the powers of the Water Commissioner to regulate well drilling and plugging in such a way as to prevent the depletion of aquifers, special provisions cover the recharging thereof. 3/

The planned introduction into the subsoil of water from any water resource, including flood, drainage and sewage water, and in any manner, whether by the direct recharging of wells, cisterns or borings or by causing water to percolate from the surface into the subsoil, requires a recharging licence. Such a licence may however be granted only for the following purposes:

1/ 1955 Water Drilling Control Law, Sec. 4.
2/ Kovetz Hatakanot N° 561, p. 164.
3/ 1959 Water Law, Art. 5, as amended.

1) artificial recharge in addition to natural recharge for the satisfactory production of water from a particular water resource;
2) seasonal and perennial water storage; or
3) any other purpose as determined by the Minister of Agriculture upon consultation with the Water Board and subject to the approval of the Economic Committee of the Knesset.

By regulation, the Minister of Agriculture has listed additional recharging purposes which include the mixing of underground water to improve the quality of the recharged water, the improvement of the underground water quality, the removal of water containing brine, poisonous, industrial or other wastes as determined by order of the Minister of Agriculture, the filtering of water, including flood and sewage water to permit reuse, the improvement of existing hydrological conditions in order to attain a planned regime of flow and of water levels, research and experimentation to develop recharging methods and to determine the functions of recharged underground waters. 1/

Procedures for the submission of water recharging projects to the Water Commissioner and for the obtention of recharging licences, including provision for the hearing of opposing views, are regulated by law. A regulation provides for the public notification of recharging schemes.

The Water Commissioner may not authorize water recharging for any purpose unless he is assured that the recharger has taken measures to prevent sanitary nuisances and adverse effects upon water fit for use, including drinking water. In all matters pertaining to public health and drinking water, the Commissioner is required to consult with the Minister of Health. He is furthermore entitled to discontinue recharging schemes where, as a result of periodic examinations, recharging has been found to have rendered the water unfit for its intended use or where it can reasonably be expected that the water will become so unfit. Such a decision may however be appealed to the Water Affairs Tribunal.

(c) Interference with Other Uses (Mining, Oil)

The holder of a petroleum right under the petroleum law is regarded as the holder of a drilling licence under the water drilling control law with respect to the concession area covered by the said right and for the purposes governed by the petroleum legislation. 2/ However, where a person having been granted a prospecting licence, mining right or mining lease under the mining ordinance, applies to the Water Commissioner for the purpose of prospecting, mining, handling mined minerals or for other purposes directly connected therewith, the Commissioner is required to consult the Controller of Mines before deciding upon the application. 3/

X - LEGISLATION ON CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

Provision has been made for the establishment of a national water supply system with regional networks developed as part of a scheme in accordance with specified procedures. 4/ The Minister of Agriculture has accordingly 5/ designated Mekorot, a public utility corporation owned equally by the Government, the Jewish Agency and the Histadruth (General Federation of Labour), as the National Water Authority 6/ to establish and manage the national system, to supply water therefrom, to maintain it in proper working conditions, to improve and enlarge it, and to undertake any other measure as required for the supply of water therefrom. 7/

1/ Kovetz Hatakanot No. 2212, p. 2166.
2/ 1955 Water Drilling Control Law, Sec. 13.
3/ Ibidem, Sec. 6.
4/ 1959 Water Law, Sec. 45.
5/ Ibidem, Sec. 46.
6/ Yalkut Hapirsumim (1961, 3721) 1206.
7/ 1959 Water Law, Sec. 48.

Regional water authorities have been established with similar functions; the National Water Authority (Mekorot) has been empowered by the Minister of Agriculture to undertake one regional system. 1/ The functions of Mekorot and of the regional water authorities fall under the supervision of the Minister of Agriculture and of the Water Commissioner. 2/ These provisions include as well measures for the protection of waterworks and related installations, including those formerly constructed by the Municipalities which now continue to hold responsibility for the operation and maintenance thereof.

Pursuant to a regulation, the construction of a water installation to abstract water requires a licence issued by the Water Commissioner. 3/ Such licences include technical specifications on the protection of waterworks and structures. The Water Commissioner is thus entitled to order anyone having a water installation under his control to maintain it in proper conditions and to rectify any defectiveness thereof. Where the order is not complied with, the Commissioner is authorized to effect the required rectification or to order the discontinuance, restriction of production, supply, or consumption of water pending such a rectification. He is also authorized to take immediate steps to prevent the occurence of serious damages to a water resource if such a damage cannot be prevented otherwise. 4/

In addition, the control and protection of water quality in waterworks and installations is undertaken by the Minister of Health in accordance with the health legislation, and the mining legislation prohibits minerals or petroleum exploitation, even with a permit, on land on which waterworks and structures are located, or within a 100 meters therefrom.

Finally, the destruction of a water installation constitutes a penal offence subject to a maximum of five years imprisonment in the case of the wilful destruction of or damage to a well, borehole, dam, embankment, weir, man-made pool, planted trees, bridge, reservoir or water collecting work. 5/

XI - LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

In addition to the creation of drainage districts, flood and soil erosion protected areas, sewerage control, overflow and embankment protection areas, and water shortage areas as part of the general legal provisions covering harmful effects and the control of waste and misuses of water, special provisions govern prohibited areas in relation to water and natural resources conservation.

(a) In the Case of Beneficial Uses of Water

Provision is made for the establishment of prohibited areas for the conservation of water bodies, water resources and waterworks. The Water Commissioner is empowered to declare, by order, protection strips around or on the sides of water bodies or installations, and entry to and passage through such protective strips is prohibited, except under a permit from the Commissioner and in accordance with the conditions specified therein. The width or area of such prohibited zones is established by a regulation issued by the Minister of Agriculture in consultation with the Water Board, and the Water Commissioner may not prescribe protective strips outside the scope of these rules or beyond what is necessary to achieve the purposes for which protective strips have been prescribed. 6/

1/ 1959 Water Law, Sec. 51.
2/ Ibidem, Secs. 57 to 61.
3/ Kovetz Hatakanot, N° 1812, p. 300.
4/ 1959 Water Law, Sec. 11.
5/ 1936 Criminal Code Ordinance, Sec. 326.
6/ 1959 Water Law, Sec. 15 and 14.

Water supply schemes include the designation of the strips of land on which planning and building is limited. The implementation of a supply scheme requires a permit issued by the Water Commissioner and prescribing norms for the establishment and enlargement of buildings and installations and for the establishment of plantations on either side of a water line within such distance as are prescribed in the supply scheme. A "water line" is deemed to include any pipeline, canal, or other installation for the conveyance, regulation, storage or measurement water, established or to be established in accordance with an approved supply scheme and, if the installation traverses a strip of land to be permanently acquired under the supply scheme, the whole of such a strip. 1/

Upon completion of the publication procedure for a draft scheme, the Water Commissioner is required to issue a permit for the erection or enlargement of buildings and structures and for the establishment of plantations on land to be permanently acquired under that scheme. 2/ The permit may not be refused unless the buildings, installations or plantations are likely to endanger the water line or to interfere with the use of the water thereon. 3/

(b) In the Case of Harmful Effects of Water

According to the drainage and flood control law, a permit from the Water Commissioner is required to erect a structure or establish an installation in or over any stream or canal, or the protective strips thereof, or to cultivate or take cattle and herds thereon. Where protective strips have not yet been determined, the Minister of Agriculture may make such a determination. The aggregate of the protective strips may not exceed half the width of the stream or canal as measured between the sides of the channel; where the total width is less than five meters, however, the Minister of Agriculture may extend the same up to that maximum. Anyone who, as a consequence of the determination of a protective strip, is compelled to discontinue cultivating on whole or a part thereof, may be compensated for the resulting damage to his crops.

The Water Commissioner may furthermore order the removal of structures, trees or crops which have been placed or planted within prohibited areas in contravention to the existing legislation in order to elimitate the danger of flooding, soil erosion or damage to agriculture. The Commissioner may himself implement the order if it is not complied with.

Except where provided otherwise by the Minister of Agriculture in consultation with the Minister of Interior, rainwater collecting works constructed by a municipality or a local council within its area of jurisdiction are excluded from these restrictions.

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

The above legislative provisions governing prohibited areas in connection with beneficial uses and harmful effects of water encompass as well water quality and pollution control requirements. In addition, special regulations correspondingly govern the movement, stoppage and use of means of transport on or near water resources. 4/

Similarly, the nature conservation legislation 5/ defines areas within which animals, plants, soil, caves or water of scientific or educational interest are preserved from undesireable changes in their appearance, biological composision or process of development. Nature conservation areas thus encompass the protection of springs and streams.

1/ 1959 Water Law, Sec. 62.
2/ Ibidem, Sec. 85.
3/ Ibidem, Sec. 86.
4/ Ibidem, (Amendment No. 5) 5732 - 1971
5/ 1963 National Parks and Nature Reserves Law.

The forestry legislation 1/ furthermore enables the Minister of Agriculture to issue orders for the protection of forest preserves and provides, inter alia, that no one may dig, break, or plow land nor build a dam on a river nor in any other manner stop the flow thereof except in accordance with the terms and conditions of a corresponding licence. The Minister of Agriculture is empowered to order as well the preservation of private forest lands if the deforestation thereof would deplete the water supply, adversely affect the agricultural conditions of adjacent land or endanger the steady supply of forest products to residents on adjoining land.

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

Since 1959, date of the promulgation of the Water Law, full centralization of the water resources administration has been achieved in Israel. Through the articulation of its institutions, all water resources sectors have thus been horizontally and vertically integrated.

(a) At the national level

1. The Minister of Agriculture

The Minister of Agriculture is vested with parliamentary responsibility for water affairs and with the implementation of the Water Law. To this end, he is assisted by an advisory Water Board on policy issues, by a Planning Commission and a Coordinating Committee on water resources planning, and by a Water Commission acting as its executive organ.

2. The Water Board

The public participates in water resources policy and planning through the Water Board which advises the Minister of Agriculture. 2/ The Board consists of thirty-nine members appointed for a three year term, or until another member is appointed as a replacement, with the Minister of Agriculture functioning as chairman and the Water Commissioner as vice chairman. Two thirds of its members are representatives of its members are representatives of the public with at least half of them being water users, and one third are Government representatives, including one representative of the Jewish Agency. Representatives of the public are selected by the Government from a list of names submitted by agricultural and industrial organizations, the League of Local Authorities, water companies, water cooperatives, local authorities and organizations of well owners. The Minister of Agriculture is required to convene the Board at least once every two months or at the request of one third of its members.

The Board is subdivided into committees for the study of various water resources policy aspects. Regional Committees, comprised both of Board members and of non-members, have been appointed to deal with particular areas. The Board has also appointed a committee to study the supply and use of water for agriculture and another one concerned with the supply of water for other purposes; its members may however not be members of the Board.

Although the Water Board has an advisory status, the Government generally adheres to its recommendations. The Board is to be consulted on policy questions and with respect to important water law implementation aspects.

1/ 1926 Forests Ordinance.
2/ 1959 Water Law, Sec. 125.

3. The Planning Commission

The water law has also established a Planning Commission, of not more than 11 members appointed by the Minister of Agriculture, to examine supply schemes and large scale water supply systems declared by the Minister of Agriculture or the Water Comissioner. 1/

Procedures for water resources project planning require that project plans set out the functions of the scheme, a cost estimate, the land to be permanently acquired, servitudes for the laying of pipes or for the carrying out of temporary operations, the prohibited area along the water line on which planning and building is to be restricted, and an economic feasibility study of the scheme accompanied by plans of the project area and of the supply system. 2/ Projects are submitted to the Planning Commission which may request additional surveys, excavations, borings, and other reasonable operations likely to assist in the evaluation of the scheme. If the Planning Commission endorses a project, it is published in Reshumot, the Official Gazette, and in daily newspapers. Interested parties may file objections with the Planning Commission within 60 days from the date of publication. The project is then submitted to the Minister of Agriculture who, upon consultation with the Water Board, may approve or reject it. The same procedure applies to the modification of existing schemes. Where no rights are affected, however, the Water Commissioner may dispense with the public notification requirement.

4. The Coordinating Committee

For the planning and coordination of water resources projects, the Minister of Agriculture has appointed a Coordinating Committee chaired by the Water Commissioner and staffed by the directors of the Joint Agricultural Planning Centre, the Ministry of Agriculture, Mekorot (The National Water Authority) and Tahal, an engineering consulting firm.

Provision is also made for water resources projects to be coordinated with the National Outline Scheme prepared under the supervision of the National Board and which, in accordance with the 1965 Planning and Building Law, determines 3/ the layout and allocation of ports, national water supply networks, dams and reservoirs. To this effect, the Minister of Agriculture submits water resources project plans to the District Planning Commissions for approval; their objections may however be overriden by the Government. 4/ Once approved, these water resource projects take precedence over town planning scheme. 5/

5. The Water Commission and the Water Commissioner

Central water resources administration and day to day implementation of the water legislation rest however with the Water Commission, a division of the Ministry of Agriculture, headed by the Water Commissioner.

The Water Commission consists in the Office of the Water Commissioner, which includes an Economic Bureau, a Legal Bureau, administrative and finance personnel, and in an Allocation and Licensing Department, a Department of Drainage, a Hydrological Service and a Department for the Efficient Use of Water with sections for municipal, agricultural, industrial water uses and sewerage.

The Allocation and Licensing Department maintains the national water resources inventory and is in charge of the water rights administration. To this end, it maintains records of water rights, reports on water output, supply and consumption, makes preliminary checks and undertakes regular inspections to ascertain compliance with the terms and conditions of water rights licences. The Hydrological Service

1/ 1959 Water Law, Sec. 133.
2/ Ibidem, Chapter 2, Sec. 2.
3/ Ibidem, Sec. 49.
4/ Ibidem, Sec. 68.
5/ Ibidem, Sec. 69.

collects and disseminates hydrological, hydrographical and hydrometrical data for the most efficient allocation and use of water resources and for the prevention of pollution. The Department for the Efficient Use of Water seeks to improve the methods, systems and technical means of water production, consumption and supply, and deals with water metering. The Drainage Department is concerned with the proper drainage of agricultural areas, flood control and flood water storage under the Drainage and Flood Control Law. Within the Head Office, the Economic Bureau assists the Water Commissioner and the Minister of Agriculture in establishing water charges and in resolving disputes between suppliers and consumers as to water rates and modes of payment. The Legal Bureau functions as the legal counsel to the Commissioner and other water resources agencies and authorities on relevant legislation and drafts orders, regulations and legislative proposals.

Advisory committees, consisting of Water Commission and other personnel, have been established on an ad hoc or permanent basis to advise the Water Commissioner in the exercise of his authority.

6. The National Water Authority

As set forth in the Water Law, all water resources form part of a single national system the administration whereof rests with a single body controlling its operation. Accordingly, a corporate authority has been established to function as the National Water Authority with the Minister of Agriculture, or his duly appointed representative, given the right to decide on matters relating to its management and on the conduct of its affairs. 1/ The functions of the National Water Authority include the establishment and maintenance of the National System, the supply of water therefrom, the maintenance thereof in proper conditions, the improvement and extension thereof and any other operation required for the supply of water therefrom. 2/

With Knesset approval, the Minister of Agriculture has designated Mekorot, a corporate body which had been supplying water as a public utility since 1937, as the National Water Authority. It functions both as a water authority and a water supplier. About 80 per cent of the water which is produced in Israel is supplied for agricultural, 15 per cent for domestic and 5 per cent for industrial purposes. The annual consumption of the average Israeli amounts to roughly 100 cubic meters, though a member of a large urban family may consume about 85 cubic meters. Mekorot supplies water to approximately 2000 consumer bodies of which 1500 are agricultural, 100 industrial, and 400 urban.

Although Mekorot participates as well in the planning process, this function has been assigned to another corporation, Tahal, an engineering consulting firm which, as a subsidiary corporation, is also engaged in planning projects outside the country and has become a profitable venture. A majority of the corporate shares is owned by the Government with the remainder held equally by the Jewish Agency and the Jewish National Fund.

Mekorot undertakes and operates water resources works at the national level. For water abstraction works, it is required to submit project plans to the Water Commissioner and to obtain a corresponding licence. In implementing a water supply scheme, Mekorot is authorized to take all appropriate measures in accordance with the Water Law. It may acquire project land 3/ and prevent access thereto; it may also, with the approval of the Minister of Agriculture and in accordance with the approved supply scheme, acquire the water resources intended for the scheme or require those producing water from the water resources to supply it or its consumers at reasonable conditions with whole or part of the water they produced, provided the quota a water producer or his consumers are entitled to receive under a production licence is not reduced thereby. 4/ Where a water supply scheme has been established under an approved project, Mekorot benefits from a corresponding right of access in order to ensure the efficient management of the system.

1/ 1959 Water Law, Sec. 40.
2/ Ibidem, Sec. 47.
3/ Ibidem, Sec. 79.
4/ Ibidem, Sec. 48 and 77.

7. The Board of Drainage Affairs

In addition to the agencies provided for in the Water Law, a Board of Drainage Affairs has been established in accordance with the Drainage and Flood Control Law to advise the Minister of Agriculture on drainage schemes and projects. Eight of its members are appointed to represent the Government and twelve others, eight of whom represent agricultural organizations, are appointed by the Minister of Agriculture. The Board may delegate its powers to a committee but has been required to appoint an engineering committee from among its members, together with outsiders, to examine drainage projects from an engineering point of view.

The Board of Drainage Affairs operates through a number of Drainage Authorities.

8. The Ministry of Health

The Minister of Health has overall competences in the control of water quality, especially for drinking water, and of environmental health. It establishes water quality standards and is consulted on pollution prevention and abatement measures.

9. The Ministry of Education and Culture

The Minister of Education and Culture is consulted on water resources projects affecting or likely to affect historical sites.

10. The Ministry of Religious Affairs

The Minister of Religious Affairs is consulted on water resources projects affecting holy places.

(b) At the regional level

1. Regional Water Authorities

The Minister of Agriculture is entitled to empower a corporation, a local authority or an association of towns as a regional water authority to establish and manage a regional water resources scheme, to supply water therefrom, to maintain, improve and extend the same and to undertake any other operation required for the supply of water therefrom. 1/ Local water supply projects have been constructed by such authorities or by a group thereof. Some of these projects are independent while others form part of the national water system. Mekorot has been empowered to carry out the functions of a regional water authority with respect to a particular regional system. 2/

The same legal requirements governing supply schemes apply to both Mekorot and the regional water authorities. The latter have equally been conferred power to execute and manage water supply schemes and are, likewise, subject to the supervision of the Minister of Agriculture and of the Water Commissioner while sanitary aspects, including drinking water quality, fall under the supervision of the Minister of Health. 3/

2. Drainage Authorities

Under the provisions of the Drainage and Flood Control Law, 4/ the Minister of Agriculture has been empowered to establish, in consultation with the Minister of Interior, corporate drainage authorities to control drainage within assigned districts, part of a district or within several drainage districts. About twenty-four such districts have been established.

1/ 1959 Water Law, Sec. 49 and 51.
2/ Ibidem, Sec. 51.
3/ Ibidem, Sec. 63 to 67.
4/ 1957 Drainage and Flood Control Law, Chapter 3.

Drainage authorities are established in consultation with the local authorities concerned. Their membership consists in a majority of representatives of the local authorities and in a minority, not exceeding three, of central government representatives. 1/ In consultation with the Minister of Interior, the Minister of Agriculture apportions the representation in each drainage authority either in the constitutive, or by subsequent order. The composition and mode of appointment within a drainage authority, management rules, property status and dissolution procedures are similarly established. Where a drainage district falls outside the jurisdiction of a local authority, the Minister of Agriculture appoints two representatives from among local land owners and cultivators to the authority.

Drainage schemes or modifications thereto are planned by the drainage authorities. Upon completion of the public notification procedure to which these are subject, project proposals and plans are submitted, together with dissenting opinions, to the Minister of Agriculture for approval in consultation with the Water Board. 2/ In carrying out drainage schemes, drainage authorities are as well competent for the prevention of private nuisances. 3/

In addition, regional sewerage projects involving several municipalities and local authorities have been undertaken; a noteworthy illustration thereof is Gush Dan area comprising Tel Aviv and surrounding communities wherein a sewage disposal and treatment plant has been undertaken.

(c) At the local level

Local authorities are empowered to regulate water distribution and consumption within their respective jurisdictions. In most towns, the municipality or local authority owns waterworks and distribution systems while, in some instances, distribution systems are fed with water purchased from supply companies. In a few cases involving small communities, water supply has remained under private control. The tendency is however, by special legislation, to transfer such services to local or regional authorities.

Almost all local authorities and municipalities regulate water pricing, metering, waste prevention and distribution system maintenance by means of by-laws enacted by the local or municipal councils and approved by the Minister of Interior. By-laws are to conform with the provisions of the Water Law and the implementation thereof is supervised by the Minister of Agriculture.

Local authorities produce and supply water under a production licence.

(d) At the users' level

Unlike in other countries, water users' associations as such do not maintain and operate water structures. Agricultural and manufacturing associations comprise however units concerned with water use and which are represented on the Water Board.

In addition, the Water Law entitles the Minister of Agriculture to establish, by order, representations of consumers before regional water authorities. 4/ The composition of such representations would consist of the representatives of local authorities, other than those which have been empowered as water authorities, of water supply corporations receiving water from a water authority and of agricultural and industrial organizations. The Minister of Agriculture could add thereto a representative of consumers whose water utilization, in his opinion, is not represented by the other representatives. 5/ These provisions have however not yet been implemented. The issuance of orders establishing consumer representations is nevertheless currently under consideration.

1/ 1959 Water Law, Sec. 11.
2/ Ibidem, Sec. 19.
3/ Ibidem, Sec. 12.
4/ Ibidem, Sec. 134.
5/ Ibidem, Sec. 136 to 137.

In the meantime, a regulation issued in 1966 governs the allocation of quotas to special groups of consumers or users of water for agricultural purposes designated as "planned settlements". Their water quota is determined globally with consumption computed according to the number of entrepreneurial units within each settlement and on the basis of the projected stage of optimal development. In practice, however, settlements receive only part of their allotment in relation to their respective stages of development. Consumption per entrepreneurial unit is determined according to the type of the enterprise in the region, its major activity and on the assumption that a family could support itself by operating the enterprise. Yearly allotments are based as well on the quota of the preceeding year. With the approval of the Minister of Agriculture, the Water Commissioner may however reduce or increase yearly allotments but, should a settlement not make full use of its quota in a given year, it is not precluded from receiving its entire water allocation in the following year.

XIII. SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

The Jewish Agency

In addition to Mekorot and Tahal, the Jewish Agency - a non-governmental body representing the World Zionist Organization in Israel - is undertaking water supply projects in connection with the establishment of new settlements. In this field, the Agency operates in accordance with the provisions of the Water Law.

XIV. LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES

(a) Government Financial Participation

Government loans and grants are extended for the construction of water resources projects. Since Mekorot is a government agency, it utilizes government funds in its undertakings.

Government financial participation is also undertaken through the Adjustment Fund, a corporation managed by the Water Commissioner. 1/ The purpose of the Fund is to equalize water charges in the different parts of the country. In regions where water costs are low, producers and suppliers are assessed a special charge to be paid into the fund while, in regions with high water costs, the Fund subsidizes producers and suppliers so as to reduce the water rates consumers would be required to pay. The Government furthermore finances deficits incurred by the Fund.

In consultation with the Water Board and upon approval of the Finance Committee of the Knesset, the Minister of Agriculture designates areas and types of water supply systems in which suppliers and producers are to pay an adjustment charge into the Fund; such a charge is computed on the basis of water production units and varies according to purposes of water use, production conditions, water requirements by commodity, geographical and topographical conditions and to the price of water the consumer has to pay. 2/ Suppliers, producers and consumers required to pay this adjustment charge are given an opportunity to present their views prior to the approval thereof. 3/

In accordance with a regulation, 4/ the Board of the Adjustment Fund consists of representatives of the Ministries of Finance, Agriculture and Interior respectively, and of six representatives of suppliers and consumers chosen from among the members of the Water Board. This regulation establishes as well procedures for water suppliers to be either exempted from the payment of the adjustment charge or to be subsidized.

1/ 1959 Water Law, Secs. 11 to 124G
2/ Ibidem, Sec. 118(a)
3/ Kovets Hatakanot No. 1232, p.480
4/ Ibidem, No. 1739, p. 144

(b) Reimbursement Policies

Regulations set forth the manner of computation of subsidies under the Adjustment Fund. Water suppliers are subsidized for the lower rate charged and computed in accordance with what the Water Commissioner regards as the most efficient means to supply water. In turn, consumers may be entitled to a subsidy for the water supplied taking into account the difference between the price actually paid and the maximum rates established for agricultural, domestic, industrial or commercial uses. 1/

(c) Water Rates and Charges

Although the Minister of Agriculture is entitled to set water tariffs in accordance with established procedures, 2/ he has not exercised this prerogative though the possibility is currently under study.

In practice, the fixing of water rates is subject to negotiations between the supplier and the consumer and, should a disagreement arise, either party may apply to the Water Commissioner to resolve the matter. 3/ Each party is then required to defend his arguments before the Commissioner whose decision may be appealed to the Tribunal of Water Affairs.

The calculation of the amount of water supplied for purposes of imposing charges is facilitated by the requirement of the Water Measurement Law that water supplied to consumers be metered. Water suppliers are then required, upon request, to provide the Water Commissioner with data on the water supplied and as to the manner of calculation. 4/

The Minister of Agriculture may, in consultation with the Water Board, prescribe rules for the computation of water charges on the basis of actual water production and supply costs. On his side, the Water Commissioner indirectly participates in the establishment of water rates by setting the level of Adjustment Fund grants and subsidies. In 1962, the Water Commissioner used the Fund to establish a policy eliminating the then prevailing variable rates charged to different consumers within the same region by fixing, as unit accounts, three separate rates only for the supply by Mekorot of water for industrial, agricultural, domestic, and municipal uses.

In 1961, the Water Commissioner had, by regulation, established principles for the setting of water rates which covered the cost of water production and of supply to consumers, but which did not include distribution costs. Local authorities are treated as consumers, and the application of such principles is merely optional. These principles contained directives as to the manner of data computation and organization, as well as to the setting of standards, norms and limits for types of expenses. With the implementation of the Adjustment Fund, additional limitations were placed on recipients of grants and subsidies. As such principles no longer met the needs of consumers, the Commissioner was required with greater frequency to exercise his discretion rather than to apply the established norms. The major shortcoming of the principles lay in the freezing of normative appraisals pertaining to operational expenses and to the value of properties which resulted in low investment returns. Accordingly, two parallel systems for increased water use accounting prevailed; one covering the "real" increase in line with what actually prevails in the economy and the other restricted to the "recognised" increase based on official concepts and limits.

In accordance with the recommendations of a committee appointed by the Water Commissioner, a policy was instituted which provides for water output to be based on real economic costs; for new principles embodying reasonable standards applying to water suppliers to be published and for water rate computations to be related to actual increases

1/ Kovetz Hatakanot, No. 2432, p 1974, as amended by Kovetz Hatakanot No. 2607, p.2208; Kovetz Hatakanot No. 2607-2432, p. 1930.
2/ 1959 Water Law, Secs. 109-115
3/ 1955 Water Measurement Law, Sec.8
4/ 1959 Water Law, Sec. 110

in the cost of living. The system was to be updated within five years and Principles were established for water rate computations in different sectors of the economy. In 1973, new regulations have been issued fixing water rates for the various categories of consumers. 1/

(d) Other Related Problems

The right to use water from a recharged source is subject to a rate determined, in practice, by agreement between the recharger and the supplier or producer; in the absence of agreement, the Water Commissioner sets the rate unless there is an appeal to the Tribunal of Water Affairs. Before the level of the water rate is determined, whether by agreement, a tariff or by decision of the Water Commissioner, suppliers and consumers concerned are given the opportunity to express their views. 2/

In addition, the Minister of Agriculture has established by regulation the methods of Water recharging project costing 3/ and of purified sewage water use rate computation. 4/ A problem has been to keep rates for purified sewage water used in industry or agriculture competitive with those levied on natural water since consumers will not be inclined to purchase purified water if a regular water supply can be obtained at the same, or at a lower rate.

XV. IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

(a) Juridical Protection of Existing Water Rights

The Water Law provides for the existing custom of occasionally taking limited quantities of water, in a receptacle, for drinking, animal watering or for the operation of vehicles to be protected as long as private property is not trespassed upon. 5/ Holders of water rights acquired prior to the promulgation of the Water Law were however subjected to a procedure of confirmation of right for the then existing amount and destination of use. According to this procedure, water users were entitled to request from the Planning Commission a confirmatory recommendation from the Minister of Agriculture who, upon consultation with the Water Board and unless having heard the views of the interested parties, could not refuse his approval to the Water Commission from granting the corresponding licence. 6/ Where several water supply undertakings qualified for approval, these were, and are from then on, given the opportunity to combine into one undertaking, or applicants let free to agree on another arrangement.

The Water Commissioner has, however, discretionary authority in issuing water use licences but, in doing so, is required to take into consideration the hydrological situation of the region, existing water rights, the most beneficial use to which the water should be put, and the particular needs of the communities involved.

Water rights licensed in accordance with the provisions of the Water Law are protected by the requirement that the Water Commissioner maintain a Water Register in which the particulars of recognized water use rights are duly entered. 7/ The Water Register constitutes the prima facie evidence of the rights entered therein and is open to public inspection. 8/ By regulation, the Minister of Agriculture has provided that the Register contain for each right the number of the corresponding licence; the date

1/ Kovetz Hatakanot No. 2969, p. 738
2/ 1959 Water Law, Secs. 44 O to 44 Q
3/ Kovetz Hatakanot No. 2215, p. 1328
4/ Ibidem, No. 1710, p. 1191
5/ 1959 Water Law, Sec. 151
6/ Ibidem, Sec. 26 (a)
7/ Ibidem, Secs. 148(a)-149
8/ Ibidem, Sec. 149

thereof; the name of the holder; the water use conditions; the term of the licence; a description of the interested consumers; the conditions of supply thereto; and the conditions of water abstraction and supply. Conditions of supply define the form of communication between supplier and consumer, the quantity of water, the land on which the water is supplied, times and extent of supply, the water quality with respect to its intended use, and the conditions pertaining to its sale and mode of payment. Registration is made by region as determined by the Water Commissioner. The licence holder is notified of the registration and of the contents of the licence. The holder, in turn, is required to notify interested consumers. The Water Commissioner may modify the contents of the registration by notice to the licence holder upon the regular transfer of his licence, 1/ pursuant to a court judgment or to a lawful agreement to modify the particulars of a licence, or in the case where new particulars have become known subsequently to the original registration. The Register is maintained by the Water Commissioner. 2/

Although the prescription of water use norms and rules by the Minister of Agriculture is not a ground for compensation, 3/ a consumer having made an investment in a water supply system and who, as a consequence of such a norm or rule, is no longer permitted to use the quantity of water to which he was correspondingly entitled, is entitled to recover from the supplier a part of his investment in proportion to the quantity of water he is no longer permitted to use. 4/

A consumer, or a supplier, is further entitled to compensation where a well or a water installation under his control has seen its output decreased as a result of water rationing 5/ or where he has suffered a damage as a consequence of a Water Commissioner directive that he receive water from an other resource than from that which he was accustomed to receive it. 6/

Finally, where the operation of a water supply system prevents a settlement from obtaining water for drinking or for the watering of animals in places where it was accustomed to obtain it, the water authority is required to arrange for the inhabitants concerned to obtain water for such purposes on such conditions, in such places and according to such plans as the Water Commissioner may prescribe. 7/

(b) Modification or Reallocation of Water Rights

Water right licences may be transferred provided the Water Commissioner is duly notified. 8/

The Water Commissioner may suspend, modify or cancel a production licence if the holder has produced or supplied water otherwise than in accordance with the provisions of the licence, the Water Law, or regulations made thereunder and has continued to do so after the Water Commissioner warned him in writing and gave him a reasonable time to rectify his position. 9/ The defaulter may however appeal to the Tribunal for Water Affairs. The cancellation of a production licence is effective for two years from the date of the corresponding judicial decision; the licence is automatically renewable upon the expiration

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1/ 1959 Water Law, Sec. 28
2/ Kovetz Hatakanot No. 1310, p. 1896, as amended by Kovetz Hatakanot No. 1435, p. 1307
3/ 1959 Water Law, Sec. 21
4/ Ibidem, Sec. 22
5/ Ibidem, Sec. 44 (a0)
6/ Ibidem, Sec. 42(2)
7/ Ibidem, Sec. 82
8/ Ibidem, Sec. 28
9/ Ibidem, Sec. 30

of that period unless the Tribunal, upon request of the Commissioner, extends the validity of the cancellation for an additional year. The renewal of such a licence may, however, be subject to a directive of the Minister of Agriculture that the Water Commission manage the undertaking until the owner thereof is granted a new licence, until the licence has been transferred to a new holder who undertakes to ensure to consumers an adequate water supply, or until such a supply is ensured otherwise at reasonable conditions. 1/

The Water Commissioner may furthermore order the holder of a production licence to supply water to a particular beneficiary in so far as such an obligation does not substantially interfere with the requirements of the licence holder or of his consumers; in this case however, related investment costs are not to be borne by the licence holder.

Within rationing areas, finally, the Water Commissioner may direct that a particular consumer shall not receive water from the water resource he was accustomed to receive it, but from another, provided the water quality is adequate for the intended purpose. 2/

(c) Water Tribunal, Courts or Other Judiciary Water Authorities

The Minister of Justice is empowered to establish water jurisdictions and to prescribe corresponding places of sitting and areas of jurisdiction. A Tribunal for Water Affairs was established accordingly by order in 1959; it sits at the District Court of Haifa and has countrywide jurisdiction. 3/ This tribunal consists of three members: a legally trained and professionally competent judge appointed by the Minister of Justice and two representatives of the public who are laymen selected from a panel established by the Minister of Agriculture upon consultation with the Water Board and with organizations of local authorities. The President of the Haifa District Court designates the public representatives to hear each case. The judge presides. With the consent of the parties, he may hear the matter alone and reach a compromise agreement instead of pronouncing a judgment. 4/

Although the Tribunal holds the powers of a District Court in civil matters, it may, for reasons set forth in its decisions, admit evidence otherwise inadmissible in a regular court. The Tribunal may also hear matters pertaining to the Drainage and Flood Control Law and to the Water Drilling Law. Its decisions may be appealed to the Supreme Court. The rules of procedure of the Tribunal for Water Affairs have been issued by regulations of the Minister of Justice. 5/

(d) Penalties

Maximum penalties for offences in water matters are set forth in the Water Law; the Tribunal for Water Affairs enjoys full flexibility in the application thereof.

A general penalty consists in a fine of 3000 Israeli Pounds 6/ for each violation assorted with an additional fine of 100 Israeli Pounds a day in the case of continuing offences. A second violation is fined 6000 Israeli Pounds with an additional penalty of 200 Israeli Pounds a day in the case of continuous offences. This penalty is applied for instance in the case of water use without a licence or of a violation to water use regulations within rationing areas.

1/ 1959 Water Law, Sec. 33
2/ Ibidem, Sec. 42
3/ Kovetz Hatakanot No. 962, p. 245
4/ 1959 Water Law, Sec. 140 to 147
5/ Kovetz Hatakanot, No. 1914, p. 2595
6/ 1 US dollar = approx. 4.2 Israeli Pound in September 1974.

A violation of the provisions of the Water Drilling Control Law and of the regulations made thereunder or of the conditions of a drilling license, or obstructing the Water Commissioner or his duly appointed representative from exercising their drilling operations control and supervision prerogatives are subject to emprisonment for six months or of a 1000 Israeli Pounds fine. Similar sanctions are provided for under the Water Measurement Law. 1/

One year emprisonment or 1000 Israeli Pounds and an additional week of emprisonment or 50 Israeli Pounds for each day of continued violation, or both, apply to offences stipulated in the Drainage and Flood Control Law. 2/

As to offences under the Pollution Amendment of the Water Law, the Water Commissioner is entitled to issue by order an injunction to discontinue or limit the production or supply of water to any consumer who, after having been duly notified, continues to cause water pollution or disregards directives as to pollution prevention measures.

In addition, the Criminal Law Ordinance provides for a maximum emprisonment term of three years in the case of water resources pollution; as to property damages in the case of waterworks and installations or of the fraudulent or malicious diversion of water from an authorized third-party, the Ordinance fixes the maximum penalty at five and three years of emprisonment respectively. 3/

As an effective alternative to criminal prosecution, the Water Commissioner is authorized, in enforcing the water legislation, to impose an administrative fine or "special payment". Such a fine may be applied in such cases as the non-observance of the conditions of a water use license or of the water regulations resulting in the production or supply of water in excess of the permitted quantity, the excessive supply of water to consumers, or the supply of water to a party not specified in the relevant license. 4/ Special payment rates are established by regulation in consultation with the Water Board and upon approval by the Finance Committee of the Knesset; they are proportional to the quantity of excess water produced or supplied over and above that authorized in the corresponding license. Special payments are collected as are regular taxes. With the approval of the Water Commissioner, the supplier may collect all or part of the special payment due by a consumer who has exceeded his water use quota. Before a special payment may be collected however, the Water Commissioner is required to afford the consumer the opportunity to file objections. The decision of the Water Commissioner is furthermore subject to review by the Tribunal for Water Affairs.

Finally, the amended National Health Ordinance provides for offences relating to the quality of drinking water to be prosecuted and sanctioned by up to six months of emprisonment or by a fine not exceeding 5000 Israeli Pounds and, in the case of a continuing offence, by an additional fine of not more than 100 Israeli Pounds a day.

(e) **Water Law implementation**

The water legislation of Israel, including the Water Law, the Drainage and Flood Control Law, the Water Drilling Law, and the Water Measurement Law, is implemented by the Minister of Agriculture and by the Water Commissioner who is appointed by the Government to manage the water affairs of the State and who is required to submit an annual report on his activities to the Water Board; 5/ the provisions of the National Health Law pertaining to environmental health and to the quality of drinking water are implemented by the Minister of Health.

1/ 1955 Water Measurement Law, Sec.12
2/ 1957 Drainage and Flood Control Law, Sec.58
3/ 1936 Criminal Law Ordinance, Sec. 198, 326 and 285
4/ 1959 Water Law, Sec. 124 A
5/ Ibidem, Sec. 120

The Minister of Agriculture and the Water Commissioner have discretionary powers to issue orders and regulations upon consultation with public representatives through the Water and Drainage Boards. The autonomy of the administration is however tempered by the provisions relating to the judicial review of the Tribunal for Water Affairs and to the procedure for appeals before the Supreme Court.

The Water Legislation provides the Water Commissioner with an assortment of tools to implement the national water resources policy and to undertake enforcement measures. He is entitled to issue production and supply licences together with legally binding terms and conditions and may revoke licences in case of non-compliance; he may order the inspection of water installations and of drainage and drilling projects; he may require reports on such undertakings as water drilling; where an individual or entity fails to undertake an activity required by law, such as for instance the preparation and presentation of a plan for sewage disposal and the implementation thereof under the Water Pollution Amendment, he may prepare and implement the plan himself. Similarly, where an order such as to remove structures from a prohibited drainage strip is not complied with, the Water Commissioner may execute the order himself. Such acts are however subject to review by the Tribunal for Water Affairs. The authority of the Water Commissioner is limited by the provisions of the law and of the corresponding regulations issued by the Minister of Agriculture. In certain instances, relief from arbitrary administrative action may also be obtained by petitioning the High Court of Justice, a panel of three justices who are members of the Supreme Court. As to the activities of Mekorot, Tahal, the regional water authorities, the drainage authorities and the other administrative agencies concerned, these are subject to inspection and auditing by the State Controller. The Ombudsman constitutes another check on arbitrary administrative action.

The implementation of the Water Law has involved a process of trial and error. For example, although the law was enacted in 1959, rationing areas were not declared until 1961 and, at first, only on an experimental basis. Water use licensing was implemented as well on a trial and error basis until the present procedures were established.

The exercise of efficient authority requires the collection and evaluation of data on water resources availability, consumption and estimated needs, national planning and coordination, and implementation directives. Licenses are issued in accordance with the plan and reflect the water needs of the year. In years of drought or of limited rainfall, water allocations will be stricter and with more reliance on the groundwater supply. The fixing of water quotas, the setting of rates, and the determination of special penalty payments, particularly in years of low rainfall, have given rise to controversies among users. The question of water allocation to agricultural users has been particularly acute. The moshavim - individual farm settlements - have contended for instance that they have been discriminated against in favor of the kibbutsim - collective settlements.

Projects are being undertaken for the treatment and reuse of sewage water such as in the Gush Dan area and in Haifa. The problem involves, however, public acceptance of the use of such water which must be supplied at a competitive price. Similarly, in efforts to conserve water the Water Commissioner has undertaken public education programmes to encourage the sparing use of water.

Related to the preservation of water supplies is the problem of abating water pollution. The prior legislation was not enforced and rivers and streams became polluted. While it is too early to assess the degree of implementation of the recently enacted Water Pollution Amendment, it has already been contended that anti-pollution measures may be more effectively undertaken by an independent ministry or authority. The implementation of anti-pollution measures has been hampered in the past by pressures of special interest groups. The interests of the Minister of Agriculture in maximizing farm production by expanding cultivated areas and by applying fertilizers and pesticides are contradictory to a policy of effective enforcement of measures to purify rivers and streams and to prevent pollution. The Minister of Agriculture has however recently formed an ecology "brain trust" to deal with problems of environmental quality headed by the Water Commissioner and

comprised of representatives of the State Lands Authority, the Agriculture Research Authority, the Joint Agriculture Planning Center and the Plant Protection Department, all units of the Ministry of Agriculture. This committee is to deal with the protection of water resources, residual effects of agricultural pesticides, and rural development and beautification. It is to survey research projects and to formulate programmes.

Drinking water quality control and municipal waste water treatment plants supervision is undertaken by the Division of Environmental Health of the Ministry of Health under the direction of the Chief Sanitary Engineer and a staff of regional engineers and inspectors. Other agencies dealing with water quality and the prevention of pollution include the Ministry of Interior and the Ministry of Commerce and Industry which deals with the disposal of industrial waste. The Ministry of Transportation is concerned with the problem to a certain extent. Recently, the Environmental Protection Service was established within the Prime Minister's Office to advise on and to coordinate environmental policies, including water quality control matters.

A particular pollution problem of national concern is the eutrophocation of the Kinneret, Israel's most important water resources from which hundreds of millions of cubic meters of water are pumped annually and fed through the National Water Carrier to the major areas of the country. The Lake is endangered by nitrate discharges from cultivated land in Hula Valley, formerly a swamp and fish ponds, as well as by the flow of sewage from adjacent communities. This situation is further aggravated by meteorological and climatological conditions in the area. Consequently, the Israel National Council of the Biosphere and the Quality of the Environment, the Ecological Committee of the Knesset and the Interministerial Committee of Director-Generals concerned with Environmental Problems - the predecessors of the Environmental Protection Service - have recommended the institution of measures to restrict farming, the use of nitrates, and other activities in the surrounding area, and administrative committees have been established to deal with these problems.

Acting under the Building and Planning Law, the Minister of Interior has assumed responsibility and, in cooperation with other agencies and with the District Building and Planning Council in the Northern region, has frozen all building and related activities along the shoreline of the Kinneret in 1971 for a two year period subject to extension. The Director General of the Ministry of Interior has formed an ad hoc interministerial steering committee to develop a master plan and has issued preliminary reports.

(f) Other Laws Incidental to Water Resources

The Land Law stipulates that land ownership extends to the whole of the land surface "subject to any law relating to water, oil, mines, quarries, and the like." 1/ The Land Law has furthermore replaced the Metraka classification of the Mejelle which declared rivers, lakes and seas to form part of the public domain, together with a general right of access, and which placed severe restrictions on any land use involving a departure from public purposes. The present law 2/ classifies as "reserved land" all public land intended for use in the public interest including, inter alia, the seashore and rivers, streams, canals and the banks thereof. Immovable property located under the territorial waters of Israel or under lake waters belong to the State and constitute public land.

1/ 1969 Land Law, Sec. 11
2/ Ibidem, Sec. 107

In addition, the Abatement of Nuisances Law 1/ provides that "No one shall cause any considerable or unreasonable smell from any source whatsoever, if the same disturbs or is likely to disturb neighbours or passers-by." This provision has been invoked in an attempt to prevent the operation of a recently constructed sewage pond and treatment plant in the Tel'Aviv surrounding area.

Finally, the labour legislation 2/ provides for the protection of workers engaged in the construction and operation of water and sewage installations and in underground water drilling.

1/ 1961 Abatement of Nuisance Law, Sec. 3 (commonly known as the Kanowitz Law).
2/ 1970 Workers' Safety Ordinance (new version).

ITALY 1/

I - INTRODUCTION

More than one third of the Italian peninsula is mountainous and more than two fifths consist of uplands thus leaving less than one quarter of the total land area to the plains. The major geological formations are the Alps and the plain of the Po River in the north, and the Appeninne chains which extend longitudinally throughout peninsular Italy. In addition to the western island of Sardinia, the Appenine folds extending beyond the southern tip of the peninsula re-emerge to form the island of Sicily.

Stretching through more than ten degrees of latitude between the Alps and Africa, with contrasts of continental mainland, peninsula and islands, mountain, hill and lowland, Italy has a great range of climate even within short distances. The Alps have abundant precipitation, especially in the east; the plain of the Po River has however generally less than 1000 mm of precipitation annually; and total precipitation diminishes southward where rainfall variability and a hot wind (scirocco) contribute to aridity.

Three major river basins of inter-regional importance, the Po, the Adige and the Tevere basins, are located respectively in northwest, northeast and central Italy. Another fifteen basins of prevalent regional importance water northeastern and central Italy. In addition, some 225 minor basins water the coastal areas, including on the two islands. 2/ The seasonal system of the rivers reflects the regional variations of climate and the permeability of the rocks in their basins. The Alpine rivers have late spring and summer maxima; those of the Appenine are highest in late autumn and spring. Unusually heavy and prolonged precipitation has repeatedly caused severe floods at these seasons, especially in the Venetian provinces and in the Arno valley between Florence and Pisa.

In the northwest, the Po basin presents abundant hydro-electric resources and extensive development of irrigation. The northeastern and central region, which covers some two fifths of the country, benefits from the waters of the Piave, Adige, Arno and Tevere basins; less hydrologically favoured though, this area has been the subject of intensive land reclamation and agrarian reform. As to the South, where the Volturno constitutes the only important river system in an area equivalent to the two fifths of the national territory, droughts alternate with seasonal rains causing the formation of torrents and severe soil erosion; there, grazing alternates with agriculture and considerable efforts have been made since 1950, with the establishemnt of the Fund for the South (Cassa per il Mezzogiorno), to consolidate agricultural production.

1/ Prepared by Dr. S. Burchi and Dr. G. Masina, Rome, Italy, August 1973.

2/ See: Pierluigi Martini, Acqua e servizi idrici in Italia, in L'Impresa pubblica, No. 2, March/April 1973.

As to the northern plain, which is richest both in surface and ground water resources, water percolating through the upper plain comes to the surface on the lower ground where it meets a zone of springs (fontanili) from which the lower plain derives much of its irrigation water. Moreover, on the lower plain, the rivers are more easily tapped by irrigation canals and it is from that area, made increasingly fertile by millenniums of human efforts, that Italy's greatest agricultural production is derived.

The juridico-political history of Italy may be schematically divided into three main periods. The first, or Roman period, extends from the origin until the VIth Century A.D. and may be said to constitute the fundamental landmark in the evolution of Italian water legislation. 1/ In the early Roman era, the use of water was basically free for all and only subject to prohibitions aiming at the prevention of harmful effects of water, the protection of river beds, banks and embankments and at the confirmation of preferential use rights in favour of riparian landowners. In particular, the actio aquae fluviae arcendae enabled upper riparians to prevent lower riparians from impeding the natural flow of water through their fields and, conversely, allowed for lower riparians to prevent the upper riparians from increasing or limiting that natural flow. Public authorities merely controlled water uses and, through the curatores aquarum, repressed water resources depletion, pollution and abuses of right, and settled water disputes. During the Empire, the distinction between large (perennial) and small streams became institutionalized. Due to increasing demands for water, large streams were considered to be common or public; all other waters were further classified as public or private depending on the legal status of the land on which these sprang, flew or gathered. The preferential right of use for riparian landowners, the absence of the compulsory servitude of access and the jurisprudential obligation to receive and preserve the natural flow of streams thus constituted the origin of the riparian rights doctrine as it later developed in England. Concurrently, the government was empowered to prohibit the use of public water and to subject the diversion thereof to the prior authorization procedure.

During the Middle Ages and until the constitution of the Kingdom of Italy in 1861, an early tendency saw the progressive transfer, following the barbaric invasions, of all water resources under the dominion and ownership of feudal lords. In 1158, however, the Diet of Roncalia had institutionalized navigability as the criterion of public waters, and affirmed the emperor's rights thereon. In the same year, Emperor Frederik I issued a Constitutio de regalibus. With the subsequent weakening of imperial power, control over public waters passed, in fact, to the free cities and feudal lords who eventually exercised both major and minor "regalia" over navigation on large streams and over water uses for mills and irrigation on smaller watercourses. In parallel with this transfer of power, the concept of public waters extended over major streams, largely irrespective of their navigability. Venice in the sixteenth, and Sardinia in the nineteenth century in particular made all waters public and required an authorization for their use. The same principle was however not followed in the other parts of Italy where, under the influence of the Napoleonic Code, the criterion of navigability was strictly maintained. Concurrently, the compulsory servitude of aqueduct, unknown in Roman Law, and the constitution of water users' associations became institutionalized.

1/ See: Guido Astuti, Acque: storia, in Enciclopedia del Diritto, Vol. I, p. 349 and ff.; Ludwik A. Teclaff, Abstraction and Use of Water: A Comparison of Legal Regimes, United Nations, Doc. ST/ECA/154, New York; Emilio Miccoli, Le acque pubbliche, Torino, 1958.

With the birth of the Kingdom of Italy, an Italian Civil Code was promulgated in 1865. As in the French Code, riparian landowners were entitled by law to use non-navigable streams for irrigation and industry provided waters so used were returned to their original course before leaving riparian land; courts were empowered to settle water disputes by balancing private interests with those of agriculture and industry. Unlike the French model, however, both navigable and non-navigable streams (fiumi e torrenti) were declared public and a controversy ensued with respect to the definition of torrents which were considered by the doctrine to include either perennial, small or all streams whether perennial or not. The earliest Italian legal provisions concerning water, which constituted an Annex to the Law of 20 March 1865 on public works, included ditches, creeks, public drains and lakes as public waters in addition to rivers and torrents. This Law was fundamental in implicitely establishing the principle that all waters fit to meet the public interest constituted public waters and that a concession was to be obtained for their use. The freedom of riparian landowners to use other waters than those enumerated in the Law of 1865 together with that of rivers and torrents in accordance with the Civil Code was thus further considerably limited. Two Royal Decrees were subsequently issued in 1884 and 1893 as special legislation governing the use of public waters which, themselves, were the subject of further definitions by Royal Decree in 1919 and 1920. Public waters were finally defined in the 1933 basic water act (Testo Unico) which, together with the new Civil Code of 1942 and special subsidiary legislation governs today water resources matters in Italy. The characteristic of the current legislation consists in the absence of the concept of private waters and its substitution with the principle that riparian landowners may use freely non-public waters flowing in natural channels provided these cannot be used for public interest purposes. As to the rights of non-riparian landowners to use these waters and in the absence of a specific provision thereon, the courts are empowered to decide equitably on a case to case basis.

II - LEGISLATION IN FORCE

There are some two hundred and fifty legal enactments which directly or indirectly govern water resources matters in Italy. The following list enumerates but the most important ones.

1. Constitution of 1947.
2. Penal Code of 1930.
3. Civil Code of 1942.
4. Navigation Code of 1942.
5. Ministerial Instructions of 20 June 1896 (local sanitary regulations).
6. R.D. 1/ No. 368 of 8 May 1904 regulating land reclamation, as amended.
7. R.D. No. 523 of 25 July 1904: T.U. 2/ on water works, as amended.

1/ R.D. = Royal Decree
2/ T.U. = Testo Unico or code; this abreviation is used throughout the text for the 1933 Water Code listed at 16 below.

8. Law No. 257 of 5 May 1907 establishing the Veneto Region and Mantua Province Water Authority, as amended.

9. R.D. No. 959 of 11 July 1913: T.U. on inland navigation, as amended.

10. R.D. No. 148 of 4 February 1915: T.U. on Municipalities and Provinces, as amended;

11. R.D. No. 1285 of 14 August 1920 regulating public water diversions and use.

12. R.D. No. 3267 of 30 December 1923 concerning forest and mountain land.

13. R.D. No. 1443 of 29 July 1927 governing the exploration and exploitation of mines, as amended.

14. R.D. No. 1604 of 8 October 1931: T.U. on fishing, as amended.

15. R.D. No. 215 of 13 February 1933 governing land reclamation, as amended.

16. R.D. No. 1775 of 11 December 1933: T.U. on water and hydro-power plants, as amended.

17. R.D. No. 1265 of 27 July 1934: T.U. on public health, as amended.

18. R.D. No. 2174 of 17 October 1934: regulations governing ground waters.

19. R.D. No. 899 of 3 May 1937: regulations governing State owned canals.

20. D.R.L. 1/ No. 455 of 15 May 1946: special statute for Sicily, as amended.

21. Constitutional law No. 3 of 26 February 1948: special statute for Sardinia.

22. Constitutional law No. 4 of 26 February 1948: special statute for Aosta Valley.

23. Constitutional law No. 5 of 26 February 1948: special statute for Trentino-Alto Adige, as amended.

24. D.P.R. 2/ No. 631 of 28 June 1949 regulating inland navigation.

25. Law No. 991 of 25 July 1952 concerning mountain lands, as amended.

26. Sardinian regional law No. 6 of 20 April 1955 concerning the protection of public waters against pollution, as amended.

1/ Royal Legislative Decree.
2/ D.P.R. = Decree of the President of the Republic.

27. Law No. 735 of 12 July 1956 establishing the Po River Authority, as amended.

28. Law No. 1643 of 6 December 1962 establishing the National Board for Electric Energy (ENEL).

29. Constitutional law No. 1 of 31 January 1963: special statute for Friuli Venezia-Giulia.

30. Law No. 129 of 4 February 1963 concerning the general master plan for water supply.

31. Law No. 963 of 14 July 1965 governing maritime fishing (including the prevention of water pollution).

32. Law No. 50 of 11 February 1971 governing recreational navigation.

33. Law No. 125 of 5 March 1971 governing the production and sale of detergents (biodegradation).

34. D.P.R. No. 2 of 14 January 1972 transferring to the Regions with ordinary status administrative functions in respect of mineral and thermal waters and of quarrying.

35. D.P.R. No. 4 of 14 January 1972 transferring to the Regions with ordinary status administrative functions in respect of public health.

36. D.P.R. No. 5 of 14 January 1972 transferring to the Regions with ordinary status administrative functions in respect of inland navigation and harbours.

37. D.P.R. No. 8 of 15 January 1972 transferring to the Regions with ordinary status administrative functions in respect of water supply and other public works of regional interest.

38. D.P.R. No. 11 of 15 January 1972 transferring to the Regions with ordinary status administrative functions in respect of agriculture and forestry, hunting and inland water fishing.

III - OWNERSHIP OF WATER

The legal regime governing the ownership status of water resources in Italy stems from the Civil Code, the Testo Unico (T.U.), or basic water act, and from the special statutes and regulations governing the decentralized and autonomous Regions and Provinces. Whereas public waters are or may be defined by law, there is no definition of private waters and hence no such concept is deemed to exist in Italian legislation; others than public waters are therefore called "non-public waters" and are subject to rights of use exclusively.

(a) Public waters

Rivers, torrents, springs, lakes as well as extracted ground water are deemed public waters whenever, in consideration of their nature in relation to the hydraulic system of which they form a part, they are or may become fit to satisfy public interest needs or requirements. 1/ The Ministry of Public Works is entrusted with public water declarations.2/ Public waters form part of the Public Domain of the State and are thus imprescriptible and inalienable. 3/

Public State Domain waters have, under certain conditions, been transferred to the Public Domain of decentralized Regions and Provinces. This is the case in particular for the Regions of Sardinia and Sicily; waters used therein for State undertakings or defense remain however within the Public Domain of the State. 4/ In the Valley of Aosta Region, water used for irrigation and domestic purposes vests in the Regional Public Domain. 5/ With the exception of large diversions for State hydroelectric production, public waters within the self-governed Provinces of Trento and Bolzano vest in the respective Provincial Public Domain. 6/

Similarly, mineral and thermal waters form part of the Public Domain. 7/ Except for the Aosta Valley Region where these waters still form part of the Public Domain of the State, 8/ dominion thereon has however been transferred to the Public Domain of the Regions and to that of the Provinces in the case of Trento and Bolzano. 9/

(b) Non-public waters

In the absence of legislative provisions governing the ownership of waters other than legal or statutory public waters, the juridical regime thereof has remained subject to doctrinal and jurisprudential controversies. Prevailing doctrine 10/ and jurisprudence 11/ support the private ownership status of non-public waters. According to some authors, however, non-public waters may only be the subject of use rights 12/; still others contend that, in accordance with the Civil Code, 13/ the ownership (nuda proprietas) of non-appropriated waters necessarily vests in the Public Domain of the State. 14/

1/ Civil Code, Art. 822 c.1; T.U. Art. 1.c.1; Jurisprudence Trib. sup. acque 8.6.1957 N° 19, Foro.It., Rep. 1957, Voce "Acque pubbliche e private" N° 25; Cass. 31.10.1955, N° 3571, Foro It., Rep. 1955, voce cit. N° 14 bis.

2/ T.U. Art. 1.c.2,3 and 103 c.2.

3/ Civil Code, Art. 822 c.1 and 823 c.1.

4/ Special Statutes of 26.2.1948, Art. 14 for Sardinia and of 15.5.1946, Art. 32 for Sicily.

5/ Special Statute of 26.2.1948, Art. 5.c.2 for the Valley of Aosta.

6/ Special Statute of 26.2.1948, Art. 58bis, as amended, for the Trentino-Alto-Adige Region.

7/ Civil Code, Art. 828 c.2.

8/ Ibidem, Art. 826 c.2; Aosta Valley Special Statute of 26.2.1948.

9/ Law N° 281 of 16.5.1970, Art. 11 c.5; Special Statutes of 31.1.1963, Art. 55, N° 2 for the Friuli-Venice Giulia, of 26.2.1948, Art. 14 c.1 for Sardinia, of 15.5.1946, Art. 32 for the Sicily Region, and of 26.2.1948, Art. 58bis for the Trento and Bolzano Provinces.

10/ Pacelli, Acque pubbliche, Padova 1934, pp.171-270; Messineo, Manuale di diritto civile e commerciale, Milano 1952, I, 416; Petrocchi, in D'Amelio, Commentario al Codice civile, libro della proprietà, tit. II, sez. IX, Delle acque, 384 and ff., Firenze 1942; Petrocchi, Acque (diritto privato), Novissimo Digesto Italiano, I, 1957, 206 and ff.; Astuti, Acque (private), Enciclopedia del Diritto, I, 390 and ff.

11/ See in particular: Trib. acque Milano, 13.3.1942, Servitù prediali, 1943, II, 50; Cass. 29.10.1958 N° 3555, Acque, benif., costruz., 1959, 126.

12/ See in particular: Rovelli, Il regime giuridico delle acque, Milano, 1947; Gilardoni, Acque pubbliche ed impianti ellectrici, I, Roma, 1935.

13/ See in particular: Rovelli, op. cit.

14/ Civil Code, Art. 812 c.1 and 827.

As an exception, however, non-extracted ground water resources are deemed, in accordance with the Civil Code, 1/ to vest in the ownership of the overlying landowner. The ownership of non-extracted ground water may therefore be acquired concurrently with that of the overlying land by inheritance, donation, prescriptive acquisition or contractual transfer.

IV - THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of acquisition

1. Public waters

The right to use public waters is regulated differently depending on the type of water, its origin, mode or destination of use. The right to divert public surface, or to extract public ground waters for domestic, irrigation, land reclamation, power generation and other purposes 2/ is recognized to:

i) Holders of a lawful title (feudal investiture, lease or purchase contract, usucapion, acquisitive prescription) acquired prior to the promulgation of the legislation in force 3/ or during 1854-1884. 4/ Such rights are, except for concessions issued in accordance with the 1865, 1884 and subsequent legislation, subject to administrative confirmation. 5/ Similarly, rights of use acquired in accordance with the provisions of the Civil Code 6/ (right to take or to divert, to drain or to use surplus water) are subject to administrative confirmation; according to jurisprudence 7/, such rights are then convalidating corresponding servitudes.

ii) Holders of administrative concessions issued in accordance with the relevant procedure 8/; and

iii) Holders of diversion permits. These permits are issued for the diversion of public water by means of approved devices and under particular conditions 9/.

Explorers of groundwater declared as public water benefit from a priority in the obtention of the corresponding concession 10/. In all cases, however, their preferential right is subject to a reserve in the amount of water required to satisfy the immediate needs of the over-lying landowner. 11/ The landowner is further entitled to extract and use freely for domestic purposes, including for gardening and animal watering, any groundwater available under his holding provided he abides to the relevant provisions of the Civil Code. 12/

1/ Civil Code, Art. 840 c.1.
2/ T.U., Art. 6. In accordance with Public Works Ministry Circular letter N° 2020 of 14.1.1967, all "other purposes" are classified as "drinking purposes".
3/ Ibidem. Art. 2 a.; R.D.L. N° 456 of 25.2.1924, Art. 7 c.1.
4/ T.U., Art. 2.b.
5/ Ibidem. Art. 3 c.1 and 2.
6/ Civil Code, Art. 1080 and ff. 1094, 1096-1098.
7/ App. Brescia of 2.8.1948, Acque, bonif. constr., 1956, 1973; App. Genova of 31.3.1960, Temi gen., 1960, 18.
8/ T.U., Art. 2 c, 7-11; R.D. N° 83 of 1.3.1896, Art. 6,7; R.D. N° 1285 of 14.8.1920, Art. 9, 10,13,14 and 16; R.D. N° 899 of 3.5.1937, Art. 8,5 A and B 1°.
9/ T.U., Art. 56; R.D. N° 1285 of 14.8.1920, Art. 43; R.D. N° 899 of 3.5.1937, Art. 7.
10/ Ibidem, Art. 103 c.2.
11/ Ibidem, Art. 103 c.4.
12/ Ibidem, Art. 93; Civil Code, Art. 911.

The right to use public water without diversion such as for fishing or floating is subject to the obtention of a permit. 1/ Exclusive fishing rights may also be recognized administratively. 2/ Navigation may however be exercised freely 3/, as is the use of public water for domestic, drinking and bathing purposes provided no diversion is required 4/.

The right to use mineral and thermal water is subject to mining concessions as concerns the exploitation thereof and of a sanitary authorization as regards mineral water bottling and marketing as well as for the exploitation of thermal establishments. 5/

2. Non-public waters

The landowner is entitled to use freely the non-public surface and ground waters occurring on or under and flowing along or across his land, provided the return flow is not diverted and no harm is caused to third parties having a right thereon. 6/ Such a right to use may also be acquired by the constitution of servitudes of diversion, drainage or of suplus water. 7/

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

The following types of administrative titles to use water are provided for in Italian legislation:

i) Authorizations for groundwater exploration within protected areas 8/; for mineral and thermal water prospection 9/ and use 10/; and for fish-breeding in rice-fields 11/;

ii) Permits for minor diversions of public surface water 12/ and from Public Domain canals 13/; for quarrying, fishing and navigation within land reclamation areas 14/; and for floating 15/;

iii) Licences for fishing in public and in non-public waters communicating with public water, including the confirmation of exclusive fishing rights in public waters 16/; and

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1/ R.D. N° 959 of 11.7.1913, Art. 64; R.D. N° 1604 of 8.10.1931, Art.22 c.3, 22 bis c.1 as amended by Law N° 433 of 20.3.1968, Art.1.
2/ R.D. N° 1604 of 8.10.1931, Art. 26; Navigation Code of 1942, Art. 1292; R.D. N° 2503 of 15.5.1884, Art. 1 and ff.
3/ R.D. N° 959 of 11.7.1913, Art. 17 c.1.
4/ See: Emilio Miccoli, Op. Cit. p. 74 and 77.
5/ R.D. N° 1924 of 28.9.1919, Art. 4; R.D. N° 1443 of 29.7.1927, Art. 14 as amended; R.D. N° 1265 of 27.7.1934, Art. 194 c.1 and 199 c.1.
6/ Civil Code, Art. 909-911.
7/ Ibidem., Art. 1080 and ff., 1094, 1096-1098.
8/ T.U., Art. 95 c.1.
9/ R.D. N° 1443 of 29.7.1927, Art. 4-13.
10/ R.D. N° 1924 of 28.9.1919 (Sanitary regulations), Art. 5, 10, 14-17, as amended.
11/ D.M. of 7.12.1957.
12/ T.U., Art. 56; R.D. N° 1285 of 14.8.1920, Art. 43.
13/ R.D. N° 899 of 3.5.1937, Art. 7.
14/ R.D. N° 368 of 8.5.1904, Art. 137
15/ R.D. N° 959 of 11.7.1913, Art. 64-77.
16/ R.D. N° 1604 of 8.10.1931, Art. 22-22ter as amended, 27; R.D. N° 2503 of 15.5.1884, Art. 1-2, 4-6, 9; R.D. N° 1486 of 22.11.1914, Art. 4.

iv) Concessions for the diversion of public water and for the confirmation of corresponding existing rights 1/; for the diversion of water from Public Domain canals and for the confirmation of corresponding existing rights 2/; for the exploitation of mineral and thermal water 3/; and for fish-breeding in public waters 4/.

Since, however, Regions with ordinary status and, more particularly, the four Regions (Friuli-Venezia Giulia, Sardinia, Sicily and Aosta Valley) and the two Provinces (Trento and Bolzano) with special status, hold legislative and administrative powers, they may regulate their administrative water rights procedure in a way different from State legislation.

In most cases though, applications for the confirmation of rights to use public water must be filed by the respective land owner or tenant within specified time-limits 5/ under pain of penalty or forteiture 6/. Accepted applications are usually published in order to protect third-party rights and the public interest 7/. The competent administrative authority decides, upon inquiry where required (diversion of, and fish-breeding in public water), whether to grant title to use or not. In the case of competitive applications, criteria established by law are applied 8/. Publication of decrees issuing water right titles is expressly provided for in some cases 9/.

In addition to terms and conditions of use established by law (such as for diversions of public water 10/ or for fish-breeding in public water 11/ for instance), the administrative authority is empowered to provide therefor on a case to case basis. Almost all administrative water right titles are temporary and vary from 70 years for concessions covering large diversions of public water for drinking, irrigation and land reclamation purposes 12/, to one year for permits covering minor diversions 13/ and fish-breeding in rice-fields 14/, and to seasonal and daily terms for permits covering diversions from Public Domain canals 15/.

1/ T.U., Art. 3-4, 7-15; R.D. N° 1285 of 14.8.1920, Art. 4-6, 9-26.
2/ R.D. N° 83 of 1.3.1896, Art. 7; R.D. N° 456 of 25.2.1924, Art. 7; R.D. N° 899 of 3.5.1937, Art. 5, 6, 8 c.1.
3/ R.D. N° 1443 of 29.7.1927, Art. 14-20; D.P.R. N° 620 of 28.6.1955, Art. 5.
4/ D.M. of 14.1.1949.
5/ R.D. N° 899 of 3.5.1937, Art. 5 c.1; T.U., Art. 3 c.1; R.D. N° 456 of 25.2.1924, Art. 7 c.2; R.D. N° 1604 of 8.10.1931, Art. 27 c.2.
6/ R.D. N° 1285 of 14.8.1920, Art. 5 c.1; T.U., Art. 7 c.3, 5; D.M. of 14.1.1949, Art. 4 c.1.
7/ T.U., Art. 7-8; R.D. N° 1285 of 14.8.1920, Art. 9-14 A,C; D.M. of 14.1.1949, Art. 5.
8/ T.U., Art. 9.
9/ R.D. N° 1285 of 14.8.1920, Art. 20 c.4; R.D. N° 959 of 11.7.1913, Art. 70; R.D. N° 1443 of 29.7.1927, Art. 18 c.4.
10/ R.D. N° 1285 of 14.8.1920, Art. 17.
11/ R.D. N° 368 of 8.5.1904, Art. 137 c.2; R.D. N° 1285 of 14.8.1920, Art. 17; D.M. of 14.1.1949, Art. 8 c.2.
12/ T.U., Art. 21 c.1.
13/ Ibidem, Art. 56 c.3; R.D. N° 899 of 3.5.1937, Art. 7 c.4.
14/ R.D. N° 1604 of 8.10.1931, Art. 15 bis.
15/ R.D. N° 83 of 1.3.1896, Art. 6a; R.D.N° 899 of 3.5.1937, Art. 6 c.1.

Most of these authorizations, permits, licences and concessions are renewable under certain conditions 1/. Authorizations (sanitary regulations) for the exploitation of thermal waters for therapeutical purposes are however permanent 2/. Concessions for the exploitation of ground water within protected areas and fishing licences contain specific provisions on suspension of rights 3/. The loss of administrative water right titles may occur by forfeiture in accordance with legally specified circumstances 4/, by cancellation 5/, transfer in accordance with the law 6/, and by renunciation 7/. Special additional causes of loss of right may be provided for within the respective administrative titles.

V - ORDER OF PRIORITIES

The legistation of Italy does not provide for a general order of priorities between different uses, areas or between concurrent or competitive rights. Navigable water courses and lakes, however, hold priority for navigational uses, 8/ and overlying landowners hold a preferential right to use public groundwaters for the satisfaction of their immediate needs 9/.

The Minister of Public Works may nevertheless reserve, upon advice of the Superior Council for Public Works, part or all of the water of lakes or watercourses for the eletrification of railways, navigation, land reclamation, irrigation, drinking water supplies, other public utilities or for the construction of water works under the Fund for the Development of the South 10/.

Water use concessions on reserved water resources may also be granted for other purposes when the Minister of Public Works, with the approval of its Superior Council, deems such uses as urgent public utilities 11/.

Water resources reservations are declared for a four-year term renewable once in normal cases and twice in the case of the State Railways or of the Fund for the Development of the South 12/.

1/ T.U. Art. 28 c.1, 30, 24 c.2, 56 c.3; R.D.N° 899 of 3.5.1937, Art. 7 c.4; D.M. of 14.1.1949, Art. 8 i; R.D.N° 368 of 8.5.1904, Art. 137 c.5; D.P.R. N° 620 of 28.6.1955, Art. 5 c.4.

2/ R.D. N° 1924 of 28.9.1919, Art. 17 c.1.

3/ T.U., Art. 105 c.2; R.D. N° 1604 of 8.10.1931, Art. 22 ter c.4 as amended by Law N° 433 of 20.3.1968, Art. 1.

4/ T.U., Art. 55 as amended by Law N° 1434 of 18.10.1942; R.D.N° 899 of 3.5.1937, Art. 15; R.D. N° 1604 of 8.10.1931, Art. 28 c.1; D.M. of 14.1.1949, Art. 11; R.D. N° 1443 of 29.7.1927, Art. 33 c.1, 40-41.

5/ T.U., Art. 56 c.3, 105 c.2; R.D. N° 899 of 3.5.1937, Art. 7 c.4, 19 c.2; R.D. N° 2503 of 15.5.1884, Art. 2 c.3; R.D. N° 1604 of 8.10.1931, Art. 11 c.2; D.M. of 14.1.1949, Art. 8 g; R.D. N° 368 of 8.5.1904, Art. 137 c.1.

6/ T.U., Art. 20; R.D. N° 899 of 3.5.1937, Art. 18; D.M. of 14.1.1949, Art. 8 e; R.D. N° 1443 of 29.7.1927, Art. 27-28.

7/ T.U., Art. 24 c.2, 11 c.3, 25 c.1, 28 c.2; R.D. N° 899 of 3.5.1937, Art. 14; D.M. of 14.1.1949, Art. 8 e; R.D. N° 1443 of 29.7.1927, Art. 33 b, 38-39.

8/ R.D. N° 959 of 11.7.1913, Art. 1.

9/ T.U., Art. 103 c.4.

10/ T.U., Art. 51 c.1; Law N° 646 of 10.8.1950; D.P.R. N° 1525 of 30.6.1967, Art. 35.

11/ T.U., Art. 51 c.4, 14 and jurisprudence of Trib. Sup. Acque 26.7.1947, Foro it. 1948,I, 424 and 30.6.1941, N° 15, Dir. beni pubblici 1941, 272.

12/ T.U., Art. 51, c.2; Law N° 646 of 10.8.1950, Art.9; D.P.R. N° 1523 of 30.6.1969, Art. 35.

In addition, the Minister of Public Works, at the State level, and Regional Authorities, within their Region, may reserve part or all of the water resources included within the general water master plan prepared by the Ministries of Public Works and of Agriculture and Forestry for domestic and municipal water supply 1/. In this case, no other rights of use may be granted on these waters unless priority uses are fully satisfied 2/.

Such declarations of reservation have a normal duration of 25 years and may be extended for a further period; reservations may, however, be integrated, amended or repealed in accordance with the general water master plan 3/. As regards non-public waters, the judiciary is entitled to establish water use priorities on a case to case basis when settling water disputes 4/.

VI - LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic Uses

The right to use public and non-public water for domestic purposes is respectively regulated by the conditions of use contained in the relevant authorization, permit or concession and by the provisions of the Civil Code regulating neighbourliness.

As far as health aspects are concerned, municipalities are required to supply wholesome and good quality drinking water 5/; provincial health officers are empowered to compel municipalities to abide by these provisions 6/. Local health regulations are to provide for water quality standards and for pollution control in accordance with the health regulations issued by the Ministry of Public Health 7/.

The Ministries of Public Health and Defense, Navy Department, are entrusted with the supply of drinking water to some minor islands 8/.

(b) Municipal uses

Municipalities are responsible for the construction, operation and maintenance of urban water supply networks and for drinking water supply 9/. Such services are undertaken through special municipal or social agencies by the Municipalities either themselves, in cooperation with the respective Provinces 10/ or by special autonomous agencies such as the Autonomous Puglia Aqueduct Board, the Sardinia Aqueduct and Sewage Board or the Sicily Aqueduct Board 11/. The Government and special development agencies participate in the financing of urban water supply networks construction and extraordinary maintenance 12/. Water so supplied may also be used for irrigation and industrial purposes provided no legal provision provides otherwise.

1/ D.P.R. N° 1090 of 11.3.1968, Art.1 c.1 and 4; Law N°. 129 of 4.2.1963, Art. 1 and ff.
2/ D.P.R. N° 1090 of 11.3.1968, Art. 6 c. 3, 10.
3/ Ibidem, Art. 3 and 5.
4/ Civil Code, Art. 912.
5/ R.D. N° 1265 of 27.7.1934, Art. 248 c.1.
6/ Ibidem., Art. 248 c.2.
7/ Ibidem., Art. 344 c.1, 218 d; the general health regulations issued by the Ministry of Interior on 26.6.1896 are still in force.
8/ Law N° 307 of 9.5.1950, Art. 1.
9/ R.D. N° 2578 of 15.10.1925, Art. 1 N° 1; R.D. N° 383 of 3.3.1934, Art. 91 C N° 14; R.D. N° 1265 of 27.7.1934, Art. 248.
10/ R.D. N° 2578 of 15.10.1925, Art. 2, 22 and 23.
11/ R.D.L. N° 2060 of 10.10.1919; Regional Law N° 18 of 20.2.1957; Law N° 24 of 19.1.1924.
12/ D.L. N° 1010 of 12.4.1948 and Law N° 589 of 3.8.1949.

The construction and maintenance of rural water supply networks is provided for either as part of land reclamation or improvement works; current legislation regulates Government financial participation in the construction of rural networks but does not provide for the operation thereof 1/. The present master plan for urban and rural municipal water supply has been established 2/ on the basis of the estimated water demand in the year 2015. Administrative authorities are entitled to declare water reservations for this purpose 3/.

(c) Agricultural uses

The right to use public water for irrigation purposes is subject to the obtention of an authorization, a permit or of a concession when such water is diverted 4/. Groundwater uses for gardening and animal watering is however free subject to the provisions of the Civil Code concerning distances of wells and quantitative limitations 5/. The right to take or divert water, the right of drainage and the right to use surplus water may also be acquired by the constitution of private servitudes 6/.

The right to use non-public waters for irrigation is free; users are however prevented from diverting these waters in their entirety or from interfering with the rights of third parties 7/.

Public water diversions for the purpose of land reclamation by means of accretion of sediments are assimilated to general diversions of public waters and are regulated accordingly. 8/

Water users' associations may be established for the most profitable use of public and non-public waters for irrigation purposes 9/. In this case, a single diversion is deemed in existence for each intake and the rights of individual co-users regulated by the provisions governing water users' associations or, in the absence thereof, by those governing community water uses 10/.

(d) Fishing

The right to use non-public water includes that of fishing therein 11/. With the exception of the Sardinia Region 12/, Italian jurisprudence 13/ further recognizes exclusive fishing rights. The use of non-public water by third parties for fishing purposes is then subject to the authorization of the holder of an exclusive fishing right 14/.

1/ R.D. N° 215 of 13 2.1933, Art. 2 d, 43 and ff.; Law N° 991 of 25.7.1952, Art. 19 c.1.
2/ D.P.R. of 3.8.1968; Law N° 129 of 4.2.1963, Art. 2 a and b.
3/ D.P.R. N° 1090 of 11.3.1968, Art. 1 c.1 and 4.
4/ T.U. Art. 2 a, b and c.
5/ T.U., Art. 93.
6/ Civil Code, Art. 1080 and ff, 1094, 1096-1098.
7/ Ibidem, Art. 909-911.
8/ T.U., Art. 6 d.
9/ Ibidem, Art. 59 and ff; Civil Code, Art. 918, 921.
10/ T.U. Art. 58.
11/ Civil Code, Art. 909.
12/ Regional Law N° 39 of 2.3.1956, Art. 1, 2 as amended.
13/ See in particular: Cass. of 15.6.1943 N° 1482, in Foro It., Mass. 1943, 365; Trib. Latina of 14.7.1955, Acque bonif. constr., 1955, 663.
14/ R.D. N° 1604 of 8.10.1931, Art. 33 c.1.

The right to fish in public waters is subject to a licence; exclusive fishing rights are either confirmed administratively or covered by a concession issued by the competent administrative authority 1/ and subject to periodic administrative review 2/. Both types of rights are liable to forfeiture or expropriation for public utility purposes 3/. Corresponding rights of way are subject to the authorisation of the riparian landowner or of the holders of exclusive fishing rights. 4/

Fish-breeding in public waters which do not contain fish resources of economic importance is the subject of an administrative concession 5/; fish-breeding in rice-fields is subject to a yearly authorization 6/.

(e) Hydropower

The diversion or the exploitation of natural public waterfalls for hydropower generation purposes is subject to an administrative concession . 7/ Recently, the production, import and export, transport, transformation, distribution and sale of electric power produced from any source have been nationalized and entrusted to an autonomous public agency, ENEL, created for this purpose. 8/ Hydro-power production concessions taken over by or subsequently granted to ENEL are permanent. 9/

With the exception of electric power import and export, related activities may also be undertaken under special ENEL concessions by the autonomous agencies established in the Regions with special Status, by the Flumendosa River Board, by special agencies established by the local administrations and by enterprises producing hydro-electric power to satisfy their own productive needs. 10/

Technical standards and regulations govern the installation of power grids, rights of way, powerplant operation, hydro-electric power import and export. 11/

(f) Industry and mining

The diversion and use of both public and non-public waters for any industrial purpose is regulated by the general provisions governing water uses. Diversions and uses of public waters for non-definite industrial purposes have however been assimilated to domestic uses and regulated accordingly. 12/ In addition, sanitary provisions govern qualtiy standards for water used in food processing in general 13/ and, in particular, in soda-water and soft drink, vegetable preserves and beer manufactures using closed containers. 14/

1/ R.D. N° 1604 of 8.10.1931, Art. 11, 22 as amended by Law N° 433 of 20.3.1968, Art. 1; R.D. N° 1486 of 22.11.1914, Art. 4 c.1; R.D. N° 2503 of 15.5.1884, Art. 1.
2/ R.D. N° 1604 of 8.10.1931, Art. 26 c.4; Law N° 260 of 16.3.1933.
3/ Ibidem, Art. 28-29.
4/ Civil Code, Art. 842; R.D. N° 1604 of 8.10.1931, Art. 33 c.1.
5/ R.D. N° 1604 of 8.10.1931, Art. 11 as amended by D.P.R. N° 987 of 10.6.1955, Art. 51; D.M. of 14.2.1956, Art. 4; D.M. of 14.1.1949;
6/ R.D. N° 1604 of 8.10.1931, Art. 15 bis; D.M. of 7.12.1957, Art. 2.
7/ T.U., Art. 2 c and 6 a.
8/ Law N° 1643 of 6.12.1962, Art. 1 c.1.
9/ Ibidem, Art. 4 N° 9.
10/ Ibidem, Art. 4 N° 5, 6 a and b.
11/ T.U. Art. 107-122, 130-137; Civil Code, Art. 1056; Law N° 127 of 26.1.1942, Art. 1 c.2 and 3; Law N° 606 of 19 7.1959; D.P.R. N° 342 of 18.3.1965, Art. 10-20; D.P.R. N° 1062 of 21.6.1968; R.D. N° 1969 of 25.11.1940.
12/ Circular of Ministry of Public Works N° 2020 of 20.1.1967, pp. 3 and 4.
13/ Law N° 283 of 30.4.1962, Art. 5 d.
14/ Law N° 1354 of 16.8.1962, Art. 8 and 14; D.P.R. N° 719 of 19.5.1958, Art. 14 and 23 c.1; R.D. N° 1927 of 14.10.1926, Art. 12 c.1.

A few legal provisions provide for the prevention of groundwater intrusion into mines and wells and of the spreading of water extracted in connection with methane and oil wells; to this effect, responsible authorities may prescribe that mining operations be undertaken with the necessary care and that appropriate works be constructed in the course of gas and oil field exploration and exploitation. 1/

Quarrying in public rivers, streams, canals and lakes is subject to a special permit. Long established public and private quarrying activities are however exempted therefrom but the competent authorities may nevertheless restrict or forbid undertakings causing harm to the water resource or to public and private interests. 2/ Quarrying in sections of public streams crossed by highways is subject to a general prohibition; the Minister of Public Works determines the relevant sections of rivers and is empowered to cancel prior existing permits which authorized quarrying therein. 3/

Within land reclamation areas, quarrying in watercourses and canals is in all cases subject to a permit. 4/

(g) Transportation

Navigation in rivers, lakes and natural channels is free. 5/ In artificial storages and canals, navigation is subject to the consent of the relevant diversion concession holder, to technical conditions stipulated by the Ministries of Public Works and of Transport, and to the surveillance of riparian municipalities. 6/ Special permits are issued for the navigational use of watercourses and canals within land reclamation areas. 7/

Navigable rivers, lakes and canals are classified into four categories 8/: the first includes those of national defense interest; the second incorporates navigation routes feeding seaports or the like and important economic inland water routes; the third includes feeders to and from important industrial and agricultural trade centres; all remaining rivers, lakes and canals fall into the fourth category. Navigation in inland waters is regulated by special provisions governing craft registration, boatmen certificates and the carriage of persons and goods by inland waterways. 9/

Inland navigation is specially protected and the competent authorities are responsible for the maintenance of navigability, for the prosecution of offenders and for the reinstatement thereof at the latters' expense. 10/ In addition, any waterwork or plantation in riverbeds, on banks or on towpaths likely to endanger or impede navigation is the subject of an absolute prohibition. 11/

A special permit is required for floating logs and rafts in rivers, streams, lakes and canals. 12/ Special regulations govern log floating and rafting on navigable lakes and watercourses. The floating of unbound logs is allowed only if the constitution of rafts or raft-

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1/ D.P.R. N° 128 of 9.4.1959, Art. 606, 616; Law N° 6 of 11.1.1957, Art. 37.
2/ R.D. N° 523 of 25.7.1904, Art. 97 m and n.
3/ Law N° 729 of 24.7.1961, Art. 12 c.1 and 2.
4/ R.D. N° 368 of 8.5.1904, Art. 134 n.
5/ R.D. N° 959 of 11.7.1913, Art. 17 c.1 and 2.
6/ Council of State, Sec. II, N° 780 of 29.10.1951, The Council of State, 1961, I, 1029.
7/ R.D. N° 368 of 8.5.1904, Art. 134 e.
8/ R.D. N° 959 of 11.7.1913, Art. 2 c. 1-5.
9/ Navigation Code of 1942, Art. 128 and ff., 136 and ff., 225 and ff.; D.P.R. N° 631 of 28.6.1949, Art. 41 and ff., 62 and ff., 99 and ff.; Law N° 50 of 11.2.1971, Art. 5, 8-9.
10/ R.D. N° 959 of 11.7.1913, Art. 49.
11/ Ibidem, Art. 50; R.D. No. 523 of 25.7.1904, Art. 96 1.
12/ Ibidem, Art. 64 c.1.

like bundles is unfeasible; riparian landowners, users of flowing water, owners of mills, locks, floating bridges or of any waterwork or structure are under the obligation to grant a right of way to floated logs and rafts and to the accompanying personnel, however against compensation. 1/

Unauthorized works and acts impeding or causing harm to permitted floating is fully prohibited. 2/

(h) Medicinal and thermal uses

The production, marketing and sale of both natural and artificial mineral water are subject to the obtention of a sanitary authorization, irrespective of their therapeutical application or use. 3/ In addition, thermal and hydrotherapeutical establishments require special authorizations for their exploitation whereas mineral, as in the former, or natural water, as in the latter, is used. 4/

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood control, overflow and embankment protection

Offices of Civil Engineering are responsible for flood control services. 5/ In the Po Basin, however, the Water Authority has overall flood control prerogatives over the main-stream and all watercourses within the drainage basin. 6/ Water resources officers and guards maintain flood forecasting and warning services; 7/ special measures may be taken in cases of overflow and breaches of embankments. 8/

Anyone requested to do so by the competent authorities is compelled to participate in flood protection works by providing all available tools, machinery and cattle; important floods must be reported on. 9/ Provision is also made for embankments to be compulsorily cut open when flood levels reach the height established locally for this purpose. 10/

A number of waterworks and acts likely to detrimentally affect the hydraulic regime of public watercourses, their beds or embankments are prohibited. Other similar waterworks and acts may however be performed if benefiting from a prior permit or concession. 11/

(b) Soil erosion

A number of legal provisions govern soil conservation works construction, operation and maintenance. Different provisions apply within land reclamation, mountain land, hydro-geologic restructuring and land improvement areas. 12/

1/ R.D. N° 959 of 11.7.1913, Art. 65-66, 73.
2/ Ibidem, Art. 50; R.D. N° 523 of 25.7.1904, Art. 96 m.
3/ R.D. N° 1924 of 28.9.1919, Art. 2-4, 34; R.D. N° 1265 of 27.7.1934, Art. 34, 199 c.1; D.M. of 20.1.1927; D.C.G. of 7.11.1939.
4/ R.D. N° 1924 of 28.9.1919, Art. 14 a N° 1 and b, 15 and ff.; R.D. N° 1265 of 27.7.1934, Art. 194 c.1; D.M. of 20.1.1927, Art. 51 and ff.
5/ R.D. N° 2669 of 9.12.1937, Art. 33 c.1.
6/ Law N° 735 of 12.7.1956 as amended by Law N° 240 of 18.3.1958, Art. 1 N° 3.
7/ R.D. N° 2669 of 9.12.1937, Art. 1 c.2, 42-46.
8/ Ibidem, Art. 47-50.
9/ Ibidem, Art. 51 c.1, 54 c.2.
10/ Ibidem, Art. 51 c.2; R.D.N° 523 of 25.7.1904, Art. 101 c.1.
11/ R.D. N° 368 of 8.5.1904, Art. 133-134; R.D. N° 523 of 25.7.1904, Art. 96-97.
12/ R.D. N° 215 of 13.2.1933, Art. 2 a, 39 N° 1, 43 c.1; Law N° 991 of 25.7.1952, Art. 19 c.1.

In some cases, the State or the Regions and the Provinces are responsible for the construction of such works. 1/ In other cases, associations of land-owners may be entrusted by the State, the Region or Province with the construction, operation and maintenance of these works; still in other cases, associations of landowners may hold direct responsibility therefor. 2/

Erosion causing soil degradation, instability or interferences with the hydraulic regime of water resources may lead to the declaration, by decree of the Chambers of Commerce, Industry, Handicrafts and Agriculture, of hydro-geologic restructuring areas or zones within which land use rights come under centralized control; 3/ such rights may then be exercised to the extent of the user and of his family's needs in accordance with prevailing social conditions. 4/

Where bare range land needs to be recuperated, the Forestry administration, the Province and Municipalities concerned may, upon authorization of the relevant Chambers of Commerce, declare all land use rights thereon suspended up to 10 years or may occupy such land in order to carry out the necessary works. In both cases, however, the original destination of such land uses may not be changed. 5/

(c) Drainage and Sewerage

In accordance with the provisions of the Civil Code, lower riparian lands are under the obligation to receive water naturally draining from upper riparian land; neither landowner may prevent or increase such drainage. 6/ In cases where natural drainage is modified by agricultural works, the landowner affected thereby has a right to adequate compensation. 7/ These provisions apply to both rural and urban land; in the latter case however, land must be open and used for agricultural purposes. 8/

This servitude of drainage may be established for the benefit of the lower riparian landholding in order to ensure for it a continuous water supply. In this case, however, the upper riparian maintains his right to use these waters fully or partially before they leave his holding. 9/ Mayors are empowered to suspend or close down works impeding the natural drainage of water and, conversely, may compel landowners to install permanent drainage works. 10/ In addition, private and corporate persons are under an obligation to facilitate the drainage of surface and waste water; Mayors may compel landowners to carry out drainage works to eliminate existing or to prevent the formation of small ponds. 11/ The drainage of rice-fields is governed by special regulations. 12/ Quarrying permits regulate related drainage conditions. 13/

1/ R.D. N° 215 of 13.2.1933, Art. 2 a, 39 N° 1, 43 c.1; Law N° 991 of 25.7.1952, Art. 19 c.1; Special Statutes of Regions and Provinces; D.P.R. N° 11 of 15.1.1972, Art. 1 h, 4 f.
2/ R.D. N° 215 of 13.2.1933, Art. 54 and ff; Law N° 991 of 25.7.1952, Art. 10-12, 16; R.D. N° 3267 of 30.12.1923, Art. 59 c.1.
3/ Civil Code, Art. 866 c.1 and 2; R.D. N° 3267 of 30.12.1923, Art. 1, 4 c.3 as amended and 7-9.
4/ R.D. N° 3267 of 30.12.1923, Art. 169; Civil Code, Art. 1021.
5/ R.D. N° 3267 of 30.12.1923, Art. 77.
6/ Civil Code, Art. 913 c.1 and 2.
7/ Ibidem, Art. 913 c.3.
8/ Trib. Naples, 26.11.1959, Foro it., Rep. 1959, Voce "Acque pubbliche e private", N° 225.
9/ Civil Code, Art. 1094 and 1096.
10/ R.D. N° 1265 of 27.7.1934, Art. 325.
11/ Ibidem, Art. 326
12/ Ibidem, Art. 204, 205 b.
13/ Ibidem, Art. 327; R.D. N° 93 of 28.1.1935, Art. 56 c. 3 and 4.

In the absence of natural drainage, lower riparians are bound to tolerate artificial drainage works being carried out on their land by upper riparians; in this case, however, upper riparians are responsible for relevant construction costs, for the protection of the land receiving the drains, for the maintenance thereof and for the payment of adequate compensation to lower riparians concerned. 1/

In addition, the drainage of water into ditches alongside roads or from roads into lower lying lands may not be impaired 2/; and quarrying undertakings likely to cause the formation of marshes are prohibited. 3/ Local sanitary regulations provide for the drainage of both surface and underground water. 4/ Works altering underground water levels or the natural drainage of surface water may be closed down if contrary to the provisions of local sanitary regulations. 5/

As regards waste water disposal and sewerage, sanitary regulations provide for the operation of cesspools and sewage networks in accordance with the relevant instructions issued by the competent authority. 6/ In particular, sewers and industrial waste water drains may discharge into lakes, watercourses and canals used for domestic purposes only provided thorough and effective purification has previously taken place whether watercourses traverse urban areas or not. 7/ Appropriate disposal of residual waters from hydrogen sulphide containing mines is compulsory. 8/

Municipalities are responsible for the construction, operation and maintenance of sewage networks. 9/ These may be undertaken by the Municipalities individually, or jointly between municipalities themselves, with the Province or between Provinces. 10/ In certain cases, sewage services are undertaken by special boards such as the Water Supply Board of Puglia, the Sardinia Board for Water Supply and Sewerage, the Sicily Water Supply Board and the Fund for the Development of the South. 11/

(d) Siltation and salinization

The cultivation of bush and forest land on either side of public watercourses and streams within 100 metres of their banks is subject to an administrative permit. 12/ This activity is however forbidden in land reclamation areas within the limits fixed in each case by the competent authority. 13/

As regards non-public waters, landowners are further generally compelled to promptly remove any obstruction occuring on their land or in ditches, streams and beds of any watercourse riparian to their land; any landowner suffering a damage on account of such an obstruction may seek a judiciary injunction for the removal thereof. 14/ All landowners benefiting from such a removal are however bound to share in relevant expenses provided there is no fault on the part of the landowner concerned; in the alternative, the responsible landowner has to bear the full cost of the removal, compensation for damages excepted. 15/

1/ R.D. N° 523 of 25.7.1904, Art. 63-66.
2/ R.D. N° 1740 of 8.12.1933, Art. 1 N° 3 and 4.
3/ R.D. N° 368 of 8.5.1904, Art. 133 d.
4/ R.D. N° 45 of 3.2.1901, Art. 88 c.1.
5/ R.D. N° 1265 of 27.7.1934, Art. 202.
6/ R.D. N° 1265 of 27.7.1934, Art. 218; R.D. N° 45 of 3.2.1901, Art. 89a; Instructions of the Ministry of Interior, 20.6.1896, Art. 102-113.
7/ R.D. N° 1265 of 27.7.1934, Art. 226-227.
8/ D.P.R. N° 128 of 9.4.1959, Art. 455 c.2 and 4, 456.
9/ R.D. N° 383 of 3.3.1934, Art. 91 C N° 14.
10/ R.D. N° 2578 of 15.10.1925, Art. 1 N° 3, 2, 15 c.1, 21 c.1, 22.
11/ R.D.L. N° 2060 of 10.10.1919; Sardinia, Regional Law N° 18 of 20.2.1957; Law N° 24 of 19.1.1942; Law N° 717 of 26.6.1965, Art. 7c.
12/ R.D. N° 523 of 25.7.1904, Art. 97 c.
13/ R.D. N° 368 of 8.5.1904, Art. 133 k.
14/ Civil Code, Art. 916.
15/ Ibidem, Art. 917.

Alterations to the free flow of public watercourses and canals by plantations narrowing the normal section thereof is prohibited. 1/ Similarly, the storage of earth and other matters within 10 metres of watercourses and canals in land reclamation areas is prohibited to the extent that such matters may be carried or made to fall and cause obstructions therein. 2/

Finally, special regulations provide for the prevention of salt water intrusions in and overflow from the exploitation of mines and quarries. 3/

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and misuses of water

Except for the obligation to restitute water to its natural course after use 4/, there is no provision preventing waste and misuses of non-public water. Regulation to this effect is nevertheless provided for by courts in case of private law suits introduced by landowners affected by waste or misuses of third parties. 5/

Waste and misuses of public waters however constitute a cause of revocation of concessions for diverted water use rights. 6/

(b) Health preservation

Local sanitary regulations provide for the protection of drinking water wholesomeness and for the prevention of the pollution thereof. 7/ Such regulations must however conform with the relevant instructions issued by the central authority as concerns drinking and domestic water supply, the distribution thereof, sanitary conditions of water wells and tanks, of animal watering supply networks and of public wash-houses. 8/ Health authorities are empowered to establish the drinking fitness of water. 9/

Special regulations govern malaria eradication. Local health authorities are responsible, within declared malaria infested zones 10/, for the issuance of irrigation and drainage specifications. 11/ Municipalities are charged with eradication measures against malaria-bearing anopheles in ponds, uncovered non-drinking water wells and other stagnant water bodies within urban areas. 12/ Other special regulations govern quality standards for water used in food industry. 13/

1/ R.D. N° 523 of 25.7.1904, Art. 96 b; R.D. N° 959 of 11.7.1913, Art. 50.
2/ R.D. N° 368 of 8.5.1904, Art. 133 g.
3/ D.P.R. N° 128 of 9.4.1959, Art. 103 c.1.
4/ Civil Code, Art. 910.
5/ Cass. 22.10.1958, Foro it. Rep. 1958, Voce "Acque pubbliche e private", N° 172.
6/ T.U. Art. 55 b; R.D. N° 899 of 3.5.1937, Art. 15 b.
7/ R.D. N° 1265 of 27.7.1934, Art. 218 d., 344 c.1.
8/ Instructions of the Ministry of Interior of 20.6.1896, Art. 81-99, 101, 134; R.D. N° 45 of 3.2.1901, Art. 125 N° 1 d.
9/ R.D. N° 1265 of 27.7.1934, Art. 40 a., 91a.
10/ Ibidem, Art. 313.
11/ R.D. N° 93 of 28.1.1935, Art. 55.
12/ Ibidem, Art. 53
13/ Law N° 283 of 30.4.1962, Art. 5 d.; D.P.R. N° 719 of 19.5.1958, Art. 14, 23 c.1; R.D. N° 1927 of 14.10.1926, Art. 12 c.1; Law N° 1354 of 16.8.1962, Art. 8, 14.

(c) Pollution

In the absence of a consolidated water resources conservation legislation, sectoral regulations govern pollution control in Italy; few of these appear however to have been subject to judiciary enforcement.

The poisoning of water or of foodstuffs prior to their consumption, the alteration and counterfeiting thereof constitute criminal offences. 1/ The dumping into water of substances aiming at paralysing or killing fish and other aquatic animal life is prohibited. 2/ The discharge into public water of industrial wastes is subject to the obtention of a special permit issued by the Presidents of Provincial Councils; such permits provide for the protection of fish resources and industry. 3/

Health regulations provide for Mayors to prevent the disposal of solid and liquid wastes and of industrial effluents endangering public health; buildings may only be occupied provided they are equipped for the effective treatment of refuse and of industrial waste water emptying into lakes, watercourses and canals used for drinking and other domestic purposes 5/; provincial medical health offices are empowered to establish, on a case to case basis, the distances from towns or rural settlements outside of which sewers and waste-water drains and canals may discharge into lakes, streams and mains and to prescribe the treatment thereof where required; the latter prescriptions are based on such factors as the discharge rate of receiving watercourses, the self-purifying power thereof, the pollution level of effluents and fishing and fish-breeding interests. 6/

Concessions to divert public-water provide as well for specifications aiming at the protection of agriculture, industry, public-health and fish-breeding 7/; the Offices of Civil Engineering are thus required to report on pollution prevention specifications before deciding on the grant of concessions. 8/

Within land reclamation areas, the throwing into canals of earth, stones, grass or garbage that may cause air and water pollution is prohibited; alterations to banks and embankments of canals used for the discharge of domestic and industrial wastes are subject to the obtention of a concession; and an administrative permit is required for the retting of vegetal fibres in both public and non-public running and still waters. 9/

Mining regulations provide for the prohibition to discharge inflamable products and waste into running or still waters; and for drilling operations to take place within at least 20 metres, or 50 metres in the case of hydro-carbons, from springs, aqueducts and streams. Relevant mining authorizations are issued by the Prefects; the same applies to open air mining. 10/

1/ Penal Code of 1931, Art. 439-440.
2/ R.D. N° 1604 of 8.10.1931, Art. 6 c.1.
3/ Ibidem, Art. 9 as amended by D.P.R. N° 987 of 10.6.1955, Art. 43; D.M. of 14.2.1956, Art. 2 as amended by D.M. of 18.2.1958, Art. 1; R.D. N° 1647 of 16.10.1922, Art. 51 c.2 and 4.
4/ R.D. N° 1265 of 27.7.1934, Art. 217 c.1 and 2; R.D. N° 148 of 4.2.1915, Art. 153
5/ R.D. N° 1265 of 27.7.1934, Art. 226.
6/ R.D. N° 1265 of 27.6.1934, Art. 227 c.1 as amended by Law N° 296 of 13.3.1958, Art. 6 c.4.
7/ T.U., Art. 40 c.1; R.D. N° 1285 of 14.8.1920, Art. 16 N° 1 f, 3 a.
8/ R.D. N° 1285 of 14.8.1920, Art. 14 C N° 3.
9/ R.D. N° 368 of 8.5.1904, Art. 133 f., 135 c.1 and 2.
10/ D.P.R N° 128 of 9.4.1959, Art. 63 b, 103 c.2, 104 b and 106.

A special legislation has recently been enacted to prevent the pollution of surface and underground water by means of detergents; the production and distribution of synthetic detergents which are not 80 per cent biologically soluble is prohibited. 1/

At the regional level, a law provides for the prevention of water pollution by industrial waste within Sardinia; particular reference is made to underground water. The President of the Regional Council may however make exceptions on the basis of the economic and social importance of particular industries. 2/

IX - LEGISLATION ON UNDERGROUND WATERS

The exploration and exploitation of groundwater, except mineral and thermal water, is subject to a different legal regime depending on whether such activities take place within or without water resources protection districts.

Within water resources protection districts, groundwater exploration is subject to a prior administrative authorization. Applications are filed with the local Office of Civil Engineering which, upon consultation with the Office of Mines and following an investigation in situ, issues the authorization provided the intended use is not found to be unfeasible or harmful to the resource or to the public interest. In cases where the authorization is refused or where third parties raise objections, applicants may appeal to the Minister of Public Works. Authorizations contain terms and conditions of exploration activities, including geological surveys and trial boring, establish the level of the corresponding security deposit and, in cases where the land of third parties is concerned, fix the amount of compensation due prior to the commencement of operations. Issued authorizations are published by the Office of Civil Engineering. 3/

Goundwater exploration authorizations are issued for a one-year period, renewable for further six month periods depending on the progress of required works. 4/ Authorizations can be revoked in cases where works have not been initiated within two months from the issuance thereof, the construction of works has been suspended for more than six months, the terms and conditions of the authorization are not observed, or where the approval of the issuing authority has not been finally given. No indemnity is due in these cases. 5/

Holders of groundwater exploration authorizations are entitled to enter private property in order to carry out authorized works; they are however under an obligation to refrain from causing damages thereto and are in any case liable to payment of compensation. 6/ Groundwater exploration works are subject to the control of the local Offices of Civil Engineering which must be notified of any groundwater occurence in order to ascertain the amount thereof. 7/

Identified groundwater bodies are registered as public water by the Ministry of Public Works each time relevant legal criteria are met. In this case, he who discovers the water holds a preferential right in the obtention of the corresponding exploitation concession; in the alternative, the concessionaire is under the obligation to reimburse exploration expenses, to reward the exploration authorization holder for his work and to award him a premium proportional to the importance of the discovery in accordance with the modalities

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1/ Law N° 125 of 3.3.1971, Art. 22.1, 2.
2/ Sardinia, Regional Law N° 6 of 20.4.1955, Art. 1 c.1, 2 as amended by Regional Law N° 16 of 1.8.1973.
3/ T.U., Art. 95-96.
4/ Ibidem, Art. 100 c.1.
5/ Ibidem, Art. 101.
6/ Ibidem, Art. 97 c.1, 98.
7/ Ibidem, Art. 103 c.1, 105.

established in the exploitation concession. In any case, the riparian landowner benefits from the reserve of a suitable amount of water to satisfy his needs. 1/ Where such groundwater is not registered as public water, the riparian landowner is entitled to the free use thereof; in this case, compensation is due to the exploration authorisation holder for the added-value of the land, together with a premium if the found body of groundwater is particularly important. 2/

Rights to exploit and use registered public groundwater are subject to administrative confirmation, when acquired prior to the entry into force of the existing legislation, 3/ or to abstraction permits or concessions in accordance with the general provisions governing the diversion of public water. 4/

The right to exploit non-public groundwater is free for the riparian landowner, provided he abides to legal distances and conditions of exploitation. 5/ In this case, the watering of animals and water uses for immediate household consumption are considered as domestic uses. 6/

Groundwater exploitation and quantitative outputs are under the permanent control of the Offices of Civil Engineering which are empowered to take all necessary measures within districts for the protection of the water resources therein and of the use thereof in the public interest. 7/

Outside water resources protection districts, groundwater exploration is free. 8/ The local Office of Civil Engineering may however grant third parties an exploration authorization thereby allowing beneficiaries to enter private land. This authorization further entitles beneficiaries to obtain from the Prefects the issuance of corresponding expropriation or temporary occupation decrees. 9/ Where the State wishes to assist Provinces and Municipalities in the search of water for drinking water supply, the Minister of Public Works may, by decree and upon consultation with the Superior Councils of Public Works and of Mines, declare water resources exploration districts. 10/

The right to use non-public groundwaters outside water resources protection districts is equally free, subject to the same limitations as apply to riparian landowners for the use of these waters within such districts. As to the right to exploit and use public groundwaters, the general rules governing public waters apply.

As regards mineral and thermal water, special legislation applies. The Regions and the two Provinces of Trento and Bolzano having been delegated sovereign legislative powers in this respect, general rules apply only in the absence of regional or provincial legislation.

1/ T.U., Art. 103 c.2, 3 and 4.
2/ Ibidem, Art. 104 c.1 and 2.
3/ Ibidem, Art. 3 c.1 and 2
4/ Ibidem, Art. 56; R.D. N° 1285 of 14.8.1920, Art. 43; R.D. N° 889 of 3.5.1937, Art. 7.
5/ T.U., Art. 93 c.1, N° 2 a, i.
6/ Ibidem, Art. 93 c.2.
7/ Ibidem, Art. 105 and 106.
8/ Ibidem, Art. 93.
9/ Ibidem, Art. 98.
10/ Ibidem, Art. 102.

The right to search for mineral and thermal water is subject to the prior authorization procedure. 1/ Authorizations are issued by the competent regional or provincial authorities to technically and economically qualified applicants. 2/ The term thereof is of three years with possible extension depending on the type and progress in the construction of the required works. 3/ Authorizations may be cancelled without compensation if works have not been initiated in the fixed date or later that three months from the issuance of the authorization, if works have been stopped for three consecutive months, if conditions of exploration and works construction have not been abided to, if the permittee has transferred his authorization without the previous consent of the issuing authority, if the authorization holder has proceeded with exploitation works, if unauthorized use of minerals has been made during exploration operations and if fees due have not been paid. 4/

Conditions of mineral and thermal water exploration within authorized areas are identical to those governing groundwater exploration. 5/ The right to exploit mineral and thermal water is subject to the obtention of a concession. 6/ Concessionaires may not be prevented by riparian landowners from their activity but are responsible for damages and may be requested to deposit a security. 7/ Conditions of exploitation include, in particular, the right to use minerals found in mineral and thermal water and the obligation to maintain the exploitation in operation and in good conditions, to seek administrative approval for the supervision or gradual execution of related operations and for the yearly work plans. 8/

Mineral and thermal water plants and establishments hold, within the concession area, the status of public utilities. 9/

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

(a) Waterworks construction

The construction of waterworks in the beds of public rivers, streams, drains and State owned canals is subject to a permit. 10/ Tributaries and canal branches are assimilated to the mainstream or canal even when seasonally dry. 11/ Permits are issued, each within its territorial jurisdiction, by the Prefects, by the Po River Authority, the Veneto Region and the Mantua Province Water Authority 12/, by the Ministry of Finance on State owned canals 13/; permits fix statutory limits to watercourses having shifting banks. 14/

There is however a general prohibition to establish waterworks and other structures such as: weirs and plantations for fishing if these alter the natural flow; the removal or plantation of trees within the limits fixed by law on and along the banks of watercourses; the digging of drains or wells within established distances from watercourses and public canals; building, digging or moving earth within safety limits along embankments; any works

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1/ R.D. N° 1443 of 29.7.1927, Art. 4 as amended by D.P.R. N° 620 of 28.6.1955, Art. 2.
2/ Ibidem, Art. 5 c.1, as amended.
3/ Ibidem, Art. 6.
4/ Ibidem, Art. 9 c.1 and 2., 12.
5/ Ibidem, Art. 10, 12; D.M. of 10.7.1951, Art. 3.
6/ R.D. N° 1443 of 29.7.1927, Art. 14 c.1.
7/ Ibidem, Art. 19 and 31.
8/ Ibidem, Art. 24 and 26; D.L. N° 1347 of 15.6.1936, Art. 2 c.1 and 4.
9/ R.D. N° 1443 of 29.7.1927, Art. 32 c.1.
10/ R.D. N° 523 of 25.7.1904, Art. 93 c.1; R.D. N° 899 of 3.5.1937, Art. 21; R.D. N° 959 of 11.7.1913, Art. 44 c.1.
11/ R.D. N° 523 of 25.7.1904, Art. 93 c.2; R.D. N° 959 of 11.7.1913, Art. 44 c.2.
12/ Law N° 1484 of 10.10.1962, Art. 5 a; Law N° 257 of 5.5.1907, Art. 14 d; R.D. N° 523 of 25.7.1904, Art. 93 c.1; R.D. N° 959 of 11.7.1913, Art. 45.
13/ R.D. N° 899 of 3.5.1937, Art. 21.
14/ R.D. N° 523 of 25.7.1904, Art. 94; R.D. N° 959 of 11.7.1913, Art. 45.

likely to harm the conditions, shape or resistance of embankments, their appurtenances or related structures; any works or structure likely to impair irrigation and floating; and the establishment of mills and factories on public watercourses. 1/

Waterworks and structures the construction whereof requires a permit include: weirs and other plantations in river beds to facilitate navigation and river-crossings; bank protection works; soil erosion prevention works along inhabitated riverbanks; the construction and repair of water intakes, bridge abutments and the like in the banks of watercourses, State owned canals and public drains; the construction and removal of drains cutting through embankments; water diversion structures and all waterworks on embankments of public watercourses likely to affect existing water intakes or diverted water restitution structures. 2/ The public administration is vested with corresponding water police powers and is entitled to modify, suspend or destroy any waterworks or structure deemed harmful to the hydraulic regime of public watercourses. 3/

Special provisions similarly apply within land reclamation areas. A general prohibition to implement waterworks and structures in or on the banks of natural and artificaal watercourses include: the planting of trees or hedges and building on or removing materials within established distances from natural and artificial canals; the digging of canals, ditches or wells within statutory limits from such watercourses and canals; and any other works likely to affect the conditions, shape or resistance of their banks, embankments, appurtenances or related structures. 4/

Authorized works implemented in natural and artificial watercourses, canals and their embankments within land reclamation areas are subject to the prior authorization procedure; the Prefects are entrusted with corresponding police powers and are entitled to determine safety limits along embankments in cases of litigation. 5/ A concession is required for the **construction** of intakes and related structures altering the natural flow of watercourses and canals, for the modification of bank protection structures and for the implementation of wastewater **drainage** works from dwellings, industrial plants and the like. 6/

Furthermore, a licence is required for: fishing, navigation, the crossing and transit by animals and cattle in, on, or across natural or artificial watercourses and canals; grazing and animal watering; and for the construction of temporary crossings over land reclamation canals. 7/

Concessions and licences are issued by the Prefects in the case of large works, or by the landowners' association concerned. In cases where the local Office of Civil Engineering objects to the said works, appeal may be made to the Ministry of Agriculture and Forestry. 8/

(b) Waterworks control and protection

Waterworks and structures are divided into different categories depending on whether these are classified or non-classified, inland navigation, water retention or land reclamation works.

1/ R.D. N° 523 of 25.7.1904, Art. 96; R.D. N° 959 of 11.7.1913, Art. 50; T.U., Art. 216.
2/ R.D. N° 523 of 25.7.1904, Art. 97, 98; T.U., Art. 217.
3/ R.D. N° 523 of 25.7.1904, Art. 2 c.1 and 2; R.D. N° 959 of 11.7.1913, Art. 51 c.2.
4/ R.D. N° 368 of 8.5.1904, Art. 133.
5/ Ibidem, Art. 132.
6/ Ibidem, Art. 134, 135.
7/ Ibidem, Art. 134 e, 135 c.2.
8/ Ibidem, Art. 136

Classified waterworks comprise five classes which, at the exclusion of inland navigation and mountain watershed works, 1/ include respectively works for the protection of boundary rivers as first class; 2/ large inter-provincial river-system canalization and related rectification and protection works as second class; 3/ large public interest and public transport infrastructural protection works, improvement to first and second class waterworks and overflow, flood, erosion, silting, water-logging prevention works of inter-municipal public health or agricultural interest as third class; 4/ riverbed improvement works for flow regulation of important watercourses and large drains as fourth class; 5/ and flood and soil erosion control works on sections of watercourses bordering urban and rural settlements as fifth class. 6/

The Ministry of Public Works is responsible for first and second class waterworks construction and maintenance; second class waterworks are declared by law. 7/ The same Ministry is also responsible for the construction of third class waterworks, but the maintenance thereof vests in the respective landowners' associations; 8/ third class waterworks are declared by Decree of the Ministry of Public Works. 9/ The respective landowners' associations are however responsible, subject to the prior approval of the competent Regional or Provincial Authority, for both construction and maintenance of fourth class waterworks, 10/ as are Municipalities for fifth class waterworks. 11/

It is to be noted, however, that large legislative, executive and administrative prerogatives have been transferred to the Regions and Provinces in this respect and their respective statutes accordingly provide for corresponding functions and powers, in particular as regards waterworks of regional and inter-provincial interest and of third, fourth and fifth class. As regards the control of first and second class waterworks, a special Corps of Hydraulic Officers and Surveyors is in charge of control operations. 12/ Navigable watercourses subject to first and second class waterworks are, for this purpose, divided into control sections within which Hydraulic Officers and Surveyors are empowered to enforce police and control measures. 13/

Non-classified waterworks and structures include all other waterworks at the exception of those concerning inland navigation, dams and land reclamation waterworks.

Waterworks concerning the straightening, lining or closing of boundary watercourse tributaries and branches require a prior authorization issued by law or by Ministerial Decree; Presidential Decrees authorize similar works on non-boundary watercourses. 14/ The Ministry of Public Works authorizes waterworks financed out of State, Regional or Provincial funds as well as bank protection works and other waterworks likely to have a considerable effect on the hydraulic regime of watercourses. 15/ The Prefects approve

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1/ R.D. N° 523 of 25.7.1904, Art. 3.
2/ Ibidem, Art. 4 c.2.
3/ Ibidem, Art. 5 c.1 a and b.
4/ Ibidem, Art. 7 c.1.
5/ Ibidem, Art. 9 c.1.
6/ Ibidem, Art. 10 c.1.
7/ Ibidem, Art. 14 c.1; 5 c.1, 2 and 3
8/ Ibidem, Art. 14 c.1; 8 c.1 and 3
9/ Ibidem, Art. 7 c.2; Law N° 991 of 25.7.1952, Art. 19 c.1.
10/ Ibidem, Art. 9 c.1 and 2.
11/ Ibidem, Art. 10 c.1 and 2, 14 c.1 and 2.
12/ R.D. N° 2669 of 9.12.1937, Art. 1 c.1.3 and c.2.
13/ Ibidem, Art. 3 - 15 c.1.
14/ R.D. N° 523 of 25.7.1904, Art. 60 c.1.
15/ Ibidem, Art. 57 c.2.

modifications to embankments and the construction or modification of any other waterworks likely to directly or indirectly affect the hydraulic regime of watercourses. 1/ In these cases, however, the Po River Authority and the Veneto Region and Mantua Province Water Authority are competent within their territorial jurisdictions. 2/ Finally, as regards waterworks appurtenant to the banks of watercourses undertaken by private individuals for the mere protection of their landholdings, no prior authorisation is required provided such works do not alter the natural flow of watercourses, nor cause damage to public or other private property, navigation, existing diversions or existing water rights. The Ministry of Public Works, as far as navigable watercourses are concerned, the Prefects in the other cases and the autonomous River and Water Authorities within their spheres of jurisdiction, are competent to ascertain some or all of the conditions specified above. 3/

Inland navigation waterworks include all conservation, improvement and new works, including channel marking and signalling systems required for safe navigation. 4/ Inland waterways are themselves divided into four classes. The Ministry of Public Works, and the Office of Civil Engineering within the Po River system, approve all relevant waterworks and are in charge of the construction, operation and maintenance thereof on first and second class waterways, including State owned navigable canals. 5/ The responsibility for the construction, operation and maintenance of waterworks on third and fourth class waterways and of works not benefiting from State financing, vests respectively in the Regions with ordinary status, in statutory inter-provincial and inter-municipal unions, and in free inter-provincial and inter-municipal unions. The latter may however be compulsorily constituted upon request from individuals, municipalities or provinces concerned. 6/

Water retention structures, or dams with a height of over 10 metres or a storage capacity of more than 100,000 cubic metres, may be constructed only provided a prior application has been registered, plans have been drawn-up in accordance with specified legal provisions, projects have been duly approved by the Dam Service and a concession has been issued by the competent Office of Civil Engineering. 7/ This Office and the Dam Service are then in charge of construction supervision and proceed with the final engineering tests. 8/ The Office of Civil Engineering is further entrusted with the control of dam operations and if, on the basis of its twice-yearly inspections, dam stability is found defective, it may compel the concessionnaire to take specified safety measures. 9/

While other retention structures are not subject to the above procedure, the competent Office of Civil Engineering may nevertheless decide to subject these to the legal provisions governing the construction, operation and maintenance of dams and related waterworks. 10/

Land reclamation waterworks comprise such undertakings as slope consolidation, rectification of upland watercourses, swamp, pond and lake drainage, flood protection, upland watershed consolidation, afforestation and related works located within full land reclamation, upland and mountain watershed districts or zones. 11/ Waterworks within full land reclamation

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1/ R.D. N° 523 of 25.7.1904, Art. 57 c.1.
2/ Law N° 257 of 5.5.1907, Art. 14 d; Law N° 1484 of 10.10.1962, Art. 5a.
3/ R.D. N° 523 of 25.7.1904, Art. 58 c.2, 95 c.1 and 2; R.D. N° 959 of 11.7.1913, Art. 41 c.1 and 2; Law N° 257 of 5.5.1907, Art. 14 d; Law N° 1484 of 10.10.1962, Art. 5 a and b, 8 c.2.
4/ R.D. N° 959 of 11.7.1913, Art. 4.
5/ Ibidem, Art. 5, 6 c.1, 39 a and b.
6/ D.P.R. N° 8 of 15.1.1972, Art. 2f; R.D. N° 959 of 11.7.1913, Art. 9, 14, 15, 40.
7/ D.P.R. N° 1363 of 1.11.1959, Art. 1 - 5, 7.
8/ Ibidem, Art. 9, 11, 15 c.1.
9/ Ibidem, Art. 17-18.
10/ Ibidem, Preamble.
11/ R.D. N° 215 of 13.2.1933, Art. 2; Law N° 991 of 25.7.1959, Art. 19 c.1; R.D. N° 3267 of 30.12.1923, Art. 39 N° 1, as amended.

districts and upland zones are to be planned and designed in conformity with the respective General Plans; waterworks located within mountain watershed zones are only subject to the general objectives of such Plans. 1/ In this case, however, major hydraulic works are designed by the competent Office of Civil Engineering. 2/ The State holds primary responsibility for the implementation of land reclamation waterworks; the execution thereof is however entrusted to individual landowners or their associations and to Municipalities, Provinces or their unions in the absence of corresponding private initiative. In all cases, State, Regional or Provincial financing is secured but corresponding undertakings conceded and controlled by the responsible authority. 3/ Concessions are granted with the concurrence of the Ministry of Agriculture and Forestry; they contain terms and conditions to be abided to by the concessionnaire and are conceded by decree. 4/

The control of all land reclamation works is entrusted to the Hydraulic Officers and Surveyors Corps, and to the Forestry Inspectorates where reafforestation takes place; districts and zones are divided into sections for this purpose. 5/

XI -LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

(a) In the case of beneficial uses of water

Groundwater exploration and exploitation districts are established by Decree of the President of the Republic upon proposal by the Minister of Public Works in consultation with the Ministry of Agriculture and Forestry. 6/ Within these districts, the exploration and exploitation of both public and non-public groundwaters other than mineral, thermal or radioactive water is subject to the prior authorization regime and to the control of the Offices of Civil Engineering and of the Ministry of Public Works. The Offices of Civil Engineering are competent to regulate groundwater conservation, development and utilization to the extent that such activities detract from their authorized purpose, cause harm to the hudraulic regime of public waters or are contrary to the public interest. 7/

Another form of protection concerns inland waters having considerable aesthetic value. These are inventoriated and registered, together with monuments and sites, by special committees established at the provincial level by the Ministry of Education. 8/ Any activity interfering with the aesthetic value of such registered waters is subject to the issuance, by the Minister of Education, of a prior authorization. The control of activities affecting scenic beauties is entrusted to the Superintendents of sites and monuments; 9/ the installation of telephone and telegraphic lines is however reserved. 10/ Regional land use plans may provide special measures for the preservation of natural scenic beauties. 11/

1/ R.D. N° 215 of 13.2.1933, Art. 4 c.1, 38 c.1; Law N° 991 of 25.7.1952, Art. 17 c.1.
2/ R.D. N° 3267 of 30.12.1923, Art. 39 c.3; R.D. N° 1126 of 16.5.1926, Art. 58 c.2.
3/ R.D. N° 215 of 13.2.1933, Art. 2 c.2, 13; Law N° 991 of 25.7.1952, Art. 19 c.1, 25; R.D. N° 3267 of 30.12.1923, Art. 59, 61-63; R.D. N° 1126 of 16.5.1926, Art. 83, 86-91.
4/ R.D. N° 215 of 13.2.1933, Art. 14 c.2; D.P.R. N° 1979 of 16.11.1952, Art. 27 c.1; R.D. N° 1126 of 16.5.1926, Art. 95.
5/ R.D. N° 2669 of 9.12.1937, Art. 1-15; R.D. N° 3267 of 30.12.1923, Art. 43; R.D. N° 1126 of 16.5.1926, Art. 58 c.2.
6/ T.U., Art. 94.
7/ Ibidem, Art. 95, 98, 105.
8/ Law N° 1497 of 26.6.1939, Art. 1, 2, 5; R.D. N° 1357 of 3.6.1940, Art. 9 N° 1; DP.R. N° 8 of 15.1.1972, Art. 1c.4.
9/ Law N° 823 of 22.5.1939, Art. 2c.3; Law N° 1497 of 26.6.1939, Art. 8, 11.
10/ R.D. N° 1357 of 3.6.1940, Art. 29 c.2.
11/ Law N° 1497 of 29.6.1939, Art. 5 c.1; D.P.R. N° 8 of 15.1.1972, Art. 1 c.4.

(b) In the case of harmful effects of water

Land reclamation districts are established within areas comprising lakes, ponds or marshes or wherein heavy demographic or economic concentrations require a modification of the land use system. 1/ Districts requiring reclamation investments above the capacity of landonwers concerned are classified as first class full land reclamation districts; all other districts fall into the second class. First class districts are declared by the State and by the Regions and Provinces with special status within their jurisdictions; second class districts are declared by the Regions and Provinces, both with special and ordinary status, or by the State in the case of second class districts located within two or more Regions with ordinary status. 2/

The State, the Regions, and the Provinces with special status are responsible for land reclamation and drinking water supply works within both classes of districts. 3/ Individual landowners are however under the obligation to implement and maintain minor drainage works and to refrain from interfering with public land reclamation works. 4/

In addition, Municipal territories with 90 per cent of the land surface 600 metres above sea level or which are comprised within a 600 metres minimum differential elevation margin and not exceeding an average assessed income of 2,400 Italian Liro 5/ per hectare are classified as mountain lands and registered as such by the Central Census Committee. This Committee is further entitled to register as mountain land areas not meeting statutory requirements but presenting similar economic and agricultural conditions. Within such classified areas or zones, individual land use activities are coordinated and assisted financially by the State. 6/ The declaration thereof occurs upon request of the majority of interested landowners, any interested group or corporation, or by the State Forestry Corps. The State, the Regions, and the Provinces with special status proceed with the corresponding declaration. 7/ The competent authorities are responsible for the implementation therein of major land reclamation, reafforestation and rural drinking water supply works; individual landowners are under the obligation to undertake remaining works specified in the General Land Reclamation Plan. 8/

Finally, special soil conservation zones may be declared by the Chambers of Commerce, Industry, Handicrafts and Agriculture for the hydrogeological consolidation of lands subject to instability or likely to endanger the hydraulic regime of watercourses. 9/ Related agro-pastoral activities within such zones are placed under the control of these Chambers of Commerce. 10/

1/ R.D. N° 215 of 13.2.1933, as amended, Art. 1 c.2.
2/ Ibidem, Art. 3 c.1 and 2; D.P.R. N° 11 fo 15.1.1972, Art. 1f, 4f; see also the Region and Province Special Statutes.
3/ R.D. N° 215 of 13.2.1933, Art. 2; D.P.R. N° 11 of 15.1.1972, Art. 1h; see also the Region and Province Special Statutes.
4/ R.D. N° 215 of 13.2.1933, Art. 38; Law N° 183 of 12.2.1942, Art. 1.
5/ 1 US dollar = approx. 565 lires in October 1973.
6/ Law N° 991 of 25.7.1952, Art. 1 c.1, 2, 3, 14 c.1; Law N° 1102 of 3.12.1971, Art. 3 c.1.
7/ Law N° 991 of 25.7.1952, Art. 14 c.1; D.P.R. N° 11 of 15.1.1972, Art. 1f, 4f; R.D. N° 215 of 13.2.1933, Art. 3 c.2; see also the Region and Province Special Statutes.
8/ Law N° 991 of 25.7.1952, Art. 18 c.1; D.P.R. N° 1979 of 16.11.1952, Art. 25.
9/ Civil Code, Art. 866 c.1; R.D. N° 3267 of 30.12.1923, as amended, Art. 1 - 6; R.D. N° 1126 of 16.5.1926, as amended, Art. 4 - 17.
10/ R.D. N° 3267 of 30.12.1923, Art. 7 - 9; R.D. N° 1126 of 16.5.1926, Art. 19.

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

Originally a unitarian State with a highly decentralized administration, the recent gradual transfer of national legislative and executive prerogatives to the Regions and Provinces is leading to the development of new and autonomous institutions and of independent forms of water administration. Until such changes fully materialize, a clear-cut delimitation between State, Regional, Provincial and Local Government functions and powers cannot yet be determined.

(a) At the national level

1. The Ministry of Public Works

With the exception of State-owned canals and of mineral and thermal waters, the Ministry of Public Works holds management prerogatives over all public surface and ground waters located outside the jurisdiction of the four Regions and two Provinces with special status. 1/ Its prerogatives include the nationwide declaration of public water; 2/ the confirmation of related existing use rights, the issuance and cancellation of concessions for major diversions and the settlement of claims for or against minor diversions; 3/ public water policing; 4/ the proposal to create groundwater districts and the related issuance of exploration and exploitation authorizations in cases where applications therefor have been rejected by the competent authority; 5/ the construction and maintenance of first and second class waterworks and the construction of third class waterworks; 6/ and the financial participation in the construction of certain other waterworks. 7/ The Ministry operates Special Offices of Civil Engineering at the inter-regional and inter-provincial level, Superintendencies for Public Works, ordinary and Special Offices of Civil Engineering at the Regional and Provincial levels.

2. The Ministry of Agriculture and Forestry

The Ministry of Agriculture and Forestry is in charge of waterworks relating to full land reclamation, mountain land reclamation and watershed management of national and inter-regional interest. 8/

3. The Ministry of Finance

The Ministry of Finance is responsible, through its General Directorate of State Property, for the management of State-owned canals. 9/

4. The Ministry of Industry, Trade and Handicrafts

The Ministry of Industry, Trade and Handicrafts controls water uses for hydropower generation and supervises the National Board for Electric Energy. 10/ It is further empowered to declare State mineral and thermal water exploration areas. 11/

1/ T.U., Art. 16, 92; Regional and Provincial Special Statutes.
2/ Ibidem, Art. 1 c.2 and 3, 103 c.2; jurisprudence and doctrine as regards State-owned canal water.
3/ T.U., Art. 3 c.4 and 5, 15 as amended, 24 c.2, 55 c.1.
4/ Law N° 2248 of 20.3.1865, as amended, Encl. F, Art. 1f.
5/ T.U., Art. 95.
6/ R.D. N° 523 of 25.7.1904, as amended, Art. 4 c.2, 5 c.2, 7 c.2, 8 c.1, 14 c.1, 57 c.2; R.D. N° 959 of 11.7.1913, Art. 41 c.2.
7/ R.D. N° 523 of 25.7.1904, as amended, Art. 5 c.2, 8 c.1, 11 and 18 c.1.
8/ R.D. N° 215 of 13.2.1933, as amended, Art. 13 c.1, 55 c.1, 56, 66, 71 c.1 and 2; D.P.R. N° 11 of 15.1.1952, Art. 1h, 2 c.2, 4f and g; Law N° 991 of 25.7.1952, as amended, Art. 14 c.1, 16 c.3, 27 c.2; R.D. N° 1126 of 16.5.1926, Art. 58 c.1; R.D. N° 3267 of 30.12.1923, as amended, Art. 39 c.3, 56 c.1, 57.
9/ R.D. N° 83 of 1.3.1896, Art. 4.
10/ Law N° 1643 of 6.12.1962, Art. 1 c.2, 4 N° 5; D.P.R. N° 1670 of 15.12.1962, Art. 2 N° 6; D.M. of 12.9.1964, Art. 20 c.1.
11/ R.D. N° 1443 of 29.7.1927, as amended, Art. 10 c.1 and 2.

5. The Ministry of Public Health

The Ministry of Public Health holds central coordinating functions as regards in particular soil and environment protection, air and water pollution, and industrial pollution control; the Regions with ordinary status have been delegated corresponding executive functions. 1/

6. The Treasury

The Treasury finances the activities of the Development Fund for Southern Italy and holds certain administrative prerogatives in connection with full land reclamation. 2/

7. The Ministry of Education

The Ministry of Education holds administrative functions as regards recreational uses of water in connection with its control function over protected natural sites and monuments. 3/ The Ministry operates Superintendencies for monuments at the inter-regional, inter-provincial and at the regional levels.

8. The Ministry of Transport and Civil Aviation

The Ministry of Transport and Civil Aviation establishes technical specifications for navigation in artificial inland reservoirs. 4/

9. The Ministry of the Interior

The Ministry of the Interior controls the Union for the exploitation of Ticino River waters. 5/

(b) At the inter-regional and inter-provincial level

1. There are at present five institutions dealing with inter-regional water resources matters.

1.1 The Po River Authority

The Po River Authority is a government institution responsible for water resources management at the river basin level. It is headed by a President appointed by decree of the President of the Republic; the President is assisted by a vice-president and a consultative technico-administrative committee. 6/ The Offices of Civil Engineering operating within its area of jurisdiction are responsible to it. 7/

The Authority is responsible for general water resources planning within the Po drainage basin and for the construction, operation and maintenance of all waterworks, including full land reclamation, irrigation, mountain watershed reclamation and inland navigation works, likely to affect its hydraulic regime. 8/ The approval of projects and

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1/ D.P.R. N° 4 of 14.1.1972, Art. 13 c. 2 N° 8 and c.4.
2/ D.P.R. N° 1523 of 30.6.1967, Art. 20; R.D. N° 215 of 13.2.1933, as amended, Art. 3 c.2; D.P.R. N° 11 of 15.1.1972, Art. 1 h.
3/ Law N° 1497 of 29.6.1939, as amended, Art. 2 c.2, 8.
4/ Consiglio di Stato, Sect. II, N° 780 of 28.10.1959, Il Consiglio di Stato, 1961, I, 1029.
5/ R.D. N° 6840 of 13.9.1938, Art. 30.
6/ Law N° 735 of 12.7.1956, Art. 2 c.1, 3, 6; Law N° 240 of 18.3.1958, Art. 2 c.1.
7/ Law N° 240 of 18.3.1958, Art. 9.
8/ Law N° 735 of 12.7.1956, as amended, Art. 1 N° 1 and 2.

the contracting for waterworks must however be approved by the Ministry of Public Works when these exceed 500 million lire or respectively 200 and 20 million in special cases; its authonomy in commercial transactions is limited to 60 million Lire in each case. 1/ The Po River Authority is further responsible for general river policing and flood control services. 2/

1.2 The Veneto Region and Mantua Province Water Authority

This inter-regional water authority was established to administer public waters and related forestry, land reclamation, port, sea-shore, their accessories and other waterworks within the Veneto-Friuli Region and a number of drainage basins within the Provinces of Mantua, Trento, Bolzano and Brescia at the exclusion of the Po River or other waters within its basin. 3/ The Authority is headed by a President appointed by decree of the President of the Republic; the President is assisted by a vice-president and a consultative tehcnical committee. The President reports to the Ministry of Public Works and to the Ministry of Agriculture and Forestry as regards forestry matters. He further holds the title and functions of Superintendent of Public Works for the Veneto Region. 4/ In this case, however, the actual transfer of competences from the Ministry of Public Works to the Veneto Region is still under consideration.

The functions of the Authority include public water policing and the issuance of floating licences; 5/ the implementation of first, second and third class waterworks and of first class reclamation works up to 3 million or 1.5 million Lire depending on the type of contract and upon approval of the relevant plans by the Ministry of Public Works; the commissioning of related works up to 200.000 Lire; the technical, economic and administrative managemnet of inland navigation works; the administration and control of Drainage Unions, Land Reclamation Unions and Forestry Unions; re-afforestation works; 6/ water policing in the Venice and Marano-Grado Lagoons; 7/ and all such functions as normally vest in Regional Superintendencies for Public Works. 8/ Here too, however, the transfer of competences from the Ministry of Public Works to the Region is still under consideration.

1.3 The Cavour Canals Administration

The Cavour Canals Administration is an inter-regional office responsible to the Ministry of Finance. It is entrusted with the overall administration of the Cavour Canals which, together with their branches, have been built to divert irrigation water from the Po, Dora Baltea, Sesia, Elvo and Cervo watercourses within the Piedmont and Lombardy Regions. 9/

The Administration is headed by a General Administrator and is decentralized into a number of branch offices; it has a Corps of Surveyors. 10/ It is charged with the issuance of yearly concessions for seasonal water diversions; the issuance, upon approval of the Council of State, of concessions for the diversion of water for up to 6 years; the issuance of water diversion licences; and with related water policing. 11/

1/ D.L. Lgt. N° 16 of 18.1.1945, as amended, Art. 3.
2/ Law N° 735 of 12.7.1956, as amended, Art. 1 N° 3; Law N° 1484 of 10.10.1962, Art. 5.
3/ Law N° 257 of 5.5.1907, as amended, Art. 1 c.1, 2 c.1; Law N° 735 of 12.7.1956, as amended, Art. 1 N° 2.
4/ Law N° 257 of 5.5.1907, as amended, Art. 3 c.3, 5 c.1.
5/ Ibidem, Art. 14 d.
6/ Ibidem, as amended, Art. 14.
7/ Law N° 366 of 5.3.1963, Art. 3 c.1.
8/ D.L.P. N° 37 of 27.6.1946, as amended, Art. 16.
9/ R.D. N° 121 of 29.3.1906, Art. 1-2.
10/ Ibidem, Art. 3.
11/ R.D. N° 899 of 3.5.1937, Art. 5 A, a, 6, 22 c.2; D.P.R. N° 72 of 4.2.1955, Art. 7 c.1.

1.4 The Special Po River Office of Civil Engineering

This Office, which reports to the Ministry of Public Works, has been established to undertake experimental works aiming at improving the navigability of the Po River; such works include river training and signaling works. 1/

1.5 The Superintendencies for Monuments

These Superintendencies report to the Ministry of Education and have been established to enforce measures for the protection of natural sites and monuments. The Superintendencies of Turin and of Verona operate at the inter-regional level. 2/

2. In addition to the above institutions operating at the inter-regional level, two more hold inter-provincial prerogatives. It is to be noted, however, that the Regions do as well have certain water resources administration competences at the inter-provincial level; for sake of clarity these are analysed in each case together with the inventory of corresponding regional functions and powers.

2.1 The Special Reno River Office of Civil Engineering

The Special Reno River Office of Civil Engineering is a decentralized institution of the Ministry of Public Works responsible to the Public Works Superintendency Office of the Emilia-Romagna Region, a region with ordinary Status. 3/ It is headed by a technical officer of the Corps of Civil Engineers 4/ and has taken over the functions formerly vested, as regards the Reno River and its drainage basin, with the Offices of Civil Engineering in Bologna, Ravenna and Ferrara. 5/ These functions include planning for the control of the Reno River and of all watercourses within its drainage basin, protection and diversion waterworks and water policing therein. 6/

2.2 The Superintendencies for Monuments

As for the Superintendencies for Monuments operating at the inter-regional level, those of Bologna, Catania, Florence, Milan, Naples, Palermo, Ravenna and Venice hold inter-provincial prerogatives within these Provinces. 7/

(c) At the Regional and Provincial level

1. The Regions are divided into two categories; there are five Regions with special status and fifteen Regions with ordinary status. However, the fifth Region with special status, namely the Trentino-Alto Adige Region has, in particular as far as water resources administration is concerned, been split into the two Provinces with special status of Trento and Bolzano. Both categories of Regions 8/ have self-governments with exclusive legislative and administrative powers. At the same time, they may be delegated non-exclusive administrative functions which are then to be carried-out in accordance with the instructions of the competent central authority. A system of control nevertheless exists among State, Regional and inter-regional legislative competences. The Regions enjoy financial autonomy and hold eminent domain. They hold varying degrees of competence in water resources matters. In addition, Superintendencies for Public Works and for Monuments are operational at the regional level.

1/ Law N° 1484 of 10.10.1962, Art. 8 c.1 and 2; D.P.R. N° 8 of 15.1.1972, Art. 12 a.
2/ Law N° 823 of 22.5.1939, Art. 1, 2 c.3, 6 c.2 N° 1, 6 c.3 N° 1; Law N° 1497 of 29.6.1939, Art. 11; R.D. N° 1357 of 3.6.1940, Art. 9 N° 1.
3/ D.P.R. of 1.8.1951, Art. 4 c.1; D.P.R. N° 8 of 15.1.1972, Art. 12 a and b.
4/ D.P.R. of 1.8.1951, Art. 2.
5/ Ibidem, Art. 3.
6/ Ibidem, Art. 1 a and b.
7/ Law N° 823 of 22.5.1939, Art. 6.
8/ Constitution, Art. 115-119, 125, 127; Law N° 281 of 16.5.1970, Art. 11, 17 b; Law N° 62 of 10.2.1953, Art. 11-13, 41, 45-47, 49; Constitutional Law N° 1 of 9.2.1948, as amended, Art. 2 c.1, and 2; Law N° 87 of 11.3.1953, Art. 32-33.

1.1 Superintendencies for Public Works

Within Regions with ordinary status, the waterworks and building section of the Superintendency for Public Works has remained a decentralized organ of the Ministry of Public Works; all other sections have been transferred to the regional administration. 1/ While, in the Regions with special status, these Superintendencies have remained decentralized offices of the Ministry, the Regions may nevertheless avail themselves of their services in matters of regional competences. 2/

Regional Superintendents are appointed by decree of the President of the Republic; they are assisted by an administrative, a technical and a finances section. 3/ Superintendencies for Public Works are in charge of all public works and services, except land reclamation and mountain watersheds works. 4/ Each Superintendency is assisted by a consultative technico-administrative Committee which also temporarily functions as Supreme Council of public Works for the Regions with ordinary status and for the Region with special status of Sicily until these have enacted corresponding special legislation. 5/

1.2 Superintendencies for Monuments

Superintendencies for Monuments operate in the Regions of Marche (Ancona), Liguria (Genoa), and Lazio (Rome). 6/ Their functions are identical to those operational at the inter-regional level.

1.3 Regions with special status 7/

The four Regions with special status are those of Friuli-Venezia Giulia, Sardinia, Sicily and Aosta Valley. They hold various degrees of competence in water resources matters such as public water resources use, except for large and inter-regional diversions (Friuli-Venezia Giulia, Sardinia, Sicily); mineral and thermal water exploration and exploitation, except sanitary authorizations; fishing; agriculture, forestry, land reclamation and irrigation works (Aosta, minor works only); general waterworks (including 1st and 2nd class works in Aosta, except classified waterworks in Sicily, except 1st and 2nd class works in Sardinia); public health water quality control; customary water rights, mainly fishing rights (except in Sardinia); hydro-power generation (except in Friuli-Venezia Giulia and Sicily); and in the protection of natural sites (except in Friuli-Venezia Giulia and in Sardinia).

Additional particularities include the participation, in a consultative capacity, of the Regions in the concession regime for public water diversions issued by the Central administration and the direct collection of concession rates by the Regions of Friuli-Venezia Giulia and of Sardinia. The Aosta Valley Region benefits however from a privileged status in this respect. This Region has been granted a 99 year general concession on regional public-waters. 8/ Waters used for domestic and irrigation purposes are however deemed regional domain waters, and concessions granted prior to 7 September 1945 escape the regional concession regime until their expiration date when the Region succeeds thereto; the general concessions may be renewed. 9/ The Region may further issue sub-

1/ D.L. Lgt. N° 16 of 18.1.1945, as amended, Art. 1 c.1; D.P.R. N° 8 of 15.1.1972, Art. 12 b.
2/ Special Statutes of the Regions concerned.
3/ D.L.P. No. 37 of 27.6.1946, Art. 2 c.1, 3 c.1.
4/ Ibidem, Art. 20 c.1; D.L. Lgt. N° 16 of 18.1.1945, as amended, Art. 1 c.6, 1 c.7, 12 c.1.
5/ D.L.P. N° 37 of 27.8.1946, as amended, Art. 5 c.1; D.P.R. N° 1534 of 30.6.1955, as amended, Art. 17-18; D.P.R. N° 8 of 15.1.1972, Art. 12 c. 6; D.P.R. N° 878 of 30.7.1950, Art. 7.
6/ Law N° 823 of 22.5.1939, Art. 6 c.1 N° 4, 6 c. 2 N° 3, 6 c.3 N° 3.
7/ Special Statute for Friuli-Venezia Giulia of 1963
Special Statute for Sardinia of 1948
Special Statute for Sicily of 1946
Special Statute for Aosta Valley of 1948.
8/ Special Statute for Aosta Valley, Art. 7 c.1; D.L. Lgt. N° 546 of 7.9.1945, Art. 1 c.1.
9/ Special Statute for Aosta Valley, Art. 5 c.2; D.L. Lgt. N° 546 of 7.9.1945, Art. 1 c.1, 2.

concessions for the use of these waters within the regional territory and provided such uses are included in the regional water plan. The regime of such sub-concessions is subsidiary to that of the general concession; correspondingly, drinking and irrigation water uses are free of charge and rates levied on hydropower uses may not exceed government tariffs. 1/ Nine-tenths of these rates revert to the Region. 2/

1.4 Regions with ordinary status

The fifteen Regions with ordinary status are those of Abruzzi, Basilicata, Calabria, Campania, Emilia-Romagna, Lazio, Liguria, Lombardy, Marche, Molise, Piedmont, Puglia, Tuscany, Umbria and Venezia. These Regions have full legislative and administrative prerogatives in water resources matters such as mineral and thermal water exploration and exploitation; fishing and fish-breeding in inland waters; inland navigation; regional public works including district and local water supply and sewage, non-classified and fourth and fifth class waterworks; navigation works on water-ways of third and fourth category; the perservation of natural sites; agriculture and forestry, including full mountain and mountain watershed reclamation works (excluding national, inter-regional reclamation and soil conservation works); the setting up of corresponding Unions; re-afforestation works; and the administration of customary water rights. 3/

In addition, these Regions have been delegated administrative functions in respect of the issuance of concessions for minor diversions of public water, save for the settlement of corresponding disputes; dredging in inland water-ways; soil and environmental hygiene, water and air pollution control; and the issuance of sanitary authorizations for thermal establishments. 4/

2. There are two Provinces with special status, namely those of Trento and of Bolzano; the other Provinces have ordinary status. In addition to the regional administration governing relevant groups of Provinces, a number of central government institutions are also operational at the provincial level.

2.1 The Offices of Civil Engineering

Offices of Civil Engineering were originally decentralized institutions of the Ministry of Public Works operating at the provincial level. In addition to the ordinary Office of Civil Engineering, Special Offices of Civil Engineering and autonomous Sections thereof have been established to deal with self-contained technically or geographically limited undertakings. Both types of Offices, and the autonomous Sections are under a Chief Engineer. 5/ With the current regional and provincial decentralization process however, a gradual transfer of competences from the Ministry of Public Works to the Regions and Provinces is still under way and has not yet fully crystallized.

Within Regions with ordinary status, the waterworks and building section of provincial Offices of Civil Engineering has remained under the authority of the Ministry of Public Works and all other sections have been integrated with the regional administration; similarly, Special Offices of Civil Engineering established for waterworks, maritime works, hydrographic services and building purposes still report to the Ministry of Public Works while the others have been taken over by the Regions. 6/

1/ Special Statute for Aosta Valley, Art. 7 c.4, 8 c.3 and 4, 9; D.L. Lgt. N° 546 of 7.9.1945, Art. 1 c.3, 2 c.1, 5.
2/ Special Statute for Aosta Valley, Art. 12 c.4.
3/ Constitution, Art. 117 c.1, 118 c.1; D.P.R. N° 2 of 14.1.1972, Art. 1; D.P.R. N° 5 of 14.1.1972, Art. 4-5; D.P.R. N° 8 of 15.1.1972, Art. 1 c.4, 2 b, 2 c.1, 2 c. N° 3, 2 e, 2 f; D.P.R. N° 11 of 15.1.1972, Art. 1 c.1, 1 c.3, 1 h, 1 l, 1 n, 4 f, 4 g.
4/ T.U., Art. 15 c.2 as amended; D.P.R. N° 4 of 14.1.1972, Art. 13 N° 3; D.P.R. N° 5 of 14.1.1972, Art. 15 N° 3 e; D.P.R. N° 8 of 15.1.1972, Art. 13 d.
5/ R.D. N° 522 of 3.9.1906, Art. 2 as amended; R.D. N° 287 of 2.3.1931, as amended, Art. 1.
6/ D.P.R. N° 8 of 15.1.1972, Art. 12 a.

All such Offices and autonomous Sections operating within Regions with special status have however remained Ministry of Public Works decentralized institutions. 1/

Ordinary and Special Offices of Civil Engineering may also be called upon to operate at the inter-provincial level and maximum flexibility is maintained with respect to their objectives and competences.

Unless the Region or Province with special status has provided otherwise, Offices of Civil Engineering are responsible for the confirmation of non-contested water rights for minor public water diversions; for the issuance of public, including State-owned navigable canal, water diversion licences; for the control of groundwater exploration and exploitation within protected districts; for the issuance of quarrying permits, the policing in public watercourses and lakes, and for flood control. 2/

2.2 The Prefects

The Prefects represent the executive at the provincial level; they are appointed by the Cabinet and report to the Minister of Interior. 3/ Their responsibilities in the water resources field include the issuance of floating licences; public water policing; the issuance of permits for the construction of waterworks in the bed of public watercourses, drains, State-owned canals and waterways; the control of private waterworks affecting public water resources; the policing of natural and artificial land reclamation watercourses; the control of full land reclamation and of land improvemnet Unions at the inter-regional and national level; and urgent public health control measures. 4/

2.3 The Revenue Offices

The Ministry of Finance operates Revenue Offices at the provincial level. These Offices are competent, among others, for the issuance of diversion concessions from State-owned canals, except the Cavour Canals, provided the State Supreme Council has given its prior approval and that concessions have a less than six-year term; and for water policing on these canals. 5/

2.4 The Technical Fiscal Offices

Technical Fiscal Offices constitute another Finance Ministry institution operated at the provincial level. Their competences extend to the issuance of water diversion licences for State-owned canals, except the Cavour and navigable canals, and to the negotiation of contracts for daily diversions from the same. 6/

1/ D.P.R. N° 116 of 26.8.1965 (Friuli-Venezia Giulia), Art. 25 c.2; D.P.R. N° 327 of 19.5.1950 (Sardinia), Art. 9 c.2.

2/ T.U., Art. 3 c.3, 56 c.1, 95, 98, 105-106, 221; R.D. N° 899 of 3.5.1937, Art. 7 c.1, 21, 22 c.2; R.D. N° 1688 of 19.11.1921, Art. 1 c.1, 2; R.D. N° 2669 of 9.12.1937, Art. 33 c.1.

3/ R.D. N° 383 of 3.3.1934, as amended, Art. 19 c.1; R.D. N° 297 of 12.2.1911, as amended, Art. 1 c.1; R.D. N° 466 of 14.4.1901, as amended, Art. 2 N° 8.

4/ R.D. N° 959 of 11.7.1913, as amended, Art. 45, 51 c.2, 64, 67; R.D. N° 383 of 3.3.1934, as amended, Art. 20 c.1; R.D. N° 523 of 25.7.1904, as amended, Art. 2 c.1 and 2, 57 c.1, 93 c.1; Law N° 1484 of 10.10.1962, Art. 5 a; R.D. N° 368 of 8.5.1904, as amended, Art. 136 a and b; R.D. N° 215 of 13.2.1933, as amended, Art. 66, 71 c.2; D.P.R. N° 11 of 15.1.1972, Art. 1 h and 1, 2 c.1; Law N° 991 of 25.6.1952, as amended, Art. 16 c.3; Law N° 296 of 13.3.1958, as amended, Art. 6 c.3; D.P.R. N° 4 of 14.1.1972, Art. 7 c.2.

5/ D.P.R. N° 72 of 4.2.1955, Art. 3; R.D. N° 899 of 3.5.1937, Art. 21, 22 c.2.

6/ R.D. N° 899 of 3.5.1937, Art. 5 c.a, 7 c.1.

2.5 The Chambers of Commerce, Industry, Handicraft and Agriculture

Chambers of Commerce are public institutions controlled mainly by the Ministry of Industry, Trade and Handicraft and by such other ministries as may be concerned with the activities thereof. 1/ They are competent for the implementation of such legal measures as govern the exploitation of lands suffering instability or likely to detrimentally affect water resources. 2/

2.6 Provinces with special status 3/

Formerly forming part of one Region, the Provinces of Trento and of Bolzano have been granted autonomous legislative and administrative status. 4/ A degree of flexibility among the prerogatives of these two Provinces, those of the Regions and of the central government is nevertheless maintained. 5/ Both Provinces do enjoy financial autonomy and control their own Public Domain. 6/

The competences of the two Provinces in water resources matters extend to the exploitation of their public water resources, except for major hydropower purposes; the exploitation of mineral and thermal waters; the control of fishing and of public works of provincial interest; land reclamation and reafforestation; third, fourth and fifth class waterworks; inland ports; the protection of natural sites and monuments; the control of customary (mainly fishing) rights; and to public health. 7/

2.7 Provinces with ordinary status

Provinces with ordinary status hold competences in the issuance of fishing licences in respect of public waters and of non-public waters communicating with public waters; the issuance of fish-breeding concessions in respect of public waterresources short of economically important fish resources; the issuance of industrial waste disposal authorizations in respect of public waters; the implementation, as State or Regional concessionaires, of land reclamation works within areas not benefiting from corresponding private initiative; and in assisting financially in the construction of various inland navigation, land reclamation and other waterworks. 8/

(d) At the Municipal and users' level

1. Municipal administrations have a wide range of competences in water resources matters. As regards domestic water supply, municipalities are responsible for the construction, operation and maintenance of drinking water supply networks and for water quality control; such a control is undertaken by Municipal Sanitary Officers and the Mayors are empowered to take urgent measures for the protection of drinking water supplies and networks. 9/

1/ R.D. N° 2011 of 20.9.1934, as amended, Art. 3 c.1; D.L. Lgt. N° 315 of 21.9.1944, as amended, Art. 2 c.2.
2/ R.D. N° 3267 of 30.12.1923, as amended, Art. 4 c.3.
3/ Special Statute for Trentino-Alto Adige of 1948, as amended by Constitutional Law N° 1 of 10.11.1971.
4/ Ibidem, Art. 1, 5-6.
5/ Ibidem, Art. 49, 82 c.2, 83; D.P.R. N° 574 of 30.6.1951, Art. 3-5, 74-82.
6/ Special Statute for Trentino-Alto Adige, Art. 58 bis, as amended, 59-75.
7/ Special Statute for Trentino-Alto Adige, as amended, Art. 11, N° 6-7, 10-11, 14-15, 17, 21, 24, 12 N° 10, 13 c.1.
8/ R.D. N° 1604 of 8.10.1931, Art. 9, 11, 22 c.3, as amended by Law N° 433 of 20.3.1968, Art. 1 and by D.P.R. N° 987 of 10.6.1955, Art. 43, 51; R.D. N° 215 of 13.2.1933, as amended, Art. 7 c.4, 10 c.1, 13 c.2; Law N° 991 of 25.7.1952, as amended, Art. 25 c.3; R.D. N° 523 of 25.7 1904, as amended, Art. 5 c.2, 6, 8 c.1 and 2, 9 c.6, 10 c.3, 44 c.2; R.D. N° 383 of 3.3.1934, as amended, Art. 144 D N° 4; R.D. N° 959 of 11.7.1913, Art. 6 c.2.
9/ R.D. N° 383 of 3.3.1934, as amended, Art. 91 C N° 14; R.D. N° 1265 of 27.7.1934, as amended, Art. 40 a, 91 a, 248; Ministerial Instructions of 20.6.1896, Art. 84; R.D. N° 148 of 4.2.1915, Art. 153 c.1.

Municipalities riparian to artificial storages control navigation thereon. 1/

The Mayors are empowered to regulate drainage, and Municipalities are under an obligation to provide for sewage networks construction, operation and maintenance. 2/

In addition to general health and water quality control, Municipalities may either directly or indirectly provide for malaria eradication measures as concerns infested reservoirs, ponds and uncovered non-drinking water wells; the Mayors are further empowered to prevent and control industrial pollution of atmospheric, soil and water resources and related health hazards. 3/

As regards general waterworks, Municipalities control the construction, operation and maintenance of fifth class water works; they may also be granted concessions for land reclamation works in cases where land owners fail in seeking such grants. 4/

Finally, Municipalities participate in the financing of third and fourth class waterworks and of certain inland navigation and land reclamation works. 5/

2. At the users' level, the administration of water resources conservation, development and utilisation is undertaken by water users' associations. These may be constituted either freely or compulsorily. In the former case, associations are regulated by civil law provisions, in the latter case by public (administrative) law.

2.1 Free water users' associations are established by neighbouring landowners wishing to jointly use public and non-public waters originating from the same or from contiguous drainage basins for irrigation, industrial or multiple purposes. 6/

2.2 Compulsory water users' associations are regulated by different legal provisions depending on the intended use of the water resource. Irrigation water users' associations may use both public and non-public waters and are governed by the provisions applicable to land improvement unions; they are empowered to expropriate existing water rights among their members provided compensation is paid. 7/ In the case of water diversions from State-owned canals, the Ministry of Finance is empowered to organize compulsory water users' associations for each intake or system of intakes. 8/

In addition, general water users' associations may be set-up compulsorily by the Government directly or pursuant to the request of users concerned for a better water utilization from public watercourses and lakes at the exclusion of State-owned canals. 9/ Such associations are established by decree of the President of the Republic upon the proposal of the Minister of Public Works who then appoints their presidents. 10/ These associations are in charge of the rational management of public water resources within their district. 11/

1/ Council of State N° 780 of 28.10.1959, Sec. II, in Il Consiglio di Stato, 1961, I, 1029.
2/ R.D. N° 1265 of 27.7.1934, as amended, Art. 325-326; R.D. N° 383 of 3.3.1934, as amended, Art. 91 C N° 14.
3/ R.D. N° 93 of 28.1.1935, Art. 53; R.D. N° 1265 of 27.7.1934, as amended, Art. 216 c.1 and 6, 217 c.1. and 2; R.D. N° 45 of 3.2.1901, as amended, Art. 94; D.M. of 12.2.1971.
4/ R.D. N° 523 of 25.7.1904, as amended, Art. 10 c.2; R.D. N° 215 of 13.2.1933, as amended, Art. 13 c.2; Law N° 991 of 25.7.1952, as amended, Art. 25 c.3.
5/ R.D. N° 523 of 25.7.1904, as amended, Art. 8 c.1, 9 c.7; R.D. N° 959 of 11.7.1913, as amended, Art. 6 c.2; 9 c.1; R.D. N° 215 of 13.2.1933, as amended, Art. 7 c.4, 10 c.1.
6/ Civil Code, Art. 918-920 ; Law N° 5192 of 2.2.1888, Art. 1, 16.
7/ T.U., Art. 59.
8/ R.D. L. N° 1335, of 18.6.1936, Art. 2 c.3 and 4, 3 c.2.
9/ T.U., Art. 16 c.1, 59 c.1 and 2.
10/ Ibidem, Art. 60-62.
11/ Ibidem, Art. 59 c.1.

The use of water therein is then subject to the obtention of a concession which may be granted either to the association or to individual users; new users of public waters in the districts are however compelled to join the association. 1/ Water users' associations are controlled by the Ministry of Public Works who may establish Unions of water users' associations in order to ensure the coordination of their activities. 2/

Furthermore, a number of non-water users' associations which may operate at the local, regional and inter-regional level, hold various prerogatives incidental to water resources management. These include:

2.3 Land Reclamation Associations, and their unions, which comprise full land reclamation, mountain land reclamation, land improvement, mountain land conservation, re-afforestation and hydro-geologic land consolidation associations; 3/

2.4 Waterworks Associations, and their Unions, which comprise classified and non-classified waterworks, inland navigation works, drainage and stream regulation associations; 4/

2.5 Associations for the protection of fish resources which are open to public and private entities and individuals engaged in fishing, fish-breeding, fish trade and industry or in related subjects. Such associations may also be established compulsorily; 5/ and

2.6 Industrial Development Associations comprising Provinces, Municipalities, Chambers of Commerce and other entities concerned with industrial development in central and southern Italy. These associations participate in water supply and sewerage works construction, operation and maintenance. 6/

XIII- SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

A number of special and autonomous agencies dealing either directly or indirectly with water resources development operate at different administrative levels.

(a) At the national level

1. The National Board for Electric Energy (ENEL) enjoys a State monopoly in the production, import-export and distribution of electric power, whatever the source of production. 7/ Operating under the policy guidance of an interministerial committee for economic planning and under the surveillance of the Minister of Industry, Trade and Handifraft, ENEL is a public corporation having financial autonomy and national jurisdiction in its field of activities. 8/ ENEL is geographically decentralized into departments, districts and zones. 9/

1/ T.U., Art. 66.
2/ Ibidem, Art. 70 c.1, 71 c.1.
3/ R.D. N° 215 of 13.2.1933, as amended, Art. 54-73; Law N° 991 of 25.7.1952, as amended, Art. 10-13, 16-18; D.P.R. N° 1979 of 16.11.1952, Art. 23; R.D. N° 3267 of 30.12.1923, as amended, Art. 59 c.1 and 2, 79 c.1 and 2.
4/ R.D. N° 523 of 25.7.1904, as amended, Art. 18-31, 63-66; R.D. N° 959 of 11.7.1913, as amended, Art. 9 c.1, 11 c.1, 12 c.2, 14 c.1, 15 c.1; R.D. N° 1514 of 17.11.1913, Art. 16, 21-24; Civil Code, Art. 914 c.1.
5/ R.D. N° 1604 of 8.10.1931, Art. 53, 54 c.1, 57.
6/ D.P.R. N° 1523 of 30.6.1967, as amended, Art. 1 c.1, 144 c.1 and 3; Law N° 634 of 21.7.1957, as amended, Art. 21 c.1.
7/ Law N° 1643 of 6.12.1962, Art. 1 c.1.
8/ Ibidem, Art. 1 c.2, 1 c.5, 1 c.8; D.P.R. N° 554 of 14.6.1967, Art. 1 c.2; D.P.R. N° 1670 of 15.12.1962, Art. 5 N° 3.
9/ D.P.R. N° 342 of 18.3.1965, Art. 1 c.1.

Most pre-existing hydropower production bodies have, together with their public water diversion concessions, been tranferred to ENEL. 1/ These and subsequent concessions have an indefinite duration; in addition, ENEL enjoys priority in the obtention of public water diversion concessions for hydro-power production purposes. 2/

ENEL is empowered to sub-contract and control, under the concession regime, the production and distribution of hydro-power by public and private corporations upon authorization of the Minister of Industry, Trade and Handicraft; the import and export of electric energy is however excepted. 3/

2. The State-Owned Forests Agency (A.S.F.D.) is responsibee for the management of State-owned forests, including water resources therein, and of the Circeo, Stelvio and Calabria National Parks; while such forests have now been incorporated into the Regional and Provincial Domains, ASFD still maintains its statutory prerogatives thereon for the time being. 4/ Special provisions govern in particular the issuance of fishing authorizations. 5/

(b) At the inter-regional level

1. The Development Fund for Southern Italy is entrusted with the planning, financing, and construction of major public interest works, including water-works, and with the operation and maintenance thereof in special circumstances. 6/ The Fund operates within central and southern Italy; it enjoys juridical and financial autonomy. 7/ Its budget is supported by Treasury funds and controlled by the Minister for Extraordinary Interventions in Southern Italy. 8/

The Fund may benefit from the exclusive right to exploit certain public waters for a four-year, renewable term and is given priority in the obtention of public water diversion concessions for a better implementation of its objectives. 9/

2. The Autonomous Water Supply Board for Puglia (E.A.A.P.) is a special agency entrusted with the construction, operation and maintenance of drinking water and sewage networks and with the promotion of irrigation in the Puglia and Lucania Regions, and with re-afforestation in the Sele River basin. 10/

1/ Law N° 1643 of 6.12.1962, Art. 4 N° 9.
2/ Ibidem; D.P.R. N° 343 of 18.3.1965, Art. 9 c.1 and 2.
3/ Law N° 1643 of 6.12.1962, Art. 4 N° 5; D.P.R. N° 36 of 4.2.1963, Art. 10 c.1; D.P.R. N° 342 of 18.3.1965, Art. 11, 20 c.1; Law N° 452 of 27.6.1964, Art. 2 c.1; D.M. of 12.9.1964, Art. 3, 11 c.1.
4/ Law N° 30 of 5.1.1933, Art. 2 a; Law N° 285 of 25.1.1934, Art. 2; Law N° 740 of 25.4.1935, Art. 2; Law N° 503 of 2.4.1968, Art. 9 c.1 R.D. N° 3267 of 30.12.1923, Art. 168; R.D. N° 1577, of 5.10.1933, Art. 39, 42 c and e.
5/ Law N° 285 of 25.1.1934, Art. 5 e; R.D. N° 1324 of 7.3.1935, Art. 1 b, 11 (Circeo); D.P.R. N° 1178 of 30.6.1951, Art. 13 (Stelvio); Law N° 503 of 2.4.1968; Art. 2 c, 3 c.6 b (Calabria).
6/ Law N° 646 of 10.8.1950, as amended, Art. 1 c.1 and 2, 2; D.P.R. N° 1523 of 30.6.1967, Art. 9 c.1, 33 c.3, 61, 134 c.3, 204 c.1 and 2, 209 c.1, 318.
7/ D.P.R. N° 1523 of 30.6.1967, Art. 1, 9 c.1.
8/ Ibidem, Art. 6 b, 15 c.2, 20.
9/ T.U., Art. 51 c.1, D.P.R. N° 1523 of 30.6.1967, Art. 35 c.1 and 2, 321 c.1.
10/ R.D.L. N° 2060 of 19.10.1919, as amended, Art. 1 c.2; Law N° 245 of 26.6.1902, Art. 1 c.1; R.D.L. N° 1464 of 2.8.1938, as amended, Art. 1; Law N° 664 of 28.5.1942, Art. 1, 3; R.D. N° 195 of 16.1.1921, Art. 2 c and h, 147.

3. The Aresso, Perugia, Siena and Terni Provinces Land Reclamation, Irrigation and Management Board, is an autonomous agency in charge of the financing and construction of irrigation and land improvement works in these Provinces; its preprogatives may as well extend to river regulation and land reclamation works. 1/ The Board may benefit from a four year exclusive right of use on public watercourses and has preference in the obtention of public water diversion concessions. 2/

4. The Puglia and Lucania Regions Irrigation and Land Improvement Board is responsible for the promotion of irrigation and land improvement works in these two Regions. 3/

5. The Inter-Regional Development Boards have been instituted in 1965 in order to promote and carry out land reclamation and improvement works in the Po Delta area, the Tuscany and Lazio Regions (Ente Maremma) and in the Puglia and Lucania Regions. These Boards have taken over the functions of prior existing agencies and some of the prior legislation has accordingly been maintained. 4/

6. The Three Venezia National Board is in charge of land reclamation and improvement in Venezia Tridentina, Venezia Giulia and Venezia Euganea. The Board functions either as landowner or tenant, Government contractor or agent, or on behalf of landowners' associations and of other bodies concerned. It further acts as Development Board within these areas. 5/

7. The Abruzzi National Park Autonomous Board is entrusted with the management of this National Park, including water resources therein. In particular, it issues corresponding fishing permits. 6/

(c) At the regional level

1. The Sicily Regional Water Supply Board (E.A.S.) is in charge of the construction, operation and maintenance of urban and rural water supply and sewerage networks within the Region. 7/

2. The Sardinia Water Supply and Sewerage Board (E.S.A.F.) holds similar responsibilities for the Region of Sardinia. 8/

3. The Sicily Agrarian Development Board (E.S.A.) promotes the development of irrigation and water supply networks within the Region. 9/

4. The Friuli-Venezia Giulia Regional Agrarian Development Board (E.R.S.A.) is in particular responsible for land reclamation within the Region. 10/

1/ Law N° 1048 of 18.10.1961, Art. 2 c.1 and 2; Law N° 765 of 15.9.1964, Art. 3.
2/ Law N° 1048 of 18.10.1961, Art. 9 c.1 and 5.
3/ D.L.C.P.S. N° 281 of 18.3.1947, as amended, Art. 2 c.1.
4/ Law N° 230 of 12.5.1950, Art. 10; Law N° 841 of 21.10.1950, Art. 3, 22; D.P.R. N° 948 of 23.6.1962, Art. 1 c.5, 2-3; Law N° 901 of 14.7.1965, Art. 1 N° 2, 3 b and g.
5/ Law N° 1780 of 27.11.1939, Art. 2 N° 1; D.P.R. N° 948 of 23.6.1962, Art. 1 c.1, 3.
6/ Law N° 991 of 21.10.1950, Art. 2; R.D.L. N° 257 of 11.1.1923, Art. 4 e.
7/ Law N° 24 of 19.1.1942, Art. 1 a, d, e and c.3.
8/ Sardinian Regional Law N° 18 of 20.2.1957, Art. 1 c.1.
9/ Sicilian Regional Law N° 21 of 10.8.1965, Art. 2 c.1; D.P.G. N° 108/A of 21.1.1966, Art. 2 c.1.
10/ Friuli-Venezia Giulia Regional Law N° 15 of 19.7.1967, Art. 17-18.

5. The Regional Development Boards are competent for the general development of their Regions, including water resources therein. Formerly called the Sardinia Agrarian and Land Improvement Board, the Regional Development Board for Sardinia was reorganized in its present structure in 1965 along with those of Campania, Abruzzi (Ente Fucino) and Calabria (Opera Sila) Regions 1/; Regional Development Boards were later established for the Regions of Marche, Umbria and Molise. 2/

6. The Sicily Regional Forests Agency (R.F.D.R.S.) holds regional forest management responsibilities, including the issuance of short-term concessions for minor public water diversions, the training and regulation of watercourses within Agency owned lands and the maintenance of water supply networks therein. 3/

7. The Sardinia Regional Forests Agency holds identical responsibilities as regards the Sardinia Region. 4/

8. The Friuli-Venezia Giulia Regional Forests Agency as well holds functions and powers similar to those of the other two regional forests agencies. 5/

(d) At the basin level

Besides the Po River Authority, which is a Government river basin agency, there is at present one autonomous river Board holding basinwide prerogatives.

The Flumendosa Autonomous River Board has been established to undertake all such works as may be required to ensure the optimum utilization of the middle and lower Flumendosa river basin for drinking, irrigation and, under an ENEL concession, for hydro-power production purposes. It is anticipated that, once its purposes have been achieved, the Board will have the functions of a Union of water users' associations and will coordinate related water-works operation and maintenance. 6/

(e) At the local level

1. The Ischia Island Management Board is an autonomous agency which is in charge of the management of this touristic resort and, in particular, of its water resources; the Board is responsible for the drinking water supply of the island. 7/

2. The Mount Portofino Autonomous Board controls water utilizations within the Portofino area; it issues non-public water resources prospection and use authorizations and is consulted prior to the issuance of public water diversion concessions. 8/

1/ D.P.R. N° 265 of 27.4.1951; Law N° 901 of 14.7.1965, Art. 1 N° 2.
2/ D.P.R. N° 253 of 14.2.1966, Art. 1 c.1; Law N° 20 of 2.12.1970, Art. 6.
3/ Sicilian Regional Law N° 18 of 11.3.1950, Art. 1 c.2, 3 a; R.D. N° 1577 of 5.10.1933, Art. 39, 42 c and e.
4/ Law N° 6 of 29.2.1956, approving the Statute of the Agency; Statute, Art. 1 a as amended by Law N° 19 of 5.7.1972, Art. 1; D.P.G. N° 3 of 21.1.1957, Art 29 c.1, 32 c and e.
5/ Friuli-Venezia Giulia Regional Law N° 7 of 25.5.1966, Art. 3 a; D.P.G. N° 58 of 30.10.1967, Art. 20; R.D. N° 1577 of 5.10.1933, Art. 39, 42 c and e.
6/ R.D.L. N° 498 of 17.5.1946, as amended, Art. 1 c.1, 10; Law N° 1643 of 6.12.1962, Art. 4 N° 5.
7/ Law N° 1450 of 22.7.1939, as amended, Art. 1 N° 2.
8/ Law N° 1251 of 20.6.1935, Art. 4 c.3, 5.

XIV - LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES

(a) Government financial participation

Government participation in water resources development financing takes the form of outright grants or of loans. Depending on the type of undertaking, such a participation is either central, regional, provincial or municipal and may cover investment, maintenance costs or both.

Full central government financing is provided for first class waterworks construction, operation and maintenance; first class waterway works and second class waterway works rehabilitation and maintenance; State-owned canal navigation works unless provided otherwise by special agreement with the Regions or Provinces concerned; State implemented full land reclamation and related works; certain mountain land reclamation works; and for mountain watershed stabilization works when carried out by the State directly or under a concession. 1/

State, Regional, Provincial and/or Municipal financial participation may cover such undertakings as second class waterworks; third and fourth class waterworks and the ordinary or extraordinary maintenance thereof when undertaken by water users' associations or their Unions; fifth class water works implemented by the Municipalities concerned; new works on second class waterways; third and fourth class waterway works undertaken by the Municipalities and compulsory water users' associations concerned; land reclamation works undertaken by the State, the Regions, the Provinces, Municipalities or individual landowners; compulsory land reclamation works imposed by the Ministry of Agriculture and Forestry upon individual landowners; land improvement works in which case the participation is either proportional to the improved land surface or based on the types of works implemented; State or privately implemented mountain land reclamation works of general interest; special waterworks to be carried out within the Calabria, Lazio and Basilicata Regions; the construction of, or compulsory modification by concession holders to artificial storages, lakes and other hydraulic regulation works in which case 30 to 60 per cent of the cost is subsidized by the Ministry of Public Works proportionately to corresponding benefits; and special subsidies to hydropower plants with a minimum capacity of 100 KW/h and located within central or southern Italy. 2/

As regards water supply and sewage networks, the Ministry of Public Works may make a 30 years financial contribution to Municipalities and water users' associations, or their Unions, concerned; such a contribution is proportional to the population benefiting therefrom. 3/ Where such networks form part of an existing Water Supply and Sewage Master Plan, this contribution is proportional to the areas served. 4/ Special measures apply to central and southern Italy and one additional capital grant may be made in particular cases. 5/

1/ R.D. N° 523 of 25.7.1904, as amended, Art. 4 c.2, 5 c.2, 6, 8, 44 c.2; R.D. N° 959 of 11.7.1913, as amended, Art. 5, 6.1 and 2, 16; R.D. N° 215 of 13.2.1933, as amended, Art. 7 c.1; D.P.R. N° 1523 of 30.6.1967, Art. 71 c.1; Law N° 991 of 25.7.1952, as amended, Art. 20 c.1; R.D. N° 3267 of 30.12.1923, as amended, Art. 39 c.1 and 2, 59 c.1, 60 c.1.

2/ R.D. N° 523 of 25.7.1904, as amended, Art. 5 c.2, 6, 9, 10 c.2 and 3, 11; R.D. N° 383 of 3.3.1934, as amended, Art. 91 E N° 3, 144 N° 14; Law N° 293 of 30.6.1904, Art. 4; R.D. N° 959 of 11.7.1913, as amended, Art. 5, 6 c.1 and 2, 9 c.1 and 2, 14 c.1 and 2; R.D. N° 215 of 13.2.1933, as amended, Art. 7, 8, 10 c.1, 43 c.1, 44 c.1 and 2; D.P.R. N° 1523 of 30.6.1967, Art. 52, 53 c.1, 58, 71, 72 c.1, 174 N° 1, 207 c.1, 208 c.1, 299 c.1; Law N° 1117 of 18.12.1959; Law N° 991 of 25.7.1952, as amended, Art. 20 c.2 and 5; T.U., Art. 73 N° 3, 75 c.1, 76 c.1.

3/ Law N° 589 of 3.8.1949, as amended, Art. 3 c.1-3.

4/ D.P.R. N° 1090 of 11.3.1968, Art. 13, 15.

5/ D.P.R. N° 1523 of 30.6.1967, Art. 45 a; D.P.R. N° 1090 of 11.3.1968, Art. 14 c.1, 15.

(b) Water rates and charges

As a principle, all uses of public surface and ground water are subject to the payment of water charges. Rates are established on a yearly volume/time or, when this is not possible, on a volume/surface basis. 1/ These vary according to the type of utilization. 2/

Water rates levied on diversions assorted with an obligation to return the diverted flow, after use, to the main course or on the diversion of intermittent winter water for irrigation purposes are reduced by half; the same applies to small multipurpose diversions for irrigation and land reclamation purposes. In the case of diversions for exclusive land reclamation purposes, rates are reduced to one fifth of those due for irrigation uses without the obligation to restitute diverted waters. Conversely, the partial or total use of public water for multipurpose irrigation-cum-power generation purposes is subject to the highest prevailing rate. Water uses for hydropower generation are charged annually on the basis of the installed horsepower capacity, itself assessed proportionately to the average yearly available water-head.

Water rates are levied by the State, usually through the administrative or autonomous agency which grants the corresponding water rights; a portion thereof is reserved for the Municipality or Province immediately concerned.

In the case of drinking water supplies however, Municipalities, land reclamation associations and public welfare institutions may be exempted from corresponding charges when water is delivered free to consumers; the same applies, totally or partially, to holders of concessions for the construction of artificial storages or flow regulation works. In both cases, exemptions apply only to the State portion of the rates, and not to that of Municipalities or Provinces concerned. 3/

Special rates are levied on water diversions from State-owned and from the Cavour canals. Irrigation water rates levied on Cavour Canals water are subject to contractual arrangements between the users and the Cavour canals Administration after approval by the Minister of Finance; other water uses thereof and all State-owned canal water utilizations are charged in accordance with tariffs established on a case to case basis by the competent authority. 4/

Mineral and thermal water resources are assimilated to mineral resources and their use subject to the payment of an annual charge proportional to the land surface covered by the corresponding concession. 5/

Special provisions further apply to the levying of charges for particular hydropower uses of water. In the case of mountain watershed hydro-power installations, a different rate is applied and levied in favour of Municipalities both within and up to a certain distance without the watershed concerned. As an alternative, these Municipalities may request an equivalent power supply instead of the said charges. 6/ Concession holders for large diversions of water for power generation purposes may be charged an additional annual rate in favour of the riparian Municipalities; where electric energy is transported outside the relevant provincial area, one fourth thereof is allocated to the provincial administration and the remainder to the riparian Municipalities. 7/ As to concession holders for minor water diversions, a portion of the corresponding water charges is allocated to the regional administrations with ordinary status. 8/

1/ T.U., Art. 35 as amended by D.L.C.P.S. No. 24 of 7.1.1947, by Law No. 8 of 21.1.1949, Art. 1 c.1, and by Law No. 1501 of 21.12.1961, Art. 1 c.1.
2/ Ibidem, Art. 36.
3/ Ibidem, Art. 37 c.3, 73 No. 1.
4/ R.D. No. 83 of 1.3.1896, Art. 7 No. 4; R.D. No. 121 of 29.3.1906, Art. 34 c.1 and 2.
5/ R.D. No. 1443 of 29.7.1927, Art. 25 as amended.
6/ Law No. 959 of 27.12.1953, Art. 1, 3, 4; Law No. 1254 of 30.12.1959, Art. 1 and 2.
7/ T.U., Art. 53 c.1 and 4.
8/ Law No. 281 of 16.5.1970, Art. 2 c.1.

Finally, where the minimum flow of surface or underground public water resources is increased as a consequence of storage or other waterworks, water users are charged an added-land-value fee in favour of the holder of the waterworks concession. 1/

As concerns the use of non-diverted public waters, charges are applied to inland navigation and related services. The purpose of these charges is to amortize initial investments in navigation works or the improvement, operation and maintenance thereof; charges therefore decrease proportionately in time. 2/ These charges are levied both on users of navigation facilities and on riparian landowners, merchants and manufacturers benefiting therefrom. 3/

All beneficiaries of prior water use rights which were free of any charge are equally subject to related payments as from the date their rights have been confirmed; in this case, however, they may benefit from a special, preferential treatment. 4/

In addition to the above water rates and charges, special fees are charged upon the issuance of water use authorizations, permits and concessions such as in the case of groundwater exploration and exploitation authorizations, inland public water fish-breeding concessions, fishing licences, quarrying permits, industrial waste disposal authorizations in respect of public waters, hydro-power generation and public water diversion concessions. 5/ Authorizations, permits and concessions issued as confirmation of prior existing rights are however exempted. 6/

XV - IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

(a) Juridical protection of existing water rights

Existing non-public water rights benefit from the protection normally afforded by civil law remedies. These include in particular the various possessory actions and suits for damages. 7/ Ordinary Civil Courts are competent for the settlement of related private law suits and for the setting of compensation in relevant instances. 8/

Existing public water rights are protected by the terms and conditions of the corresponding authorization, licence, permit or concession. In the case where an existing non-public water right acquires the status of public water right as a result of a public water declaration, the user is entitled to the administrative confirmation of his right by means of a corresponding title and thereby acquires public juridical protection for his actual use; this protection is however afforded only provided the use is maintained effective within a specified period of time from the date of the administrative confirmation. 9/

1/ T.U., Art. 84 c.1.
2/ R.D. N° 959 of 11.7.1913, as amended, Art. 20 c.1 and 2, 21 c.3 a and b, 22; R.D. N° 1514 of 17.11.1913, as amended, Art. 38, 41 b, 45 c.1, 49, 50 a, b and c.
3/ R.D. N° 959 of 11.7.1913, as amended, Art. 19 c.1, 21 c.3 a; R.D. N° 1514 of 17.11.1913, as amended, Art. 28 a, b, c, 30-31.
4/ T.U., Art. 38.
5/ D.P.R. N° 121 of 1.3.1961, N° 54-55, 121, 169, 174, 176, 178.
6/ Ibidem, Annex A N° 173.
7/ Civil Code, Art. 1079, 1145 c.2 and 3, 1168, 1170-1172.
8/ Ibidem, Art. 912 c.2; Supreme Court of Appeals, N° 1062 of 6.6.1959, in Foro it., Mass. 1962, 321.
9/ T.U., Art. 4.

In cases where a recognized public water right is either reduced, modified or cancelled without fault on the part of the lawful user, compensation is paid. 1/

Appeals against first instance administrative decisions may be lodged with the Regional Public Water Courts and, where relevant, with the Supreme Public Water Court. According to the Italian judiciary system, administrative jurisdictions are in principle competent for the protection of legitimate interests and civil courts for the protection of lawful rights. 2/ As a consequence, whatever administrative competence is not expressly provided for in public law devolves upon ordinary courts.

(b) Modification or re-allocation of water rights

Besides the unilateral or consensual modification of non-public water rights, civil courts may, in settling a water dispute, modify or re-allocate existing rights; in doing so, however, consideration must be given to concurrent and competetive interests in the light of general domestic, agricultural and industrial water use benefits. 3/

As concerns public water uses, authorization issuing administrations are competent to modify or re-allocate water rights in connection with new applications for water uses; in this case, existing users are consulted and entitled to compensation. 4/ Compensation is normally due by the new user to the former either in water or energy equivalent; water rates formerly paid to the government administration are then paid to the new user. 5/ Where for economic or technical reasons such a procedure cannot be followed, the former user is compensated in full for the modified or re-allocated portion of his right as in cases of expropriation. 6/

The Minister of Public Works may further limit or modify existing water rights in cases of water shortages or subsequently to permanent alterations occurring to public water resources; the Minister of Finance is however competent as regards State-owned canal water. 7/ Where such alterations occur as a result of new public works, the charges formerly due by existing users are either reduced proportionately to corresponding modifications in actual uses or suppressed; should such modifications cause the extinction of a former water right, the former user may be indemnified. The same applies to modifications resulting from natural causes, except for the fact that no indemnity is then due. 8/

In the case of water diversions for irrigation purposes, present landowners benefit from a right of repurchase in respect of public water rights which the former users reserved for themselves when selling the land served by these waters; existing irrigation water rights are however automatically transferred to the new user upon the sale of land served by public waters. 9/

(c) Water tribunals, courts or other judiciary authorities

Italy is one of the few countries having special water courts or tribuals. These functions at the regional level; in addition, there is a Supreme Water Court. Basically, water courts are competent for public water and the ordinary civil juricial organization for non-public water matters.

1/ T.U., Art. 45 c.2 and 3, 47 c.2; R.D. N° 1604 of 8.10.1931, as amended, Art. 29 c.2; R.D. N° 899 of 3.5.1937, Art. 19 c.2, 20 c.3 and 4.
2/ Law N° 2248 of 20.3.1865, as amended, Annex E, Art. 2.
3/ Civil Code, Art. 912 c.1; see also Astuti, op. cit. p. 398-399.
4/ T.U., Art. 45 c.1, 47 c.2; R.D. N° 899 of 3.5.1937, Art. 20 c.1.
5/ T.U., Art. 45 c.2; R.D. N° 899 of 3.5.1937, Art. 20 c.3.
6/ T.U., Art. 45 c.3; R.D. N° 899 od 3.5.1937, Art. 20 c.4; see also Supreme Court of Appeals N° 1029 of 25.5.1965 in Rassegna giuridica dell'ENEL, 1965, I, 485.
7/ T.U., Art. 43 c.4, 48 c.3; R.D. N° 899 of 3.5.1937, Art. 16.
8/ T.U., Art. 48 c.1; D.M. of 14.1.1949, Art. 8.f.
9/ T.U., Art. 20 c.3, 32 c.4; R.D. N° 899 of 3.5.1937, Art. 18 c.3.

1. Regional water courts 1/ are composed of one division of the Regional Court of Appeals and of three Officers from the Office of Civil Engineering concerned appointed by Decree of the President of the Republic. These officers are appointed for a five-year, renewable, term. Regional water courts hold first instance jurisdictional competences in the declaration of public waters; the delimitation of watercourses, lakes, river banks and beds; matters affecting existing public water use rights; expropriations in connection with the construction, operation and maintenance of public water and land reclamation works; the setting of compensation for damages resulting from public waterworks and in cases of exclusive fishing right expropriation; and in water policing matters. 2/ In addition, these courts are competent as well in the case of disputes concerning non-public groundwater resources provided such waters occur within a protected district and that the responsible public water administration is concerned with such disputes. 3/

The same courts normally function as well as appellate jurisdictions for civil law cases decided by the local magistrate of first instance jurisdiction. 4/

2. The Supreme Water Court is composed of a President appointed by Decree of the President of the Republic, of four Councillors of State appointed by the President of the Council of State, of four magistrates from the Supreme Court of Appeals and of three members of the Supreme Council of Public Works appointed by their respective Presidents. Members of the Supreme Water Court are appointed for a five-year renewable term. 5/ This Court functions as appellate jurisdiction as concerns Regional Water Court judgements.

In addition, the Supreme Water Court functions as sole instance in cases where administrative measures have been taken without the required competences, by abuse of power or against the law; in public water policing matters; in the cancellation and forfeiture declaration of exclusive fishing rights; and in all other cases specified by law. 6/

The composition of the Supreme Water Court varies according to whether it functions as appellate or sole instance court. 7/

All matters falling outside the competence of the Public Water Courts devolves upon the civil judiciary organization. 8/

3. Finally, all matters pertaining to customary water rights are settled by Regional Commissioners appointed for this purpose by Decree of the President of the Republic and vested with the required judiciary powers. 9/

(d) Penalties

Water uses without the necessary authorization or the non-observance of the terms and conditions thereof, the unauthorized construction of water and related works, damages to water resources and to aquatic life or to waterworks, the unauthorized discharge of industrial waste into public waters and contraventions to the provisions of the water legislation in general constitute offences. These are liable to fines, imprisonment or both and to pre-

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1/ T.U., Art. 138 c.1-3.
2/ Ibidem, Art. 140.
3/ Ibidem, Art. 144.
4/ Ibidem, Art. 141 c.3.
5/ Ibidem, Art. 139.
6/ Ibidem, Art. 143, 144; R.D. N° 1604 of 8.10.1931, as amended, Art. 26 c.4, 28 c.2.
7/ Ibidem, Art. 142 c.1, 143 c.3.
8/ Civil Code, Art. 912.
9/ Law N° 1766 of 16.6.1927, Art. 27 c.1, 28 c.2, 29 c.1.

ventive, restoration and redress actions. 1/

XVI - CUSTOMARY WATER LAW AND INSTITUTIONS

The Italian legislation recognizes municipal customary rights and quarrying customs in respect of public watercourses and lakes. Among municipal customary rights are the watering of animals and fishing. 2/ Such rights are also recognized on public water resources. 3/

Whereas the customary right of animal watering is subject to general judicial confirmation, customary fishing rights are maintained and regulated by special legislation. 4/ Regional Commissioners have been established to liquidate animal watering and other customary rights. 5/

As regards quarrying customs, these may be limited or suppressed by the competent Offices of Civil Engineering, or by the competent River Authorities, in cases where such practices are deemed harmful to the water resource or to the public or private interests. 6/

1/ T.U.,Art. 17 c.1, 55 c and d, 219 as amended by Law N° 417 of 1.7.1949, Art. 221, 222; R.D. N° 899 of 3.5.1937, Art. 22; R.D. N° 1604 of 8.10.1931, as amended, Art. 33 c.1, 36 c.1, 37 c.2b; R.D. N° 1443 of 29.7.1927, as amended, Art. 2c., 51 c.1; Law N° 963 of 14.7.1965, Art. 25; Law N° 2248 of 20.3.1865, Annex F., Art. 378 c.1; R.D. N° 959 of 11.7.1913, Art. 57 c.1; R.D. N° 1688 of 19.11.1921, Art. 1.c.2; Law N° 1484 of 10.10.1962, Art. 5a; Law N° 257 of 5.5.1907, as amended, Art. 14 d.

2/ Law N° 1766 of 16.6.1927, Art. 4 c.2; R.D. N° 332 of 26.2.1928, Art. 10 c.1.

3/ Court of Appeals N° 1427 of 27.4.1957, in Foro it., 1958, I, 1919.

4/ Law N° 1766 of 16.6.1927, Art. 1-4 c.2, 29 c.1; R.D. N° 332 of 24.2.1928, Art. 10 c.1; Court of Appeals N° 2072 of 11.10.1961 in Giust. civ., 1961, I, 1982.

5/ Law N° 1766 of 16.6.1927, Art. 27 c.1; 29 c.2;R.D. N° 332 of 26.2.1928, Art. 10 c.2.

6/ R.D. N° 523 of 25.7.1904, as amended, Art. 97; R.D. N° 1688 of 16.11.1921, Art. 1 c.1; Law N° 1484 of 10.10.1962, Art. 5 a; Law N° 257 of 5.5.1907, as amended, Art. 14 d.

S P A I N 1/

I - INTRODUCTION

Situated at the extreme West of Europe, between the Atlantic and the Mediterranean Seas, the Spanish Peninsula occupies an area of 500,000 square kilometers. A broken relief with 18 per cent of the land surface above 1000 meters and 13 per cent below 200 meters, makes it the second European country in terms of average elevation.

The proximity to the African Continent provokes hot summers while the mountainous center experiences cold winters with abundant frosts.

Rainfall is limited and irregular, marked by a wide seasonal and hyperannual dispersion and with an unfavourable geographical distribution. Pluviometric records over the last 20 years give an average yearly precipitation of 700 mm with maxima of 2,000 mm in certain northern zones and minima of 200 mm in the Southeast. To such an irregular regime of rainfall correspond uneven river discharges with a considerably higher run-off towards the Atlantic than towards the Mediterranean versant which, though better fit for agriculture, receives only one third of the national river flow.

As to soils, roughly 52 per cent are light-coloured soils in arid zones, 25 per cent of the non-calcic dark-brown type, 16 per cent of the light-coloured podsolized type in forest zones, 4 per cent of rendsine and 3 per cent of alluvial soils. Saline and alkaline soils form complexes with those of arid zones and are unevenly distributed.

Of the total land surface, 20 million ha are currently under cultivation, 25 million ha are forest and pasture land and the remaining 5 million ha are unproductive. The irrigated surface covers some 2.5 million ha , chiefly for fruit and other orchard crops. The 18 million ha of dry land support cereals, olive, wine and other minor crops.

The total population of some 35 million inhabitants is equally irregularly distributed within such a natural environment. While 24 million people live in towns of more than 1,000 inhabitants, the rest of the population is widespread into more than 20,000 settlements of less than 1,000 inhabitants. It is easily understandable that the required water supply constitutes a serious economic problem as a result of which local communal services are able to feed no more than 25 million people.

As to the production of hydro-electrical power, a similar imbalance between the main productive zones of the Northwest and West and the distant urban and industrial consumer centers, requires the provision of costly transmission lines.

Of a total run-off of 450 cubic kilometers annually, and with the exception of the Northern Basin which is better watered than the rest of the country, an average of 20 per cent consists in river discharges. The increasing water demand for power, domestic, municipal, irrigation and industrial purposes has thus required the development of the national storage capacity from 4 per cent of the total run-off with some 100 dams higher than 15 meters in 1940, to 25 per cent with 286 dams in 1967, and to plan for a 65 per cent target.

1/ Prepared for the F.A.O. Legislation Branch by Don Carlos Arrieta, General Water Commissioner, General Directorate for Hydraulic Works, Ministry of Public Works, Madrid, Spain, December 1974 (Original Spanish)

In addition to the development of the national storage capacity in order to obviate time-space hydrographic irregularities, the intermittent nature of Spanish watercourses requires the provision of flood protection and channelling works to supplement flow regulation measures for which storage dams alone cannot economically provide fully.

Finally, the uneven repartition of run-off between the Atlantic and Mediterranean coasts which, excluding the Ebro Basin, would leave the latter supporting 30 per cent of the total population with 10 per cent of all available water resources, further necessitates the "hydraulic surgery" of trans-basin diversions. Large-scale works were started ten years ago with the Tajo-Segura diversion which, together with that of the Ebro-East Pyrenees currently underway, will considerably increase the supply of water to Catalonia for drinking, irrigation and industrial water uses.

For the purpose of examining the evolution of Spanish water law, the juridico-political history of Spain may be divided into four main periods. The first, or Roman period, extends from the origins until the fall of the Iberian Peninsula under Moslem hegemony in the early 8th Century. Traces can be found of the hydraulic civilization of the Guadalquivir dating back to 1500 B.C. under the Tartessos who had apparently been in contact with eastern civilizations. In 500 B.C., the Carthaginians destroy the Phoenician city of Badeira (Cádiz) which had been founded around 900 B.C., date at which the Celts infiltrated from the north into the Ebro Basin. From 600 to 550 B.C., the Peninsula comes under the pressure of the Greeks who, penetrating both from inland and by the Mediterranean, force the Carthaginians to withdraw into Andalusia and on the Straits of Gibraltar were they remain until around 200 B.C. Having benefited from the Roman Peace for a long period, Spain gradually falls however under Roman rule between the IIIrd and IInd Centuries B.C. Until the Barbaric invasions of 409 A.D. and the murder of Valentinius III, the grandson of Theodosius in 455, the Justinian Codes of law applied throughout the colony. Roman rule in Spain was however challenged as from that date by the Barbaric monarchies. Called to help, the Visigoths were beaten by the Franks and compelled to retreat to Toledo. From that time, Spain became split into the northern region governed by the Visigoths who applied customary law with its principle of "personality of the law" and cultivated Arianism, and into the southern region which remained under Byzantine influence and wherein Roman Law continued to apply within a Catholic environment. Catholicism was however generally imposed as from 589, date of the Council of Toledo, by the Goths who had managed to unify somehow and to romanize the Iberian Peninsula in which they subsequently institutionalized the "Liber Judicorum", compiled between 649 and 672, as the sole Code of Law applicable to all their subjects. It is interesting to note that this Justinian inspired code continued to constitute the basis of Spanish law until the compilation of the "Siete Partidas" in the XIIIth Century.

Internal strifes led the Basques to call for help from the Moors who shortly thereafter occupied the whole Peninsula (al-Andaluz), thus initiating in 711 a period of Moslem rule over Spain, or second period, that was to last for more than three centuries. Fighting the Abassids, Abd-al-Rahman, an Omayyad having separated from the Syrian Caliphate, established his capital at Cordova in 756. Although having introduced Moslem administration and elements of Syrian culture into Spain, the Moors had however maintained non-Moslems into their cult through the "capitularies". In 929, Abd-al-Rahman III established himself as the Caliphe, centralized the administration and installed remarkable judicial and financial institutions as compared with the disparity of mediaeval Europe. It is during this period that Moslems, Jews and Christians initiated the harmonious cultural and economic development of Spain which, under Moslem leadership, was later to spread over the whole of Europe. Agriculture, especially, flourished through the import of new irrigation techniques

and waterworks such as the Archimedian Screw, the Noria, and the digging of underground water galleries. As from the VIIIth Century, however, the Christian kings had withdrawn to the northern mountains of the Asturias and to Galicia where Alphonso I established his kingdom in 739, initiating thereby the Reconquista which was to be achieved by the XIIIth Century. By 1005, Sancho III the Great had re-established the kingdom of León in parallel with the Caliphate of Cordova, but without Castile which had rejected Visigothan law (Forum Judicorum) in favour of the Castilean Customs.

Despite the defeat of Charlemagne at Ronceveaux in 778, internal political unrest had further weakened the Caliphate and ultimately contributed to its fall in 1035, a date constituting at the same time the beginning of the third period generally known as the Hispano-Moslem civilization. The Caliphate was then split into several kingdoms among which the most important were those of Saragossa, Almeria and Valencia, and Seville. The earlier separation between the northern and southern regions was nevertheless maintained throughout the Middle Ages. Asturia kept her Visigothic traditions while León and Castile somehow perpetuated the administrative decentralization inherited from the Moors and which was then institutionalized in the Fueros of Miranda de Arga in 1162 and in the Siete Partidas compiled by Alphonso X of Castile in the XIIIth Century. Accordingly, the nobles (Ricoshombres) held crown land under life tenure only and municipalities (Consejos), comprising a town (villa) and a surrounding comarca, were granted statutory autonomy by fuero (franchise) and entitled to promulgate their own laws; municipalities further joined into hermandades to protect their interests. A mediaeval structure with hereditary land tenure was however introduced in Aragon, Catalonia and Valencia. The Crown only was empowered to legislate and ensured law implementation through the institution of the justicia, or crown judge. The law of Catalonia was nevertheless preserved and codified in 1060 into the Usatges which constitute the oldest Spanish written codes of feudal customary law. In the meantime, Cordova had fallen to the Christians in 1262 and Granada only remained in Moslem hands. The Hispano-Moslem culture continued to flourish, this time under christian leadership, until the institution of the Inquisition in 1478 which marks the beginning of the downfall of the Middle Ages in the XIVth and XVth Centuries. In 1479, Aragon and Castile joined forces under the Catholic Kings; in 1492, Christopher Colombo reached the American Continent to which, as later in the Philippines after Magellan's death in 1521, Spanish law was to spread. To this period corresponds a general decline in agriculture with the exception of the kingdom of Valencia where irrigated crops, of which the Huerta is a particular exemple, continued to develop under a local water management system which still functions today. In the XVIth Century however, considerable efforts were made to unify the law of Spain and, in particular, to reconcile among others the Fueros and the Partidas. A first major compilation of laws was completed in 1505 (Leyes de Toro), soon followed by new ones in 1567, 1745 and 1805. In the meantime, the Aragon Canal and the Murcia irrigation dam had been completed in 1770. Finally, by 1888 the Spanish Civil Code was promulgated which closely follows the form and substance of the Code Napoléon of 1804 and, in particular, its concept of exclusive private land ownership.

As at Roman Law, however, the earlier Spanish legislation had continued to consider water as res communis, not subject to appropriation. Such were the provisions of the Siete Partidas which had established the public status of rivers irrespective of their character of navigability. The subjection of public water uses to the prior authorization regime was expressly confirmed by the Decrees of 11 March 1846 and 29 April 1860 which were to sanction the original nature of the modern Spanish water legislation, as subsequently embodied into the Water Law of 3 August 1866, a date marking the beginning of the fourth, and current period. This enactment was then superseded by the Spanish Water Law of 13 June 1879 which is still in force today. Accordingly, and with the exception of groundwaters occuring under private land and of surface waters other than those of rivers and streams which, as a concession to the system of the French Civil Code, vest in the ownership of the riparian landowner

provided they originate on his land and for so long as they are contained thereon, all water resources are public and subject to State control 1/.

II - LEGISLATION IN FORCE

The Spanish water legislation currently in force includes, among others, the following main enactments:

1. The Water Law of 13 June 1879
2. The Civil Code of 11 May 1888
3. Royal Ordinance of 5 June 1883 on groundwaters
4. Royal Order of 25 June 1884 approving the model regulations for, and the organization of the communities of irrigators
5. Royal Order of 21 March 1895 on malaria eradication
6. Royal Decree of 16 November 1900 on the contamination of public waters, as supplemented by Decree of 12 April 1907
7. Royal Decree of 12 April 1901 establishing public water uses registers, as supplemented by Royal Ordinances of 30 April 1901, 12 March 1902, 2 January 1906, and by Royal Decree of 7 January 1927
8. Royal Order of 15 June 1901 on public watercourses
9. Royal Decree of 12 January 1904 issuing the sanitary regulations
10. Law of 7 July 1905 on small irrigation
11. Law of 7 July 1905 on technical and financial assistance to water resources development, as supplemented by Regulations of 1906 and Decree of 5 April 1973
12. Royal Order of 16 October 1906 on the curing of watercourses containing mineral residues
13. Royal Decree of 28 June 1910 on groundwaters as supplemented by Decree of 11 July 1910, modified by Royal Decree of 23 July 1910, by Decree of 23 August 1934 and by Decree of 23 October 1941
14. Royal Order of 28 January 1910 issuing the mining policing regulations
15. Law of 7 July 1911 on the construction of hydraulic works, as supplemented by Decree-Law of 16 May 1925, modified by Law of 14 August 1933 and supplemented by Decree of 15 December 1939
16. Royal Order of 14 August 1911 on the prevention of drinking water supply pollution
17. Law of 24 July 1918 on subventions and subsidies for the drainage of lagoons and marshes, as modified by Decree-Law of 19 July 1927
18. Royal Decree-Law of 5 March 1926 on the hydrographic confederations
19. Decree-Law of 7 October 1926 on the syndicates or irrigators
20. Decree of 7 January 1927 on domestic water supply, supplemented by Ministerial Order of 30 August 1940, Decree of 17 May 1948 and by Decree of 17 March 1950

1/ See also Teclaff, Ludwik A., Abstraction and Use of Water: A Comparison of Legal Regimes, United Nations, Document ST/ECA/154, New York, 1972, pp. 20-22.

21. Royal Decree-Law of 7 January 1927 on water use concessions

22. Decree of 1 December 1931 on the use of intermittent and rainwater

23. Decree of 29 November 1932 regulating the provincial public works services

24. Decree of 21 November 1933 on drinking water supply, as modified by Decree of 27 July 1944, Ordinance of 27 May 1949, Decree of 1 February 1952, and by Ministerial Ordinance of 21 February 1952

25. Decree of 8 December 1933 on technical and financial assistance to waterworks

26. Law of 20 February 1942 on inland fishing

27. Decree of 6 April 1943 issuing the inland fishing regulations

28. Decree of 18 June 1943 on industrial water uses, supplemented by Decree of 18 July 1943

29. Law of 25 November 1944 on national health

30. Decree of 10 January 1947 on industrial water installations

31. Decree of 14 November 1958 approving the water and watercourses policing regulations, as modified by Decree of 25 May 1972

32. Ministerial Ordinance of 4 September 1959 on the policing of effluent discharges

33. Ministerial Ordinance of 29 March 1960 organizing the geological service

34. Decree of 7 July 1960 regulating the water release commissions

35. Law of 24 December 1962 on water use and related assistance in the Canaries Islands, and Decree of 14 January 1965

36. Decree-Law of 17 July 1968 on groundwaters in Andalusia, and Decree of 3 April 1971

37. Decree-Law of 30 June 1969 on groundwaters in Mallorca

38. Decree of 23 March 1972 on groundwaters in the Baleares

39. Decree of 21 December 1973 on tax support to investments

40. Ministerial Ordinance of 14 February 1974 on the constitution and operation of the exploitation boards.

III - OWNERSHIP OF WATER

The Spanish legal system establishes the principle that all flowing waters, whatever their importance, form part of the Public Domain from their source until they discharge into another stream or the sea. The legislation 1/ enumerates such waters as fall ministerio legis into the Public Domain and which may thus be used for their various purposes through an administrative authorization or concession. Public waters are considered common property in so far as use is made thereof for essential vital needs such as for drinking, washing etc.

Water resources not given by law the status of public waters fall into the private dominion of the State, the Provinces, the Municipalities or of the individual.

1/ Water Law of 13 June 1879, art. 4; Civil Code, art. 407

Private waters are enumerated as well in the legislation 1/.

According to the jurisprudence of the Supreme Court, the provisions governing the legal regime of water resources have been interpreted as establishing the following principles: a) water resources are naturally public when they originate on Public Domain land or after they have left the private land on which they originated to discharge into public streams; b) waters permanently flowing within defined channels and with limited over-flow levels have always the character of public waters; c) watercourses which, in whatever form, can be used for navigation, floating, agricultural and industrial purposes, are public.

1. Public waters in general

Public waters include: 2/

i) Watercourses and their natural bed. According to the jurisprudence, "watercourse" means large streams, whether permanent or temporary, whereas "torrent" refers to waters of impetuous and temporary or intermittent flow fed from rainwater or thaw, the bed whereof remains dry most of the year or fills unexpectedly;

ii) Perennial or intermittent waters of springs and small streams (arroyos) and their natural bed. In general, these are meant to include all natural streams, whatever their denomination, the length and breadth of their bed, the maximum extension of their overflow banks, the legal status of the land on which they rise or which they traverse, as well as their flood flow, irrespective of the length or breadth thereof 3/;

iii) Perennial or intermittent waters with their source on Public Domain land;

iv) Lakes and lagoons formed naturally on public land together with their corresponding flood zones;

v) Rainwater collected through gorges and ravines the bed whereof forms part of the Public Domain;

vi) Underground waters underlying public land;

vii) Water resources found within public waterwork areas, even when such works are undertaken under the concession regime;

viii) Perennial or intermittent waters after they have left the land, whether State, Provincial, Communal or private, on which they have their source; and

ix) Excess water from springs, sewers and public establishments.

2. Private waters in general

Private waters include 4/:

i) Perennial and intermittent waters arising on private land, as long as they flow thereon;

ii) Lakes and lagoons, including their corresponding flood zones, naturally formed on private land;

iii) Underground waters found under private land;

iv) Rainwater collecting on private land, as long as it does not cross the limits thereof; and

v) Perennial and intermittent streams fed from rainwater and small streams flowing on non-public land.

1/ Civil Code, art. 408
2/ Ibidem, art. 407
3/ Royal Decree-Law of 7 January 1927 on domestic water supply
4/ Civil Code, art. 408

In addition, the water, bed, sides and banks of any ditch or conduit are considered as an integral part of the land or building meant to be fed thereby. The owners of the land on or through which runs an aqueduct may not claim ownership or use rights thereon, unless they hold a corresponding express title.

3. Springs

The legal status of springs depends from that of the land on which they arise. They are thus private when arising on private land, and public when originating on public land. Private spring waters loose however their private status when leaving the land on which they arise, acquiring that of public waters when initiating their course on public land.

Provision is further made for the use of spring waters to become public once such waters have left the land on which they arise 1/. However, should such spring waters naturally enter other private land thereafter, whether before or after having discharged into a public stream, the landowner thereof is entitled to use these waters, as are all successive immediate downstream landowners . In cases where the owner of the land on which a natural spring arises uses only a specific part of its discharge, he is entitled to continue his use to the same extent in periods of shortages, corresponding flow reductions and harmful effects resting with downstream irrigators or other users whatever the extent of their water use rights. It is understood that the acquisitive prescription for such water rights is of one year, but their extent remains subject to the preferential right of upstream users.

Priority of right is correspondingly established a) for landholdings traversed by these waters before they discharge into a public stream, this in the order of their proximity to their source and with due respect to the possible exercise of water use rights throughout the length of each landholding, and b) for bordering or contiguous landholdings, in the order of their proximity thereto and with preference for those upstream 2/.

In addition to the possible exercise of such downstream water rights, provision is made for the unlimited use of these waters by non-riparian or downstream landowners, provided they have exercised their right without interruption for twenty years. This acquisitive prescription is however to satisfy the following conditions: a) an uninterrupted possession or usufructus for twenty years and b) publicity thereof by way of visible acts or works.

A similar status applies to mineral waters 3/, that is water resources which, whatever their nature, contain dissolved substances useful for industry 4/.

4. Still or stagnant waters

Still waters follow the legal regime of the land on which they occur. Thus, the water of natural lakes and lagoons located on public land is public; that of lakes, lagoons and ponds occurring on private State, Provincial, Municipal and individual land is private; and that similarly occurring on Communal land is the common property of the settlements concerned 5/.

1/ Water Law of 13 June 1879, art. 5

2/ Ibidem, art. 7

3/ Ibidem, art. 16

4/ Ibidem, art. 15

5/ Ibidem, art. 17

5. Rainwater

Rainwater consists in the immediate discharge from clouds 1/. It maintains its character as long as it remains within the landholding on which it has fallen 2/.

Since rainwater is the property of the owner of the land on which it has fallen and flows 3/, the landowner is entitled to construct therein tanks, reservoirs, cisterns or any other adequate way or means to conserve such water resources, provided however no harm is done thereby to public or third-party interests.

While rainwater is considered, by nature, a common good, its use may be public or private depending on the land on which it falls. However, once it has left a private landholding, it acquires ministerio legis the status of public water.

Rainwater is further divided into flowing and percolating waters. Flowing rainwater consists in land surface or stream run-off; percolating rainwaters are those absorbed by the soil and springing up again downstream.

The right to tap, store and use rainwater is subject to the public interest. Provision is correspondingly made for the ownership of private rainfed land not to carry the right to act or undertake works thereon, either so as to modify the natural course of rainwater and thereby harm third-party interests, or where the removal of such works by floods could cause damage to downstream landholdings, industries or buildings, bridges, roads or populations 4/.

As regards public rainwater, the use thereof requires a prior administrative concession issued by the State. To this general principle, provision is made for a number of exceptions. Owners of land contiguous to public roads are entitled to collect rainwater flowing therefrom and to make use thereof for the irrigation of their landholdings subject to the provisions governing the policing and conservation of public roads 5/. Owners of land riparian to public intermittent watercourses as form in ravines, rambles, gorges and the like, are entitled to use rainwater collecting therein for their irrigated fields and, to this end, to construct without prior authorization earth and stone bunds and temporary intakes 6/. Should such waterworks interfere with the public interest however, their modification or removal may then be ordered 7/.

6. Groundwater

Groundwaters extracted on private land by means of ordinary wells vest in the full ownership of the landowner 8/.

Provided no reduction is caused to the water supply of his neighbour, the landowner is thus free to sink ordinary wells for the extraction of groundwater from within his holding. In doing so, however, the distance of two meters within populated areas, and of fifteen meters within rural areas, is to be respected

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1/ Water Law of 13 June 1879, art. 1

2/ Civil Code, art. 408, para 2

3/ Water Law of 13 June 1879, art. 1; Civil Code, art. 416

4/ Ibidem, art. 31

5/ Ibidem, art. 176

6/ Ibidem, art. 177

7/ Ibidem, art. 178

8/ Ibidem, art. 18

between wells and between any new well and existing neighbouring reservoirs, springs and ditches 1/.

Ordinary wells are those sunk with the exclusive purpose of meeting domestic and essential vital needs and which do not require other than human power for water extraction 2/. As for the sinking of ordinary wells and the installation of norias, or water lifting wheel, on public land, a prior authorization is required from the competent administrative authority.

In cases where groundwater exploration and extraction is undertaken by means of artesian wells, lateral excavations or underground galleries, the ownership of the water thus found and extracted vests in perpetuity in he who did the works, this until the water leaves the landholding on which it was made to arise and whatever the direction given thereto by the landowner as long as he exercised his dominion thereon. Where the owner of groundwaters dispenses with the construction of an aquaduct for the conveyance thereof towards the lower riparian holdings in which they subsequently discharge naturally, the right to the use thereof devolves automatically to the lower riparian landowner 3/.

The landowner is thus free to extract and to appropriate fully the waters underlying his holding by means of artesian wells, lateral excavations and underground galleries as long as no public or private waters are diverted thereby from their natural course 4/. Related waterworks may however not be undertaken less than 40 meters from the buildings of neighbours, from a railway line or road, or less than 100 meters from another underground waterwork, a spring, stream, canal, ditch or public animal watering place 5/.

These rights recognized to the landowner correspond to the general provision according to which the ownership of the land surface extends to whatever is below and entitles the owner to undertake any work, plantation or excavation, save for related easements or servitudes and limitations imposed by the relevant water and mining legislation and corresponding policing regulations 6/. The extent of such a right is nevertheless still subject to doctrinal controversies.

The use of groundwaters within public land is subject to the obtention of an administrative concession. As to phreatic waters, provision is made for the construction of bunds or of other works aiming at raising the level of the invisible part of the waters of a public stream wholly or partly flowing under the surface of the soil in order to make use thereof for irrigation or other purposes, to constitute a groundwater extraction 7/. Consequently, irrigators and industrial water users located downstream and who, by acquisitive prescription or on the basis of a concession issued by the Ministry of Development, have acquired a legal right to waters thus artificially made to reappear on the land surface, are entitled to object to any similar undertaking upstream to the extent that they would suffer damages as a consequence thereof.

1/ Water Law of 13 June 1879, art. 19

2/ Ibidem, art. 20

3/ Ibidem, arts. 5, 10

4/ Ibidem, art. 23

5/ Ibidem, art. 24

6/ Civil Code, art. 350

7/ Water Law of 13 June 1879, art. 192

IV - THE RIGHT TO USE WATER OR WATER RIGHTS

The Spanish water legislation establishes four types of water uses: a) common uses such as for drinking, bathing, etc.; b) special uses requiring a concession; c) special uses perfected through acquisitive prescription; and d) eventual uses.

The basic principle governing water rights is that beneficiaries of water use concessions do not become the owners thereof but, even once the water has been diverted from its natural course, remain mere users, limitatively for the purpose for which the concession has been issued and always subject to the control of the administrative authority which is competent to prevent any misuse and waste of water.

(a) Mode of acquisition

There are three modes of acquiring title to the use of water; by common use, as an incidence of an ownership right, and by virtue of a public concession issued by the administrative authorities of the State. Whatever the basis from which water use rights originate however, these are always subject to limitations such as those relating to the pollution of streams caused by contaminating industrial uses located on riverbanks, those concerning the protection of riparian landholdings and properties, those protecting prior use rights, etc.

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

Except as expressly provided to the contrary, a concession is required in order to use public waters, especially those intended for public or private interest establishments 1/. Nevertheless, a user who for twenty years has been using public waters without objection on the part of the administrative authority or of third parties may continue his use, even if he is unable to prove that he obtained the corresponding authorization 2/.

Water use concessions are granted without prejudice to the interest of third parties and with due respect for existing rights 3/. Their duration is decided on a case to case basis. Concessions for the use of public waters do include that of the Public Domain land required for the authorized intake, canals and ditches. In the case of private State, provincial, communal or individual land, provision is made for the establishment of compulsory easements and servitudes or for public interest expropriation, as the case may be 4/.

All public water use concessions specify the type of use, the quantity of water authorized to be used in cubic meters per second and, in the case of irrigation water uses, the land surface to be irrigated in hectares 5/. Water uses authorized for a given purpose cannot be applied to a different one without a formal prior request 6/. The administrative authority cannot be held responsible

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1/ Water Law of 13 June 1879, art. 147

2/ Ibidem, art. 149; Civil Code, arts. 409, 411

3/ Ibidem, art. 150

4/ Ibidem, art. 151

5/ Ibidem, art. 152

6/ Ibidem, art. 153

for the lack or a reduction in the amount of water specified in the concession, whether as a result of an error or of any other cause 1/.

Water use concessions are forfeited in the case of the non-observance of corresponding terms and conditions 2/ and, additionally, in all cases provided for in the general public works legislation.

V - ORDER OF PRIORITIES

In the granting of special public water use concessions, the following order of priorities is applied: a) city water supply; b) water supply for railways; c) irrigation; d) navigation canals; e) mills and other industrial uses, river-crossings and floating bridges; and f) reservoirs for animal watering and fish-breeding 3/.

Within each category of priorities, preference is further given to undertakings of major importance or interest and, in cases of equivalence, to the first applicant.

In any case, common uses 4/, such as for drinking water supply, are given preference on the basis of criteria established by the Supreme Court; unless of necessity, this preference does however not allow the total diversion of flowing waters.

As to special uses, they benefit from the public utility expropriation procedure, subject to payment of a corresponding compensation to prior existing uses but not to subsequent ones, unless provided otherwise by special legislation 5/.

VI - LEGISLATION ON BENEFICIAL USES OF WATER

Under Spanish law, a distinction is made between common 6/ and special 7/ uses. Common uses cover domestic, household, fishing, small navigation and floating purposes. As to special uses, they include all those requiring a prior administrative authorization and which are limitatively granted to those users who have met the requirements of the relevant application procedure and who observe the corresponding legal terms and conditions thereof.

(a) Domestic and household uses

Provision is made for public waters flowing in natural channels to be used freely for drinking, washing clothes and other domestic implements, swimming and animal watering, subject to municiapl health and police regulations 8/. Similarly,

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1/ Water Law of 13 June 1879, art. 154

2/ Ibidem, art. 158

3/ Ibidem, art. 160

4/ Ibidem, chapter 10

5/ Ibidem, art. 160

6/ Ibidem, chapter 10

7/ Ibidem, chapter 11

8/ Ibidem, art. 126

the use of water diverted from natural public streams through open channels, ditches or aqueducts, whether belonging to individual concession holders or not, is free if such water is extracted by means of receptacles and intended to be used for domestic, handicraft and orchards watering purposes. Such an extraction is however to be hand-driven exclusively, without the assistance of any machinery or mechanical tool , provided the flow remains unimpeded and that no damage is caused to the banks of the canal or ditch. The administrative authority is however entitled to limit such uses when their exercise is harmful to concession holders 1/.

The free right to wash clothes and other domestic implements may also be exercised in the waters of open public canals, ditches and aqueducts, provided the banks thereof are not damaged thereby and that the water thereof is maintained in the quality required by the use for which it is intended. Swimming and the watering of animals may however take place only at the sites expressly provided therefor 2/.

Finally, provision is expressly made for anyone to be prohibited from entering private land in order to take or use water unless authorized by the owner.

(b) Municipal uses

In cases where the current water supply feeding a population centre is less than 50 litres per day per inhabitant - of which 20 litres of drinking water -, and in this case only, that part of stream waters which is used for other purposes and which is needed to reach this minimum requirement of 50 litres may, subject to prior compensation, be acquired through concession 3/. Where a population centre is already using water from a non-drinking water supply that can however meet other public or domestic requirements, it is entitled to a supplement of drinking water of up to 20 litres per day per inhabitant, subject to corresponding compensation and even if that quantity of drinking water added to the non-drinking water supply does exceed the 50 litres limit 4/. Should such a drinking water supply originate from a stream already feeding one or more users, those who would consequently suffer a reduction in their legally acquired supply are subject to prior compensation 5/. The compulsory expropriation of private waters in favour of municipal water supplies may only be declared on the basis of relevant technical studies establishing that there are no public waters which could rationally be used for that purpose 6/.

Water supply concessions issued to private corporations have a fixed term which cannot exceed ninety-nine years after which all waterworks and networks are to remain intended for the community of users, however with the obligation for the Municipality to respect the contracts entered into between the corporation and users as concerns the distribution of water through inside services 7/.

1/ Ibidem, art. 127

2/ Ibidem, art. 128

3/ Ibidem, art. 164

4/ Ibidem, art. 165

5/ Ibidem, art. 166

6/ Ibidem, art. 167

7/ Law on the private domain of the state, art. 170

Municipalities are in charge of regulating the water distribution through inside services in accordance with general administrative regulations. Such regulations are always to be formulated before concessions are issued. Once a concession has been issued, these regulations can only be modified by joint agreement between the Municipality and the concession holder. The competent Minister decides in case no agreement is reached 1/.

Provision is made for Joint Water Supply Associations to be formed either voluntarily or, upon request, by endorsement of the Council of Ministers which, in cases where it appears technically or economically more appropriate for the use of intakes, lifting works, networks, treatment plants or for the joint exploitation of such services, may make their creation compulsory either at the time of first establishment or when improvements are being made to the water supply system or to the quality of the water it uses.

By virtue of the endorsement of the Council of Ministers, interested corporations and agencies are granted a fixed term to present a corresponding draft ordinance which, unless so presented within the established or prorogated term, is then drafted by the Ministers of the Interior and of Public Works for approval by the Council of Ministers.

(c) Agricultural uses

Water use concessions issued to landowners either individually or collectively for irrigation purposes are perpetual in principle 2/; in fact, however, these may not exceed ninety-nine years 3/. The same term applies to concessions issued to corporations or enterprises for the irrigation of third-party land against payment of a water rate. Provision is further made for the ownership of corresponding intakes, ditches and other immediately connected irrigation works to be automatically transferred thereafter to the community of irrigators who become at the same time free from the payment of water rates.

Where there are existing and legally recognized uses, a new concession can only be issued for that part of the flow which is estimated to constitute a surplus as compared with normal years and provided all existing uses have been fully satisfied. Once the amount of such a surplus has been established, the calculation of the quantity of water required has to be based on such factors as the appropriate irrigation period, the nature of the land, the type of crops and the land surface to be irrigated. In time of shortage, new concession holders may not use water until senior users have met all their requirements. Such a low-water level estimation is not required prior to the issuance of concessions for the use of winter, spring and torrential waters when these have not been seasonally or occasionally tapped on downstream lands, this to the extent that the intake for their diversion is located at an adequate elevation or level and provided the measures required to prevent damages or abuses have been taken.

1/ Water Law of 13 June 1879, art. 171

2/ Ibidem, art. 118

3/ Law on the private domain of the State

Irrigation corporations benefit from the right to open quarries, to take stones and to deposit equipment or to locate workshops for the preparation of materials on land contiguous to the waterworks; from an exemption of compensation payments resulting from the transfer of land ownership effectuated by virtue of the expropriation legislation; from an exemption of all contributions to the capital invested in their waterworks; from the same land tax levy to which the land was subject as non-irrigated land at the time of the last fiscal assessment; and from the right to acquire by compulsory expropriation the land the owners whereof refuse to pay the land tax at the non-irrigated value rate 1/. In addition, these corporations are exempted from payment of the tax normally levied on the first transfer of ownership for lands brought under irrigation 2/ and have access to the expropriation procedure for public utility purposes in all cases where the volume of public water used for irrigation exceeds 200 litres per second 3/.

As regards State assistance for waterworks using public waters for irrigation purposes, provision is made for the State either to execute such works with the participation of the local settlements concerned, to participate in the implementation thereof by water users' associations or enterprises, or to undertake such works fully on its own 4/. State assistance for the extension of irrigated land beyond 2000 hectares may however not exceed 50 per cent of waterworks costs. For smaller extensions, corresponding loans or grants amount to 200 Pesetas 5/ per irrigated hectare in the case of a concession holder being an enterprise not owning the irrigated area, and to 350 Pesetas where the concession holder is the landowner, an agricultural syndicate or a municipality undertaking to make the water available to the irrigators free of charge.

Individual irrigators, their syndicates or communities holding irrigation work concessions and having undertaken waterwork construction at their own expense but which, because of limited financial means, have not been able to complete them, are entitled to seek State financial assistance according to the established procedure 6/. In this case, the State may either take over the construction of the works with the financial participation of the landowners, or financially assist landowners or the concession holders who are then to contribute no less than 40 per cent of total implementation costs, a contribution which the State may advance them on a 20 year term and at 3 per cent interest rate.

The level of State financial assistance to drainage canal lining has however been increased as this activity is considered to form part of general irrigated land improvements 7/. Other works having benefited from the same provision include the consolidation, reconstruction and repair of dam and diversion structures, intakes, drainage outlets and corresponding equipment 8/.

1/ Water Law of 13 June 1879, arts. 194, 195, 197

2/ Ibidem, art. 199

3/ Ibidem, art. 200

4/ Law of 7 July 1911 on the construction of hydraulic works

5/ One U.S. dollar equals approximately 571 Pesetas (April 1975)

6/ Law of 7 July 1911 on the construction of hydraulic works; Law of 30 July 1939

7/ Ibidem, art. 2, as amended by Decree of 15 December 1939

8/ Decree of 27 July 1944, modifying Decree of 21 November 1933 on drinking water supply

Finally, it should be noted that irrigation works subject to a public water use concession and benefiting from a subvention of the State, of the province or of the municipality, are contracted-out by public tender according to the provisions of the general public works legislation.

(d) Fishing

The basic principle governing fishing in public watercourses is that access thereto is free provided relating police laws and regulations are respected and that navigation and floating are not interfered with 1/.

Similarly, access to public canals, ditches and aqueducts is free for fishing purposes, even when such waterworks have been implemented by concession holders, unless their own fishing rights have been duly reserved in the terms of the concession itself. In any case, fishing is limited to the use of fish-hooks, nets or fish traps in accordance with the provisions of the relevant special legislation and provided the water flow, canals and their banks are not harmed thereby 2/.

Fishing in public or concession waters used for animal watering and fish-breeding is restrictively allowed to landowners and concession holders, or to persons duly authorised by them, with as only limitations those relating to public health.

As to the use of public water for animal watering or fish-breeding, authorizations may be granted only provided no harm is caused thereby to public health or to other prior existing downstream uses 3/. Applications for authorization are to include full project designs together with the relevant landownership title, or with the evidence of the landowner's prior consent for the construction of the necessary waterworks. The authorisation is then granted in perpetuity, but the use subject to the provisions of the relevant fishing legislation and regulations.

(e) Hydropower

All water use concessions for the purpose of producing hydropower are issued for a fixed term of 75 years generally computed from the date partial or total exploitation has been authorized 4/. This term may however be extended up to 99 years in the case of uses which, without modifying the purposes for which the concession has been granted, either result as benefiting the general interest because they imply the implementation or improvement of a waterwork or of a major part thereof which is included in the State hydraulic development plan and which will not prevent the full implementation thereof at the planned date, or because they require the construction of regulatory dams capable of limiting the high-flood of the stream on which they are located or, at least, of increasing the natural low water level and the mean annual discharge thereof.

In all cases all relevant elements which contributed to making the water use possible, including the dam, the diversion weir or intake and the restitution canal, the generating equipment and works, the appurtenant land and buildings, revert free of charge and of any lien to the State at the end of the concession term. Whatever has been built on public land in this connection, and whichever the destination thereof, equally reverts free of charge to the State.

1/ Water Law of 13 June 1879, art. 129

2/ Ibidem, art. 130

3/ Ibidem, arts. 222-225

4/ Royal Decree of 4 June 1921, modified by Royal Decree of 10 November 1922, art. 2

As regards plants with a capacity of less than 200 horse-power or intended for a purely private industry, provision is made for the concession to be possibly extended for another 20 years subject to payment of rates or of an annual rent in the form and at the level established at the end of the concession period.

Along with these specifications, the Government may also require at the time of issuing the concession that whole or part of the power produced be allocated to specified public utilities. The concession holder is equally bound, once his needs as established by the concession have been met, to feed the surplus of the energy produced to the general power distribution network in accordance with the conditions governing his concession.

The use of the hydraulic head by means of an intake at the foot of dams built on behalf of the State and of that obtained from feeding canals as a consequence of waterworks partly or wholly implemented by administrative agencies, can be made the subject of a concession 1/. The prescribed procedure requires the calling for tenders within a minimum of 3 months and a maximum of 6 months. The description of the works and the amount of the security to be deposited with the General Deposit Account are publicized at that time. Bids are to indicate the maximum use of the potential installed capacity, the minimum number of Kw/h for which the concession holder undertakes to pay rates, the coincidence between the concession holder's markets and those of possible access to the administrative authority, and the cost per Kw/h. The maximum term for this type of concession is of 75 years and provides for the possible redemption thereof by the administrative authority.

Finally, application may be made with the State for the temporary use of waterfalls for the implementation of important public or private works, provided such uses are required only for the implementation of those works and are not to extend beyond the construction period. Concessions of this type provide for the gross power potential of such waterfalls not to exceed 300 horse-power, for related works to be undertaken exclusively on the mainstream or on the tributaries of the watercourse for which the principal concession has been granted, for existing irrigation uses to be protected, for the return flow from the temporary intake to discharge upstream from the principal head, for the system of successive water retention structures to be prohibited, for the absence of public utility declaration requirements, for the concession term to be limited to the duration of principal works construction, and for the power produced to be used exclusively for the operation of the machinery, equipment and accessories used for the construction of those principal works 2/.

(f) Industrial uses

A different legal regime applies to industrial uses of water not requiring a diversion and to those necessitating such a diversion.

The owner of both banks of a stream is free to establish whatever trade, machinery or industry thereon provided the natural water flow is not diverted. The owner of one bank only of a stream may however not cross the median line of the riverbed. In both cases, such activities are not to impede the free flow of the waters nor to cause harm to neighbouring landholdings, existing irrigation and industrial uses, including fishing 3/.

1/ Decree of 18 June 1943 on industrial water uses

2/ Law of 7 July 1911 on the construction of hydraulic works, as modified by Decree-Law of 16 May 1925

3/ Water Law of 13 June 1879, art. 215

The establishment of whatever aparatus or floating equipment on navigable or floatable watercourses requires a concession. So does that of mills or of other industrial activities near the banks of all watercourses, whether navigable, floatable or not, for which the required water is supplied by aqueduct and subsequently returned to the stream. Such industrial water use concessions may in no circumstances be issued where they would interfere with the use of stream water for navigation, floating or by existing industrial establishments. Provision is further made for applicants to be the owners of the land on which the industry is to be located or to be duly authorized by the actual landowner 1/.

Finally, industrial works and related water use concessions may be declared of public utility and benefit from the corresponding expropriation procedure in cases where energy is produced in excess of 1,000 theoretical H.P. 2/.

(g) Transportation

Provision is made for the Government to declare which rivers are partly and wholly navigable and floatable 3/. Where this declaration correspondingly requires either the removal of industries, intakes or other waterworks legally erected on watercourses or on their banks, or the termination of lawful water uses for irrigation or for other purposes, these are subject to public interest expropriation against payment of compensation.

Inland navigation is entirely free for all types of national and foreign crafts. No water intake may be built on navigable and floatable watercourses unless the necessary locks, by-passes or navigation and floating canals are provided for. With the exception of the periods duly specified by the minister concerned, the floating of timber on navigable rivers is prohibited. Riparian landowners, or duly authorized persons, are however entitled to establish on non-navigable or non-floatable watercourses such river-crossings as are needed to service their landholding or industry.

Special legislation has declared as floatable all watercourses which, although not de lege, where used as such de facto, and regulates the procedure for the granting of floating licences 4/.

As to the establishment of navigation channels or the construction of navigation canals, the corporation or agency concerned is subject to special legal provisions which determine whether the financial participation of the State is required and regulate the terms and conditions of the concession 5/. A distinction is thus made between navigation canals and the improvement of watercourses for navigation purposes. In both cases however, State control is exercised by public appropriation of stream or canal water, the concession holder being granted the use thereof exclusively.

1/ Water Law of 13 June 1879, art. 218

2/ Royal Decree of 7 January 1927 on water use concessions, art. 2

3/ Water Law of 13 June 1879, arts. 134-146

4/ Royal Decree-Law of 20 June 1925

5/ Water Law of 13 June 1879, art. 205

Navigation concessions may not exceed a 99 year term following which the State acquires the free and full disposal of corresponding waterworks and exploitation equipment in accordance with the conditions stipulated in the concession. As a general rule however, waterfalls and buildings used for industrial purposes are excepted and remain in the full ownership and free right of disposal of the concession holder.

Navigation rates and charges are subject to revision following the first ten years of operation following which tariffs may be reduced, provided the Government and the public is duly informed three months in advance 1/.

The obligation to maintain waterworks and navigation services in good order constitutes a specific condition of these concessions. In cases where this obligation is not met and navigation results impossible, the Government is entitled to order the repair of the works and the replacement of the equipment within a specified term following which failure to comply causes the forfeiture of the concession.

Large dams intended to increase the existing water supply to irrigated or irrigable land as well as those which, in addition, provide for flow regulation with a view to hydropower production, may be built by the Government with the financial participation of bodies of corresponding beneficiaries and in accordance with the terms and conditions it establishes for this purpose. To this effect, and in addition to the requirements of the public works legislation 2/, the State is required to ascertain the fair participation of prospective beneficiaries and to obtain from them specific pledges towards construction costs before authorizing the implementation of the works.

The owner of land traversed by a non-navigable or non-floatable watercourse is entitled to establish river-crossing services or to construct wood bridges intended for public use subject to the obtention of a concession issued by the Water Commission which is to specify the location, tariffs and other conditions required for corresponding construction and operation to present the necessary safety for their users 3/.

Whoever wishes to establish ferry services or bridges on floatable rivers to connect public rural roads or local by-roads lacking bridges, is required to file an application indicating the location, dimensions and type of the intended works together with a copy of the corresponding river-crossing tariffs 4/. Concessions for bridges connecting trunks of local by-roads over floatable rivers are regulated by the legislation governing roads. In the case of navigable or floatable rivers, the concession is issued at ministerial level and establishes crossing fees along with the other conditions required for the operation of navigation and floating services and for the safety of users.

1/ Water Law of 13 June 1879, arts. 207, 208

2/ Law of 7 July 1911 on the construction of hydraulic works

3/ Water Law of 13 June 1879, art. 210

4/ Ibidem, art. 211

The issuance of such concessions does however not prevent the competent minister from ordering the establishment of ferry services and of floating or fixed bridges where it is deemed convenient for public service purposes. Where, in this case, a private river-crossing or bridge would constitute a difficulty or practical impediment to such a development, the owner is compelled to cease his activity against payment of compensation for the cost of his corresponding works unless, in case the owner holds a civil law title, he is subject to the procedure of expropriation for public utility purposes.

(h) Railways

The railway corporations are entitled, subject to prior authorization, to use the public waters they need for their operation. Where such waters are already used for other purposes, the public interest expropriation procedure is applied 1/. These corporations are similarly entitled to sink ordinary wells, construct water-lifting wheels or underground galleries and sink artesian wells on public or communal land. On private land, the prior authorization of the owner is required 2/.

When railways cross irrigated fields connected with an irrigation network, corporations are entitled to take, for their operation and at the most convenient location, the quantity of water corresponding to the area of land they have acquired, subject to payment of the corresponding irrigation water rates or, as the case may be, of the ordinary and extraordinary costs of water conveyance 3/.

Provision is also made for railway corporations to benefit from the public interest expropriation procedure in cases where, due to the lack of insufficiency of authorized means, the water they need for their exclusive service is only available from private supplies, provided these are not used for domestic purposes 4/. This last provision which, at the time of the promulgation of the water law, corresponded to practical needs, is however now falling into disuse.

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood Control

Flood control measures are dealt with in the water and public works legislation 5/.

Within central budgetary limits, the Government is empowered to undertake, on behalf of the State and with or without the participation of the territorial communities and authorities concerned, the following three types of works:

1. protection, regulation or channel lining works on important rivers and streams in order to prevent or abate floods threatening large population and territorial areas;

2. indispensable works to protect State property and public works from erosion caused by water, and

3. channel lining works for navigation purposes .

1/ Water Law of 13 June 1879, art. 172

2/ Ibidem, art. 173

3/ Ibidem, art. 174

4/ Ibidem, art. 175

5/ Ibidem, Chapter VI; Law of 7 July 1911 on the construction of hydraulic works.

Flood protection, flow regulation and channel lining works can be implemented by the Government in accordance with prior approved projects and provided beneficiaries guarantee their participation for at least 25 per cent of budgeted project costs and of the estimated value of non-public nor private State or Municipal Domain land to be occupied thereby. Such a financial participation may extend over a maximum term of twenty years. It is to consist first in the contribution, free of charge, of the land to be permanently occupied and in a land occupancy authorization for temporary works and, secondly, in a cash contribution for the balance. In case the authorisation for temporary land occupancy is not readily available, legal proceedings correspondingly required devolve upon beneficiaries as well.

At the convenience of the Government, this participation may, instead of a direct cash contribution, be effectuated by means of an additional land tax which beneficiaries freely undertake to pay and the amount whereof is so determined that, within the maximum 20 year term, the total effective contribution is paid off.

In addition to these State works, landowners riparian to public watercourses are entitled to establish on their banks such flood protection works as plantations, fencing or river bank improvement works, provided such works are considered adequate and that local authorities are duly informed thereof. The administrative authority is however entitled, subject to prior notification, to order the suspension thereof and the reinstatement of prior existing conditions when such works are likely to endanger inland navigation or floating, to make streams abandon their bed or to cause floods 1/.

When such works require the occupation of the riverbed, however, riparian landowners are compelled to obtain the prior approval of the Ministry of Public Works 2/. In the case where waterworks are of a limited cost, all riparian landowners may benefit from a general authorization encompassing for each one that part of the works corresponding to his individual portion of the river-bank and establishing such conditions as are required to prevent one owner from causing harm to the others.

Where important financial means are involved, the Ministry of Public Works is authorized to bind all beneficiary landowners in sharing the cost of the works, provided the majority then agrees; such a majority is deemed to consist of those owners whose aggregate of land effectively justifies the common interest of the intended works 3/. Individual shares are then established proportionately to corresponding benefits.

Further to permanent works, temporary or emergency flood protection or retention works may be undertaken, in which case the Water Commission is empowered to decide on the implementation thereof and on the removal of existing ones. In taking such decisions, due consideration is to be given to the requirement that damages and inconveniences caused thereby are to be subsequently compensated. This obligation devolves respectively upon the State, the municipalities and those individuals whose property was threatened by flood in favour of those whose property has been damaged as a result of flood protection work implementation 4/.

1/ Water Law of 13 June 1879, art. 52

2/ Ibidem, art. 53

3/ Ibidem, art. 55

4/ Ibidem, art. 56

In any case, the owner of land on which flood protection or retention works are located or on which, because of flow modifications, such works need to be rebuilt, is compelled, at his own choice, either to undertake the necessary repair or construction works, or to allow the owners of neighbouring land consequently suffering or likely to suffer damages to do so, provided no harm is done to his own property 1/. The same provision applies to the removal of materials the accumulation or displacement whereof prevents the free flow of water thereby damaging or threatening third-party property 2/. The cost of such works is however to be shared by all beneficiaries, save the exclusive responsibility of he who has caused corresponding damages 3/.

(b) Drainage and land reclamation

The State may grant concessions and financial assistance for the drainage and reclamation of lagoons, marshes and swampy or waterlogged land 4/; such concessions are assorted with a public utility expropriation declaration and with a right to occupy State land.

Lagoons are deemed to include any natural fresh, or even brackish water body not originating from the sea and which, because of its dimension, does not constitute a lake. As to swampy or waterlogged land, it includes that abundantly covered by sloughs or quagmires but which, because of its dimension or of the continuity of its swamp formation, may not be considered as a natural pond.

Drainage and land reclamation concessions are issued by the administrative authorities. Any particular corporation or enterprise registered in Spain is entitled to submit drainage projects thereto and to apply for a waterwork concession and for corresponding financial assistance. Once the works have been implemented in accordance with the specifications of the approved project, the concession holder acquires the ownership of the reclaimed land, it being understood that any State land which had been made available under the concession free of charge is to revert to it 99 years after the date of the completion of the authorized drainage works. The concession holder is thus entitled to enter the reclaimed land in the Land Register under his name, this as soon as the land is proven as drained and notwithstanding the reversion clause.

The concession holder is nevertheless entitled to cancel this reversion clause where the total of the reclaimed land within a given concession area had been made available by the State, provided the amount of State subsidies has been repaid together with a 3 per cent interest rate as from the date of the concession grant. In the case of reclaimed land originating partly from private acquisition and partly from State lands made available free of charge to the concession holder, the corresponding reversion clause may be cancelled provided the State is reimbursed the taxation value of that public part of the reclaimed land at the end of the 99 year concession term. There is however no reversion to the State when the concession has been issued to one or more Municipality or Deputation.

1/ Civil Code, art. 420

2/ Ibidem, art. 421

3/ Ibidem, arts. 422, 423

4/ Law of 24 July 1918 on subventions and subsidies for the drainage of lagoons and marshes, modified by Royal Decree-Law of 19 July 1927.

State subventions for drainage and land reclamation works are granted concession holders at the time the concession is issued and on the basis of the approved project budget, but in no case at a level higher than the 50 per cent thereof. In determining the amount of the subsidy, the area of land to be drained and reclaimed, the degree of public interest the works are expected to satisfy and the recommendations of the provincial Department of Public Works and of the Agricultural Service are to be taken into due consideration.

These concessions benefit from a series of advantages. Concession holders are exempted from real property taxes and stamp duty payments upon issuance of the concession and at the time of the constitution and distribution of the registered capital and shares upon creation of the corporation to be entrusted with drainage and reclamation works, as well as upon the acquisition of project land by compulsory expropriation. Concession holders are neither subject to income tax on that part of the capital invested into the works. Finally, for the first 10 years from the date on which works have been completed, they are exempted from payment of that part of the land tax which corresponds to the difference between the added productive value of the reclaimed land and that assigned to it by fiscal authorities upon inspection of the completed works.

The basic water legislation further provides general principles in this field. The owners of lagoons or of swampy and waterlogged land wishing to drain and reclaim it are entitled to extract from public land, subject to prior authorization, such earth and stones as they deem indispensable for landfill and related works 1/. When lagoons or swamps belong to more than one landowner and, as drainage cannot be partially done, some of them propose that it be undertaken jointly, the Ministry of Development is empowered to bind all landowners to share in the cost of the necessary works, provided the majority agrees, that is those owners whose lands comprise more than half the area to be reclaimed. Should one of the landowners refuse to pay his share and prefer to surrender to the others his part of the reclaimable land, he is entitled to do so against corresponding compensation 2/.

When a lagoon, a swamp or a waterlogged field is declared unhealthy by the competent authority, the drainage or reclamation thereof is compulsory. Where such lagoons, swamps or waterlogged fields are privately owned, the landowners concerned are informed of this decision and given a period of time to take the required measures 3/. Should the majority of landowners refuse to undertake the necessary drainage works, the Ministry of Development is entitled to entrust the same to anyone, individual or corporation, offering to do so, subject to the prior approval of corresponding project plans. In this case, the reclaimed land vests in the ownership of he who drained or reclaimed it, original landowners being paid as compensation the corresponding capitalized land value only 4/. In case there is no individual nor a corporation that offers to undertake the necessary drainage works, the State, the Province or the Municipality concerned is then entitled to proceed in accordance with the provisions of the general public works legislation and to finance the implementation of those works out of its relevant budgetary resources. The agency proceeding accordingly benefits from the same land acquisition facilities and remains consequently bound by the provisions governing this type of property rights 5/.

1/ Water Law of 13 June 1879, art. 60

2/ Ibidem, art. 61

3/ Ibidem, art. 62

4/ Ibidem, art. 63

5/ Ibidem, art. 64

(c) Siltation and soil erosion

Provision is made for property rights to carry the ownership of whatever is produced therefrom and of whatever naturally or artificially becomes united therewith or incorporated therein by accession 1/. Accessions may be by increase or by addition. The second type only is of relevance to the water legislation. Provision is accordingly made for land accidentally inundated by the waters of lakes, torrents, streams and other watercourses to remain in the ownership of the riparian landowners 2/. Similarly, trees out-rooted by the waters or a stream accede to the owner of the land on which they come to rest unless their original owner claims them back within a month and covers the cost of recuperating and storing them in a safe place 3/.

The owner of land riparian to torrents, streams, rivers and lakes acquires the ownership of all earth material progressively increasing his holding by accession or by siltation 4/. Mineral sediments may however be used only in accordance with the provisions of the mining legislation 5/.

Dead leaves, branches and trunks floating on public domain waters or remaining thereafter on public domain land belong to whoever collects them first; those left on private land accede to the owner thereof 6/.

The land uncovered as a result of watercourses naturally abandoning their course accedes to the former riparian landowner on its integral length. Where the former river-bed separated the holdings of different owners, the land divide corresponds to the median line 7/.

Where a navigable or floatable river changes its course with its new bed encroaching on private land, that bed is acquired to the Public Domain of the State. The landowner can always reintegrate the ownership thereof if stream waters would again naturally abandon their course, or by undertaking legally authorized works to this end 8/.

Changes in the natural course of stream waters caused by human action are always subject to a corresponding administrative concession. Unless provided otherwise by the conditions of the concession, the concession holder becomes the owner of the land so made available 9/.

Where the waters of a stream, torrent or watercourse remove from the banks thereof an identifyable portion of land and carry the same to neighbouring or downstream landholdings, the original landowner is maintained in the ownership thereof 10/;

1/ Civil Code, art. 353

2/ Water Law of 13 June 1879, art. 40

3/ Ibidem, art. 50

4/ Ibidem, art. 47

5/ Ibidem, art. 48

6/ Ibidem, art. 49

7/ Ibidem, art. 41; Civil Code, art. 370

8/ Ibidem, art. 42; Ibidem, art. 372

9/ Ibidem, art. 43

10/ Ibidem, art. 44

he similarly retains the ownership of such a piece of land which would remain isolated midstream. The same provision applies to the land left apparent when a watercourse separates into distributaries 1/. As to islands being formed in stream by accretion, they accede to the owner of the bank nearest thereto or, where such islands form midstream, to both riparian landowners separately along their longitudinal median line 2/

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and misuse of water

The Ministry of Public Works intervenes within the framework of the river conservancy policy in seeking to maintain the natural flow of watercourses and to augment the same to the extent possible. To this end, the Ministry is responsible for the survey of those basins and watersheds which ought to be kept under forests for the sake of ensuring therein an adequate water resources balance 3/. Provision is accordingly made in the interest of optimum water resources utilization for that agency to proceed with the inventory of existing watercourses in order to ensure that no irrigator wastes water from his entitlement when such water could be used to meet other requirements, and to prevent torrential waters from discharging wastefully or harmfully into the sea when these are needed and requested in other areas for irrigation and for seasonal uses without prejudice to acquired rights 4/.

The policing of public waters, riverbeds, banks and easement zones vests in the administrative authorities and is exercised by the Ministry of Public Works which is empowered to issue the necessary regulations for the adequate maintenance and utilization thereof 5/. As to private water conservation and utilization, administrative authorities limit their control to the protection of public health, people and property 6/.

Special regulations govern the regime of waters, riverbeds ,banks, easements and servitudes subject to authorization or concession in relation to activities likely to interfere with public water resources 7/. Penalties sanction the non-observance of concession terms and conditions, the unauthorized implementation of works and activities modifying or likely to modify the water flow or the status of existing uses, damages caused to waterworks or plantations and misappropriations of, or damages to materials used therefor, the diversion of water, abusive irrigation, the installation or use of non-authorized power generators, the extraction of dry crops, the cutting of trees within basins and protected zones, the unauthorized extraction of groundwaters, the direct or indirect disposal of wastes likely to harm the water quality or the drainage conditions of the receiving watercourse, the non-observance of sanitary norms in the vicinity of drinking water supply reservoirs, and navigation thereon with motorcrafts.

1/ Water Law of 13 June 1879, art. 45

2/ Ibidem, art. 46

3/ Ibidem, art. 59

4/ Ibidem, art. 204

5/ Ibidem, art. 226

6/ Ibidem, art. 227

7/ Regulations of 14 November 1958 on the policing of water and riverbeds, Chapters IV and V, as modified by Decree of 25 May 1972.

Such penalties are sanctioned pecuniarily and additionally carry the obligation of compensation for damages in accordance with the estimates of the Water Commission concerned. Where damages concern water quality, the restoration value thereof is calculated on the basis of the estimated effluent treatment cost that would have been required prior to the granting of the corresponding concession. Independently from these penalties, defaulters are under the obligation to restore damaged property into its original state and to demolish or destroy any unlawful installation or work.

(b) Health preservation

As regards the sanitary policing of water and watercourses, numerous provisions govern the regulatory activities of State administrative authorities, in particular as concerns the prevention of alterations or infections originating from the mining industry and causing harm to the public health, to other industries using private waters or to public utilities such as fountains, washhouses, animal watering places and the like. Among such provisions are those regulating mining 1/, public health 2/, the prevention of the contamination of springs and all types of watercourses used for city water supply 3/, the policing of public waters in relation to the mining industry 4/, fishing 5/ and harmful, noxious and dangerous activities.

The basic national health legislation further governs the general regime of water resources and drainage with respect to sanitary aspects 6/. Accordingly, drinking waters are classified as potable, sanitarily tolerable and non-potable. Provision is made for a standard water analysis procedure for each class of drinking water and for the corresponding treatment and disposal of effluents on the basis of sanitary regulations independent from those governing engineering and architectural works.

The Central Commission for Sanitary Improvements which operates under the aegis of the Ministry of the Interior is responsible, among others, for sanitary improvement planning with a view to enhancing conditions of salubrity, hygiene and public health safety on the basis of prior technico-sanitary studies and surveys, in particular as concerns drinking water supply, treatment, effluent and sewage disposal 7/.

1/ Mines policing regulations of 28 January 1910

2/ Sanitary instructions of 12 January 1904

3/ Royal Order of 14 August 1911 on the prevention of drinking water supply pollution

4/ Regulations of 16 November 1900 on the policing of public waters in connection with the mining industry; Royal Orders of 21 March 1895 and 15 June 1901; Royal Decree of 12 May 1905; Royal Order of 16 October 1906; Royal Decree of 12 April 1907

5/ Law of 20 February 1942 on fishing; Regulation of 6 April 1943

6/ Law of 25 November 1944 on national health, art. 27

7/ Decree of 5 June 1963

(c) Pollution

In view of corresponding social and labour consequences, the means of intervention in, or of interrupting the functioning of equipment having caused an unauthorized emission of waste water, apply exclusively to intakes and to effluent discharge works; corresponding measures are implemented by the Civil Governor upon proposal of the Water Commissioner.

Special regulations govern the administrative authorization procedure with respect to the disposal of waste water 1/. Accordingly, watercourses are classified as protected, controlled, normal and industrial. Provision is made for the inventory of effluent discharges and for the registration of all corresponding authorizations. This registration includes as references the name of the corporation or agency proceeding with the discharge, the classification thereof as innocuous, suspect or noxious effluent, the receiving stream and discharge conditions, the mean annual and seasonal low-water discharge of the receiving stream in litres per second, the municipal district concerned, the mean discharge of the effluent, the date of the authorization, the temporary or definitive legal status corresponding to the partial fulfilment of the planned treatment level, and technical observations regarding the discharge.

Subsequent regulations 2/ specify details of implementation with respect to procedural exigencies in processing waste water disposal authorizations, in particular as concerns the presentation of treatment projects and relevant organoleptic, physicochemical, chemical and biological characteristics.

IX - LEGISLATION ON UNDERGROUND WATERS

As already seen, groundwater may be either public or private. Public underground waters are those springing or being extracted on Public Domain land, including phreatic waters 3/, that is those occurring under the bed and in the sub-soil within hundred meters on either side of public streams. Private underground waters are those springing or being extracted on private land.

Groundwater exploration on public land requires an administrative licence 4/ and the exploitation thereof necessitates an administrative concession 5/. Special provisions regulate the procedure for the issuance of such authorizations and concessions by the competent Water Commissions; these govern water extractions on Public Domain, private or communal land 6/, as well as exploration procedures by means of trial wells and bores. Exploration permits are issued for a fixed term within which the holder is required to submit the final exploitation plan on the basis of which the water use concession is to be granted. Failure to observe this term carries the forfeiture of the authorization while the cost of compensating corresponding damages is deducted from the security deposit effectuated prior to the issuance of the authorization.

1/ Ministerial Ordinance of 4 September 1959

2/ Ministerial Ordinance of 29 March 1960

3/ Royal Decree of 28 July 1910

4/ Civil Code, Art. 417

5/ Water Law of 13 June 1879, Art. 21

6/ Royal Ordinance of 5 June 1883

The right to extract underground waters by means of ordinary wells, that is those operated by hand for limited domestic and household purposes, is subject to the provision that well spacing be respectively of two and fifteen meters in urban and rural areas 1/. Similarly, artesian wells may be operated provided the natural groundwater flow is not diverted nor reduced thereby. Where the working of artesian wells, underground excavations or galleries is likely to cause the diversion or the depletion of public or private waters intended for a public utility or for an existing and legally acquired private water use, such works may be suspended immediately by order of the Mayor, either upon request of the municipality in the case of public waters or upon the claim of the individuals concerned in the case of private waters. This administrative suspension becomes definitive unless appeal thereagainst is brought before the Water Commissioner within the relevant statutory term.

Groundwater extraction works may be implemented only within a 40 meters distance from neighbouring buildings, railways or roads and within a 100 meters from another underground waterwork or spring, watercourse, canal, ditch or public animal watering place, and provided these have been authorized on the basis of a prior application. No such works may be implemented within military or mining areas.

With the exception of phreatic waters, but in accordance with the earlier and now abandoned concept that groundwater extractions did not in principle interfere with surface waters, and in conformity with the mining legislation according to which such waters were considered as a mineral resource, the control of their extraction vested with the Geology and Mining Institute and with Mining District authorities. The processing of corresponding applications now pertains to the Provincial Delegations of the Ministry of Industry together with the Geology and Mining Institute and the General Directorate of Mines; the Provincial Delegations keep the Mining Registers in which applications are to be entered 2/. Where groundwater extractions are intended for public water supply and general utilities, control by the competent organs of the Ministry of Industry is limited to extraction and tapping installations and services for mines policing purposes, whereas the Ministry of Public Works assumes general control over the distribution of extracted water, the treatment, storage and surface distribution thereof for drinking water supply and irrigation, for project planning and implementation, etc. 3/.

The extraction of private underground waters is subject to an administrative authorization rather than to a concession since administrative authorities not being the owner thereof are only empowered to apply corrective measures of a policing and public interest nature.

This principle of dual administrative competences in favour of different ministries as opposed to that of the functional unicity of water resources, be they surface or underground, public or private, has recently caused the legislation of Spain to suffer a substantial and progressive imbalance.

1/ Water Law of 13 June 1879, art. 19

2/ Royal Decree of 28 June 1910; Decree of 23 August 1934

3/ Decrees of 11 July 1910, 9 June 1925, 4 May 1935, 17 May 1940 and 23 October 1941.

In contrast, the water legislation applicable to the Canary Islands 1/ constitutes an important landmark in the Spanish legal regime governing underground water resources. Accordingly, all extractions and diversions, whatever the type of water, the appurtenant land and the distance thereof from watercourses, always require the authorization of the relevant Hydraulic Services of the Canary Islands and Santa Cruz de Tenerife, which depend from the Ministry of Public Works, subject to prior information to the Mines Services of the Provincial Delegations, Ministry of Industry. The most important features of this legislation are:

- the recognition of the juridical personality to customary communities of private water owners known as "Heredamientos de Aguas", "Heredades", "Dubas", "Acequias" and "Communidades", and which have adopted the form of civil law associations;
- special regulations for drinking water supply and waterworks implemented with State financial assistance and distinguishing among those works implemented either by the State exclusively, with the participation of beneficiaries or with that of the State;
- less limitations to, and shortened procedures for the use of intermittent or rain water;
- the declaration that, even before their extraction, underground waters as well as sub-soil resources belong to the owner of the overlying land;
- for all extractions, except by means of ordinary wells, to require the authorization of the Ministry of Public Works subject to a prior report of the Mines Services;
- for the 100 meters distance required by the basic water legislation to be extendable up to the effective zone of influence;
- the requirement of a security deposit to compensate damages;
- the necessity to obtain the authorization of the landowner prior to the sinking of wells or the driving of underground galleries;
- the entitlement for administrative authorities to reserve for themselves, on proposition of the Ministry of Public Works, non-extracted sources of water subject to owners being compensated for the corresponding occupation of their land;
- for waters discovered in mines to be used exclusively to the extent required therefor, and for surplus water to be made available either for the replenishment of existing water wastes, to be fed to a public watercourse or to be put at the disposal of the Water Resources Service; and
- for mining works likely to interfere with water uses to be authorised only provided a corresponding security deposit has been made.

Following the same approach, the private underground water legislation 2/ for Andalusia, the Baleares and Almeria prohibits all extraction and diversion works, except for ordinary wells, until regulations have been issued to establish the technical and administrative specifications governing existing underground and phreatic water balances.

1/ Decree of 21 November 1937 on drinking water supply; Decree of 8 December 1933 on assistance to waterworks; Decree of 1 December 1931 on the use of intermittent or rain waters; Law of 24 December 1962 on water use and related assistance; Water use and related assistance Regulations of 14 January 1965.

2/ Decree-Laws of 17 July 1968, 30 June 1969 and 5 April 1973.

In Andalusia, groundwater regulations 1/ stipulate flow and distance limits to be observed in the various zones and settlements within the area. The control and surveillance of intakes pertains, under the authority of the Ministry of Public Works, to the Water Commission of the relevant basin which issues corresponding authorisations after having informed the Geology and Mining Institute which establishes such technical mining policing specifications as concern filters, well sealing and lining, etc. Extractions are entered into the Wells and Springs Register. Provision is also made for the constitution of water reserves up to 145 million cubic meters per year for the implementation of joint public works and agricultural plans. The Ministry of Public Works, in consultation with the Geology and Mining Institute, is empowered to prosecute related offences and to order the redress of damages and prejudices caused thereby, including the removal of corresponding installations.

Such a coordinated interministerial procedure has also been institutionalised within the underground water legislation for the Baleares and Ibiza 2/. Accordingly, provision is made therein as well for limits to discharges, distances and uses according to various zones and settlements, and for the Ministry of Public Works to be vested with the control and surveillance of extractions and with the planning of the combined use of surface and underground waters. Corresponding authorisations are issued by the Water Commission, upon approval of the Geology and Mining Institute, and related installations entered into the Wells and Springs Register. Subject to the prior approval of the syndical organisation and to agreement of the Interministerial Commission for the Environment, the Ministries of Public Works, Industry and Agriculture establish water contaminating waste disposal levels to be observed by the Ministry of Public Works when issuing authorisations and controlling effluent discharges. The use of treated waste water originating partially or totally from public waters, reservoirs, watercourses, wells operated by administrative authorities or from water supply and treatment works requires a concession issued by the Ministry of Public Works. Regulations govern concession terms and conditions and, in particular, the period of time allowed for the commencing of works the construction whereof cannot be interrupted. Infractions are sanctioned in the same way as in Andalusia.

The National Institute for Settlement, now a part of the Agrarian Reform and Development Institute 3/, is entitled to undertake underground water exploration and extraction works for irrigation purposes. Landholdings on which such operations are to take place may, with the approval of the Council of Ministers, be made subject to the public interest expropriation procedure. Where extracted waters are not exploited directly, the right to their use may be granted against payment of water rates. Groundwater intakes are surrounded by a protection perimeter in order to prevent therein any new extraction likely to affect the corresponding underground water balance.

According to the mining legislation 4/, mineral waters are classified as a) Mineral-medicinal waters which spring naturally or are artificially extracted and which, because of their characteristics and quality are declared of public interest; b) Mineral-industrial waters which allow for the rational use of the substances they contain; and c) Thermal waters the temperature of which exceeds by 40 degrees centigrade the mean temperature of the place where they surge. The status of mineral waters is established by resolution of the Ministry of Industry. The use of such waters can

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1/ Decree of 3 April 1971

2/ Decrees of 23 March 1972 and 21 December 1973

3/ Decree of 5 February 1954

4/ Law of 21 July 1973 on Mining, Section B

be authorized to individuals, subject to the General Directorate of Health being duly informed in the case of mineral-medicinal waters. Conversely, the Ministries of Public Works and of Agriculture are to provide information on sources of supply considered more convenient when applications are made for the use of mineral and thermal waters.

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

The control of public waterworks takes place, from a technical point of view, at the construction phase by checking on the observance of the various instructions governing the quality of materials used, agglomerates, conglomerates etc., which are issued with the status of ministerial orders.

Instructions concerning the planning, construction and operation of large dams 1/ regulate in great detail the fundamental criteria or guidelines on which to base not only their planning, construction and operation in general, but also the technical requisites for each respective phase thereof. Large dams include those higher than 15 meters and of a capacity larger than 100.000 cubic meters as well as any other works which, in view of their exceptional use of concrete or of other exceptional circumstances, may be designated as important works for public economic security purposes.

Planning specifications for large dams regulate all types of dams, whether concrete or earth filled. Essential prerequisites for the implementation of dams include the study of the climatology, hydrology, pedology, the availability of materials, the selection of the site and dam characteristics, the capacity of the drainage system, the hydraulic influence of the main structure, of channelling works and of the power house at the foot of the dam, the internal testing and control systems, access and means of communication, construction terms and procedures, and project implementation procedures.

Construction specifications follow the same classification for both earth filled and concrete dams. For all types of concrete dams, an Engineer is appointed as Director responsible for construction works on which he is to report weekly for each dam in a Technical Book paginated, designed and stamped by the Directorate General for Hydraulic Works. The Director for construction prepares a monthly progress report which is distributed to the technical registry of the project, to the central registry of the concession holder and, in triplicate, to the General Directorate for Hydraulic Works. Special reports are made on specific occasions. The specifications cover all engineering and related technical elements on which to report.

As regards the operation of large dams, specifications regulate the technical operation service, distinguishing between those dams operated directly by the State and those exploited by an autonomous corporation or agency under a concession, as well as operating, protection and control norms, the Technical Book, the technical file of emergency measures, dam tests and corresponding relinquishment and removal requirements.

The inspection of all waterworks, whether under construction or in operation, vests with the basin Water Commissions 2/. Both the acceptance and the commissioning of works pertains exclusively to the administrative authorities through the competent organs of the Ministry of Public Works. As to the overall surveillance of large dams, the Dams Surveillance Service of the Central Water Commission controls the due observance of the relevant instructions.

1/ Ministerial Order of 31 March 1967

2/ Decree of 13 August 1966

XI - LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

In the absence of special provisions of the legislation presently in force other than those providing for the inventory of water resources within irrigation areas, a draft water resources protection law has been prepared and is expected, when promulgated, to constitute a considerable step forward by the Spanish legislation in this field.

This draft has for purpose to prevent, control and abate water pollution. It envisages the establishment, by the Ministry of Public Works and upon consultation with the Interministerial Commission for the Environment, of effluent discharge levels for each stream, watercourse or water body, whatever the section or location thereof. Effluent intake levels are to be established for receiving waters on the basis of contaminating agents or physical characteristics specified in each case as maximum limits over and above which no new effluent may be received. Such levels are to be revised periodically. As to effluent discharge levels, these are to be established on a case to case basis as well as on that of the characteristics of the effluent, of the receiving waters and of the applicable technology.

The responsibility for the discharge of waste water is to be attributed to whoever, be it a public or private entitity, either allows such waters to reach a public watercourse, to be injected into or evacuated on or over land, unless it is demonstrated that those waters cannot be made to reach a surface drainage network nor will injur third-party land, or allows their discharge into a private stream which subsequently empties into public receiving waters.

All discharges are to be charged a rate proportional to their polluting potential. Effluent charge levels are to be established in such a way that the application of advanced technologies and of new treatment processes appear economically attractive. The pollution potential is to be measured in units of contamination. Effluent discharge rates are therefore to be equivalent to that of the total units of contamination at the place of discharge. Injected waste waters are to be subject to this charge as well. Effluent charge revenues are to be intended in each basin for the pollution abatement campaign undertaken by their Hydrographic Confederation.

A prior authorization, to be registered with the Waste Water Inventory, is to be obtained from the competent Water Commission for all discharges. The holder of the authorization shall then be entitled to proceed, provided corresponding obligations are met and as long as the circumstances which have determined the grant of the authorization are present. The terms and conditions of the authorization may be subject to modification on the part of the Ministry of Public Works when original circumstances have been modified in such a way that public or private interests are endangered or harmed thereby. Similarly, provision is made for the Ministry of Public Works to automatically render effective the conditions relating to effluent discharge levels specified in the authorization when the quality levels of the receiving waters have been modified. It is also provided for authorizations to be temporarily suspended or revoked by decision of the Government upon prior consultation with the Council of State.

Public agencies, corporations or individuals requiring to discharge waste water or wastes into the same section of a stream or portion of an aquifer will be entitled, under the aegis of the Ministry of Public Works, or may be compelled by it, to form effluent discharge communities for the study, construction, operation, maintenance and improvement of collectors, treatment plants and common installations allowing for such discharges to be effectuated at the best place and in the best technical and economic conditions.

Effluent Discharge Communities are to be recognised public juridical status as from the date of their constitution and are to be granted the corresponding authorization in the name of their members as the unique holder. Provision is made for these Communities to be granted the right of compulsory appropriation of property and rights as well as that of constituting compulsory easements and servitudes upon private properties as required for the implementation of the necessary works and installations, and to be entitled to State financial assistance and subsidies.

The constitution of such Communities will have to be approved by the Ministry of Public Works along with the ordinances regulating the organization and functioning thereof.

There will be the possibility for the constitution of private effluent discharge corporations to take care of the waste waters of public or private users and, under a single authorisation, to collect, drain, treat and dispose thereof on their behalf.

In addition to the general conditions regulating authorisations granted to waste water disposal corporations, additional specifications will require a) the constitution of a financial security deposit which, in cases where the non-observance of the terms and conditions of the authorisation results in the revocation thereof, will be acquired to the administrative authorities which, in turn, will be entitled to immediately take over waste water disposal operations; b) the adoption of an internal regulation and c) the approval of the tariffs and other conditions to govern relations among the corporation and users.

In cases where the administrative authorities take over the operation of a waste disposal, or effluent discharge corporation, users will be charged for their effluent discharges independently from the tariff that had been established by the corporation.

Hydrographic Confederations are to be entrusted, within each basin, with a) the implementation and operation of the general public infrastructural works included in State plans and intended for the protection of water quality; b) the provision of technical assistance to municipalities in the planning, construction and operation of those sanitary infrastructural works benefiting from State financial assistance; and with c) the construction and operation of sanitary infrastructural works the implementation whereof is considered adequate in those locations of the basin where these can be financed out of the proceeds from corresponding effluent charges.

Where convenient, Hydrographic Confederations will be able to take over as well the collection, draining, treatment and disposal of third-party waste waters acquiring thereby the full responsibility for the ultimate disposal thereof. Effluent discharges entrusted to Hydrographic Confederations will equally require the relevant authorisation the terms and conditions whereof shall correspond to the particular nature of the receiving waters. Where Hydrographic Confederations take charge of third-party waste waters, they will be entitled to levy corresponding effluent charges.

As to State financial assistance, provision is made for it to take the form of subsidies, of tax cuts up to 95 per cent of estimated contributions and of low interest and long-term loans.

Apart from its provisions concerning penalties and the responsibility for damages and torts which is considerably increased as compared with the legislation currently in force, the draft law provides as well for measures aiming at ensuring the rapid control of water pollution by increasing material means for installations and related river policing facilities.

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

With the exception of inland fishing which is controlled by the Ministry of Agriculture, the overall administration of public waters vests in the Ministry of Public Works through its General Directorate of Hydraulic Works.

Spain, a country with a long water management tradition, is divided for hydrologic purposes into ten peninsula hydrographic basins and two island zones which correspond respectively to the Canary and Baleares Islands. The ten peninsula basins are those of the North, Duero, Tajo, Guadiana, Guadalquivir, South, Segura, Júcar, Ebro and of the Eastern Pyrénées.

(a) At the national level

The General Directorate of Hydraulic Works

This General Directorate, a part of the Ministry of Public Works, is charged with general water management, a function it discharges through its Central Water and Pollution Control Commission, various Branches and Services.

i) The Central Water and Pollution Control Commission is entrusted with the control of water uses, the policing of public watercourses and the conservation of water quality;

ii) The General Studies and Planning Branch is in charge of the water resources inventory, technical and economic planning, and of the programmes relating to the technological progress, standardisation and rationalization of studies and projects;

iii) The General Projects and Works Branch supervises waterwork and installation projects and ensures the control of those works undertaken by the General Directorate or by those autonomous agencies operating under its aegis;

iv) The General Geological Service Branch is responsible for all kinds of drilling works and for geological aspects relating to construction works and to underground waters;

v) Special Services include those for Pollution and Water Treatment Control and for Dam Construction and Surveillance.

The General Studies and Planning Branch is further assisted by the Centre for Hydrographic Studies which, as a consultative body, is entrusted with the promotion or direct undertaking of studies aiming at the most perfect knowledge of the national hydraulic potential, the implementation of the most modern water resources use techniques and at the formulation of general water resources planning guidelines. It compiles water balance inventories at the national level, cooperates with projects intended to correct corresponding imbalances, as well as in feasibility studies for those irrigation systems used as a basis for the specific proposals formulated by the General Directorate as part of the national development plans. Through its Fluvial Hydraulics Laboratory, it develops as well theoretical and applied research techniques. Finally, the Centre collaborates with the Directorate General and with UNESCO in teaching functions of an international character in the field of hydrology.

(b) At the basin level

The organization of water management in Spain is both functionally centralized and administratively decentralized; at the same time, the respective interests and responsibilities of both the public and private sectors are fully integrated and coordinated at the basin level. The water resources administration is thus parallely implemented by decentralised government agencies and by autonomous bodies.

Unity in the exploitation of the water resources within a river basin is established in accordance with the guiding principles of the water legislation which provide for the State to delegate corresponding administrative functions to users themselves who, by the mere fact of being public water concession holders, are automatically integrated into the State administration. All users, whether as individuals or as water users' associations or Central Syndicates, are compulsorily grouped into Hydrographic Confederations in order to exploit water resources through a community of interest and as comprehensive units. These Confederations hold the special character of autonomous agencies of the State administrative authorities in fostering waterworks development, establishing the basis for water resources use and in developing, at their level, a survey and planning function.

Each one of the ten river basins, or groups of small basins, possesses two agencies: a Hydrographic Confederation and a Water Commission. The first implements water resources development tasks, such as the exploitation thereof, by grouping all different public water users into a structure enabling them to unify public and private efforts towards the most desirable solution. As to the Water Commissions, they exercise policing, control and surveillance functions over public waters thus enabling the State to directly, and without possible interference on the part of users, exercise the task of issuing water rights and of controlling the adequacy of water uses in accordance with the legislation in force; they are further entrusted with the control of water pollution, a function of the highest importance for the future.

1. The Water Commissions

The Water Commissions are vested with the exercise of the highest administrative functions as regards public water and watercourses falling under the competence of the Ministry of Public Works 1/.

Their general functions include the processing of claims and the implementation of resolutions affecting public waters and watercourses, easements and servitudes, land demarcation, water metering, the issuance of concessions and authorizations for public water utilization and, in general, all water legislation implementation matters pertaining to the Ministry of Public Works, but not to the Hydrographic Confederations. To this end, the Water Commissions are given by law 2/ the powers granted to the former Water Masters (Jefes de aguas).

More specifically, the Water Commissions implement water and watercourses policing regulations, control the implementation of waterworks undertaken by concession and authorization holders, control all types of public water uses by private individuals as well as by public agencies or bodies whatever their legal status, direct existing river policing services, process the documentation relating to the constitution of Communities of Irrigators and to the approval of corresponding irrigation ordinances, maintain the water use register and compile the inventory of water rights within their areas of jurisdiction, inventory waste waters within the basin and keep the register of corresponding effluent discharge authorizations.

1/ Decrees of 8 October 1959 and 13 August 1966

2/ Decree of 29 November 1932

As permanent bodies for public water and watercourses administration, the Water Commissions are further entrusted with the control of State works and of their operation, the hydrological appraisal and survey of their respective basin, the survey of streamflow regimenes, flood forecasting, bank protection and river training works, the issuance of water right authorizations and concessions and the entering thereof into the Water Use Registers, with expropriations and all major functions relating to public waters and watercourses.

2. The Hydrographic Confederations

There are as many Hydrographic Confederations as Water Commissions. They constitute administrative entities affiliated to the Ministry of Public Works, through its General Directorate for Hydraulic Works, and in which all interests concerned in the basin jointly participate 1/.

The Hydrographic Confederations have juridical personality and full legal capacity in the exercise of their statutory functions. They operate autonomously in issuing regulations to govern matters falling within their statutory competence and in determining rates applying to beneficiaries of waterworks, water supply charges and tariffs and flow regulation dues, as well as loans to be extended within their spheres of competence and such other financial obligations underwritten by water users. They are thus empowered to administer, acquire, manage and regain possession of their property, to exercise the power of eminent domain and to expropriate irrigable land not so exploited by the owners thereof.

Among the functions entrusted to them by the State administrative authorities, autonomous bodies and other entities, the Hydrographic Confederations proceed with:

- the elaboration and up-keep, under the direction of the Ministry of Public Works, of master plans for the use of water resources exploited or available within their territorial jurisdiction; the technical and economic studies required for a better water utilization; the submission of such plans to the State administrative authorities for approval;
- the feasibility study, implementation and improvement of works entrusted to them by the State, Provinces, Municipalities, autonomous agencies and other public bodies; and
- the coordination of waterworks development in cooperation with those other State administrative authorities affected thereby.

On their own, Hydrographic Confederations undertake:

- the exploitation and operation of water resources, waterworks and of all types of related services in accordance with the norms and specifications issued by the General Directorate of Hydraulic Works;
- the planning, implementation, maintenance, operation and improvement of those waterworks included in their plans and basically financed out of their own financial proceeds;
- the organization and coordination of the various individual and collective interests affected by water resources uses, as well as with the settlement of related disputes within their areas of jurisdiction;
- the provision of consultative services to State and other public agencies;
- the extension of all types of technical services connected with the achievement of their objectives; and
- the bookkeeping and financial control of their own projects and waterworks.

1/ Royal Decree-Law of 5 March 1926.

The financial resources of the Hydrographic Confederations consist partly of State and other public contributions and partly of their own revenues.

Their principal organs are the Delegate of the Government, the General Meeting and the Board of Directors. The Delegate of the Government is entrusted with the representation of the Hydrographic Confederation before the Government through the Ministry of Public Works. He is entitled to veto the decisions of the General Meeting which, itself, is entitled to oppose the orders of the Delegate of the Government by an eighty per cent majority decision.

The General Meeting is composed of a delegation of the State consisting of the Delegate of the Government, a representative of the Ministry of Finance, the engineer Director of the Hydrographic Confederation and a Government Attorney, and of the representatives of joint water uses for irrigation, domestic and hydropower generation purposes, of the Chambers of Commerce, Agriculture and Industry, and of the Bank.

As to the Board of Directors, it is composed of representatives of the State and of water users appointed by the General Meeting.

(c) At the sub-basin level

The Hydrographic Confederations are themselves composed of sub-organizations responsible for the release of stored water, for water resources explcitation and for waterworks.

1. Water Release Commissions

Each Hydrographic Confederation has one Water Release Commission comprising one or more section 1/. The main function thereof is to discuss and decide on the adequate regime of stored water releases within the basin or basins for which the respective Hydrographic Confederation is responsible. In so doing, due consideration is to be taken of existing water rights and priorities, of approved operating rules, of the availability of water, of the needs of the respective users and of the norms stipulated by the General Directorate of Hydraulic Works on the basis of the recommendations of the Central Water Release Commission and as approved by the Ministry of Public Works.

In addition, these Commissions function as consultative bodies on problems concerning the exercise of water rights in connection with the storages in the basin.

The Commissions take their decisions either in plenary or at the section level depending on whether the matter refers to the regime of interconnected or independent storages or systems of storages.

Each Commission is chaired by the Delegate of the Government for the Hydrographic Confederation concerned and is composed of representatives of the Government administrative authorities, of immediate water users and of others having an interest in dam operations.

As to the Central Water Release Commission, it is composed of the Director General of Hydraulic Works as chairman, of a representative each of the Ministry of Agriculture and of the Ministry of Industry, and functions as the Secretariat of the Central Water Commission. Its purposes are to study and formulate general specifications to be used for established periods of time as release norms for the storages of the various basins with a view to achieving a better water distribution for multiple uses in accordance with legal priorities, and to coordinating the various sources of energy on the basis of hydrological forecasts and volumes of stored water and, in general, on that of national needs and requirements with respect to changing conditions and circumstances.

1/ Decree of 7 July 1960

2. The Exploitation Boards

Provision is made for the constitution, within Hydrographic Confederations, of Exploitation Boards having as an objective the adequate operation of waterworks and the best utilization of the public waters used thereby 1/. Such Boards consist of those water right holders making use of the water of a public watercourse, section or system of watercourses, or needing to use the same for waste water disposal. Exploitation Boards exercise within their territorial jurisdiction such water resources exploitation functions as are assigned to them by the relevant Hydrographic Confederation.

To this end, the Exploitation Boards group and coordinate all public water users with a view to the most exhaustive use thereof. Their functions are, firstly, to submit to the General Directorate of Hydraulic Works proposals for coordinated water use norms based on existing concessions and rights, and to control their implementation. Such norms are to cover a) priorities among the various uses, b) annual storage capacities and the regime of utilisation thereof during the various periods of the year, c) the effects resulting from the observance of priorities and from exploitation necessities of the various uses, d) norms for use limitations when available discharges are less than the authorised quantity, and e) rules required for coordinating the joint exercise of different types of utilisations.

Secondly, Exploitation Boards are expected to advise on the processing of new concessions and on the modification of existing ones within their areas of jurisdiction and to the extent that they are affected thereby, as well as on corresponding water balance consequences with respect to the bulk of existing uses.

Thirdly, the Boards propose annually their budget which includes salary and material requirements of their Exploitation and Keepers Services, as well as waterworks maintenance costs, for inclusion into the ordinary budget of the Confederation. They establish the yearly tariffs for flow regulation and irrigation rates and charges which beneficiaries are under an obligation to pay. The amount of such rates and charges are then attributed to the various types of special uses with the indication, for each, of the assessment to be realised and of the most appropriate period of the year for the collection thereof.

The other functions of the Boards are to recommend expropriations, to adjust the discharge rate of all intakes, whether individual or collective, and to promote the constitution of Communities of Irrigators.

Exploitation Boards are composed of the engineer Director of the Hydrographic Confederation, as chairman, of the Chief Engineer of its Exploitation Service, of other engineers of that Service, as well as of other officers of the Confederation as may be required, and of the representatives of users. The chairman designates the Secretary of the Board from among the staff of the Hydrographic Confederation.

3. The Waterworks Boards

Whenever waterworks of a value exceeding 50 million Pesetas are undertaken within a State water supply system intended for domestic, agricultural, industrial or mixed purposes, Waterworks Boards are established within the corresponding Hydrographic Confederation, and this whether such works are financed wholly by the State or with the participation of the users concerned.

The basic function of Waterworks Boards is to keep the account and to administer

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1/ Ministerial Ordinance of 14 February 1974

the spending of funds intended for the construction of the waterworks for which they have been established, and this whatever the origin of such funds. They do however not intervene in any way in corresponding technical aspects which are entrusted to the competent agency.

The Waterworks Boards depend directly from the Board of Directors of the Hydrographic Confederation concerned. Their functions are, among others, a) to organise and manage the economic and administrative servicing of the works; b) the formulation of the yearly economic plans for the works to be implemented; c) to investigate and advise on the economic implications of plan modifications and on all types of projects likely to affect the waterworks for which they hold administrative responsibilities; d) to ensure economic and administrative control over all waterworks falling under their jurisdiction; and e) to keep the accounts of all revenues and expenditures relating to the works of the water resources network.

Each Board consists of the engineer Chief of Section as chairman, of the Engineer or engineers responsible for the implementation of the works within the corresponding water resources network, and of up to five representatives of users in proportion to the interests vesting in the various uses.

(d) At the local level

Spain has a long tradition in water resources management finding its origin in the customary and, since 1879, institutionalized water users' associations which have always operated, and continue to operate as autonomous bodies. These are briefly described in section XIII entitled "Special and Autonomous Water Development Agencies".

(e) At the international level

Spain, due to her geographical position, shares international water resources with Portugal and France. Since 1856, numerous agreements have been entered into by Spain and her neighbours in order to settle frontier and joint water uses questions. International Commissions have been set up in both cases.

1. Spanish-Portuguese waters

Some 65 per cent of the frontier is made up of common watercourses. Since 1864, date of the first boundary agreement between Spain and Portugal, a number of agreements have been signed by both countries to regulate the regime of, among others, the Minio and Duero river systems.

A Spanish-Portuguese International Commission has been instituted by the Lisbon Convention of 11 August 1927 regulating the hydro-electric development of the international section of the Duero river 1/.

2. Spanish-French waters

A large number of agreements have as well been entered into by Spain and France since 1856 as regards the joint use of their common water resources, among which the Bidassoa river and the Puycerda Canal in particular.

The 1866 Act Additional 2/ to earlier frontier demarcation conventions signed at Bayonne in 1856, 1862 and 1866 has established an International Commission of Engineers to control the sharing of frontier water resources in accordance with the provisions of those conventions.

In addition, the Final Act 3/ for the demarcation of the international frontier in the Pyrenees between Spain and France signed at Bayonne on 11 July 1868

1/ 82 LNT 131, Art. 14
2/ 56 BFSP 226, Art. XVIII
3/ 59 BFSP 430, No. 5 and No. 8

provides for an International Administrative Commission for the Angoustrine and Llivia Canal which is empowered to manage corresponding waterworks, to enforce the provisions of the relevant international agreements and to prosecute offenders.

Finally, mention ought to be made of the sentence of the arbitral tribunal convened in Geneva in November 1957 and concerning the Lake Lanoux case 1/ which constitutes one of the rare instances of international jurisprudence in the water resources field. The case was based on the application of the provisions contained in these various Bayonne agreements.

XIII - SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

In addition to the Hydrographic Confederations, the water resources administration framework of Spain includes such juridical bodies and institutions known as Communities of Irrigators, Central Syndicates and Water Users' Associations.

(a) The Communities of Irrigators

The community of interests resulting from the collective use of public waters necessitates a form of joint administration. Such a function has, since time immemorial, been assigned to Boards elected from among interested users and which, under the name of Syndicates or the equivalent, have taken care of land resources management and of an adequate water distribution in accordance with the provisions of special regulations.

Such Communities consist of multisecular and firmly established institutions which have served as models in the organization of the water resources administration of numerous countries.

Provision is made for the constitution of Communities of Irrigators subject to special regulations where the collective use of public waters for irrigation concerns no less than 20 users and no more than 200 hectares of irrigable land, this when the majority of irrigators considers it convenient or when the Water Commissioner deems it necessary in the local interests of agriculture 2/.

Those irrigators whose land constitutes a self-contained pasture or vineyard district taking water either upstream or downstream from a Community zone or area are however not compelled to participate therein or are entitled, as the case may be, to leave that Community in order to form an independent one.

The Communities benefit from a delegation of powers from the State administrative authorities; they constitute independent institutions having juridical personality but, as administrative units, they exercise public functions and hold administrative prerogatives in the field of water distribution and policing, water turn dispute settlement, irrigation control and related matters.

Each Community of Irrigators is directed by a General Meeting comprising all irrigation water users and by an elected Syndicate responsible for the implementation of General Meeting decisions and relevant special regulations. Such special regulations govern the membership and mode of election on the Syndicate in relation to the irrigated land surface, the number of canals and feeders requiring special maintenance and to the interested population settlements within the Community area. Provision is further made for the different Communities to join into a General Assembly vested with overall powers which elects a President and a Secretary 3/. The conditions, time and form of

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1/ Lake Lanoux Arbitration (France v. Spain), 1957, Int'l L. Rep. 101

2/ Water Law of 13 June 1879, art. 228

3/ Royal Ordinance of 25 June 1884

such an election and the duration of the corresponding terms of office, which are always free of remuneration, are subject to special regulations.

As to the irrigation regulations issued by the Communities, they are subject to the approval of the Government which may however neither refuse it nor modify them without prior consultation with the Council of State. Those regulations which had been issued before the promulgation of the 1884 special legislation are however maintained in force unless the interested irrigators decide their modification.

The costs born by the Community for the construction, maintenance, repair and curing of intakes, canals and feeders are shared proportionately among users. Where one or more irrigators within a Community have obtained the necessary authorization to undertake, on their own, works intended to increase the water flow from an intake or in canals or drains, and that the others have refused to contribute therein, the latter are denied any right in the increased flow.

Provision is made for Syndicates to include a representative of those land-holdings which, by their location or according to their irrigation turn, are last in receiving water. Similarly, where Communities are composed of irrigation or manufacturing water users groups, they are entitled to be represented proportionately to the extent of their water rights. Where a water use has been granted to an individual corporation, the concession holder becomes automatically a representative in the Syndicate of the Community to which he belongs.

In addition to the competences given them by virtue of their corresponding regulations, the water legislation establishes that the Syndicates are responsible for the following matters 1/:

- the surveillance of the Community's interests, the promotion of its development and the protection of its rights;
- the formulation of appropriate provisions for a better water distribution while respecting acquired rights and local customs;
- the appointment and separation of its staff in accordance with the regulations;
- the elaboration of the budget, apportionment of costs, the control of accounts and the submission thereof to the General Meeting for approval;
- the proposal, to the General Assemblies, of legislation and regulations as well as any modification considered useful to be made to existing provisions; and
- the establishment of strict water turns while conciliating the needs of the various crops among irrigators and with particular attention to a correspondingly convenient water distribution in times of water shortage.

The Syndicates are also empowered to issue concessions for the use of the hydraulic power of water flowing in a Community canal or feeder, to control the water distribution and its modes of use, as well as to implement those water and watercourses policing functions statutorily pertaining to the State administrative authorities 2/.

Communities of Irrigators function on a majority vote basis. They hold ordinary and extraordinary General Meetings. All Irrigators members of the Community and all interested industrialists have a right to be present therein.

Besides the Syndicate, there are one or more Irrigation Courts in each Community of Irrigators, depending on its importance. Together with their President, who is an official of the Syndicate, appointed by it as its representative, a number of lay judges, whether landowners or their substitutes, form such irrigation courts.

1/ Water Law of 13 June 1879, art. 237

2/ Ibidem, art. 227

Irrigation Courts are empowered to hear factual disputes arising among irrigators, to prosecute offences to the irrigation legislation in accordance with its relevant penalty clauses, and to order compensation measures in the case of damages.

The procedure before these water courts is public and oral. Their decisions are enforceable and recorded into a book together with a description of the case and the mention of applicable legislative provisions.

The basic water legislation provides for existing customary Irrigation Courts to be maintained in their functions unless the Communities concerned propose their reform to the Minister of Development.

The decisions of the Irrigation Courts may be appealed to before the Water Commissions and before the jurisdiction of the State administrative authorities.

(b) The General Communities

General Communities are formed either voluntarily or at the request of the Water Commissioner when the land surface to be irrigated with water originating from a joint intake, canal or feeder, or when a better water distribution so requires.

Each primary, or ordinary, Community of Irrigators intended to be integrated into a General Community is created in the same way as all Communities of Irrigators and comprises as well a General Meeting, a Syndicate and Irrigation Courts.

Once each primary Community has been formed, the President of the largest one calls the others to form the General Assembly of the General Community which consists of the representatives of each primary Community proportionately to their respective land surface. The General Assembly elects its President and a Commission entrusted with the drafting of the internal regulations of the General Community.

General Communities of Irrigators have the same organization (General Assembly, General Syndicate and Central Irrigation Court) and functions as the Communities of Irrigators while their purpose is to integrate them into a larger water users' organization.

(c) Central Syndicates

Central Syndicates are constituted either on a voluntary basis or automatically upon proposal of the Water Commissioner when a better use of public waters so requires. There may be one or more Central Syndicates by basin or river to integrate the representatives of the various interests concerned. It is the General Communities of Irrigators forming part of a Central Syndicate which assume therein the representation of the collectivities or primary Communities which they integrate.

Except for judicial powers, the Statutes of Central Syndicates are similar to those of the General Communities of Irrigators.

(d) Water Users' Associations

In addition to the Communities of Irrigators, the Spanish system of water resources administration includes other water users' associations which, while having the same status of public administrative water resources institutions as those Communities, operate in a different way depending on their particular purpose.

Existing water users' associations cover such purposes as joint water supply, drainage and flood protection works construction, maintenance and improvement, waste disposal and groundwater utilisation.

1. Joint Water Supply Associations

These associations may either form voluntarily or be established by decision of the Council of Ministers at the time of the first establishment or improvement of water supply and land reclamation works.

Their regulations, which are to be approved by the Ministry of Public Works, specify the sharing by members in joint waterworks implementation, the apportionment of costs, management bodies, their internal obligations as well as those of the association towards the State.

Associations which benefit from State financial assistance provide in their statutes for the extent and limits of State participation in their management bodies. In this case, the statutes are to be approved by the Council of Ministers.

Voting powers are proportional to the interests relating to the waterworks and to the purposes of the association. Where members of an association fail to reach agreement, the decision is made by the Water Commissioner.

2. Waste Disposal Associations

Entities or individuals needing to dispose of waste water or of other residues into water bodies or streams may associate voluntarily in order to undertake the study, construction, operation, maintenance and improvement of collectors, treatment plants and joint installations intended to ensure the best conditions and place of disposal. The regulations of such associations, as well as all their plans and projects, are to be approved by the Ministry of Public Works. Waste Disposal Associations hold the power of compulsory expropriation and the right of temporary occupancy, as well as that of imposing servitudes on private property in order to implement necessary works and installations.

The Ministry of Public Works is however empowered to compel those who dispose of wastes into the ground or into a section of a public watercourse to organize into such an association.

Decision making procedures of Waste Disposal Associations are identical to those of Joint Water Supply Associations.

3. Groundwater Users' Associations

Provision is made for concession holders tapping an aquifer located within one hydrogeological unit to organize into Groundwater Users' Associations entrusted with the identification of those water extractions to be undertaken within each concession area in accordance with corresponding terms and conditions, of the characteristics of the aquifer and of water demand requirements.

Each association is, in principle, to incorporate all water extractions within a given hydrogeological unit; the Ministry of Public Works is however entitled to approve the voluntary constitution of associations covering only part thereof, provided so doing is compatible with the existence of individual exploitations, the operation whereof is in any case to be coordinated with that of existing associations.

Where such a possibility is not convenient, and should 75 per cent of the concession holders representing three quarters of the total authorised water extraction so request, remaining individual users may be compelled to join the association.

The Minister of Public Works may further declare zones or areas within which new groundwater use concessions are issued only provided their holders form an association. The compulsory constitution of such associations may however be imposed in all cases.

Once an association has been constituted, the issuance of all new concessions within their statutory area is subject to the obligation for these holders to become members thereof.

The associations draw up their own regulations which are to be approved by the Water Commissioner. These are to provide for the general regime of water utilization as well as for that of each particular extraction within their respective zones or areas and for the possible forms of joint operations. They are further to enumerate the provisions of the water legislation governing water users' associations and which apply to Groundwater Users' Associations either directly or by analogy.

XIV - LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES

(a) Government financial participation

The irrigation, flood control and channel improvement works legislation 1/ distinguishes between the planning and the construction of waterworks in which provision is made for i) State implementation with the participation of beneficiaries, ii) implementation by beneficiaries with State financial assistance, and iii) exclusive State implementation.

State financial participation is however limited to waterworks within irrigable zones larger than 200 hectares 2/ and, for zones of a smaller extension, to the condition that the water used thereby be other than public waters 3/.

1. State implementation with the participation of beneficiaries

In this case, a further distinction is made between new irrigation works and the improvement or extension of existing ones. In the first case, the State implements such works on the condition that the interested communities and individuals undertake to contribute at least 50 per cent of construction costs. No less than 10 per cent of this contribution is to be paid in cash during the construction period; included therein may appear the value of the land supplied for work construction as well as those parts of the works entrusted to participating communities by the Government. The balance is recouped, with interest, in a maximum of 25 annuities computed as from one to five years after the completion of the works.

In the second case, the State administrative authorities deal basically with the legally constituted Communities of Irrigators which underwrite a 20 per cent State participation during the construction period and a subsequent minimum contribution of 40 per cent which, together and with interest, are recouped in a maximum of 20 annuities starting one year after the completion of the works.

Reimbursement is in general to be effectuated in cash but the Government may in certain cases accept as reimbursement the contribution of the land occupied by the works or the partial implementation thereof. The State administrative authorities deal with beneficiaries through the Communities of Irrigators and with landowners to the extent that deputations, municipalities, corporations and the like are

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1/ Law of 7 July 1911 on the Construction of Hydraulic Works, arts. 3-4

2/ Ibidem, art. 20

3/ Law of 7 July 1905 on Small Irrigation.

entitled to financially contribute to the implementation of the works, thereby assisting landowners and irrigators; in case such an assistance does not materialize, beneficiaries may however not consider themselves as relieved of the obligations they contracted with the State.

Participation by the State and, consequently, the sums due by irrigators as amortization are deemed to relate exclusively to main works and structures; interested landowners exclusively are to bear the cost of secondary irrigation networks and their extension. Thus, the State implements works with the financial participation of the users to whom completed waterworks are then handed over for operational and administrative purposes. The ownership of the works is however not transferred to them prior to full amortization being effectuated through the Communities of Irrigators which, in turn, are responsible for corresponding cost allocation and collection among their members.

2. Implementation by beneficiaries with State financial assistance

Independently from the legislation governing the construction of hydraulic works, provision is made for specific cases in which the State may grant subsidies. Such provisions refer in particular to land reclamation works, to the establishment of Hydrographic Confederations and to drinking water supply works 1/. Similar financial assistance is available as well in connection with the issuance of hydropower concessions within multipurpose development projects 2/.

3. Exclusive State implementation

In addition to the general provisions of the legislation governing the construction of hydraulic works, special norms 3/ regulate the construction of waterworks by the State. These provide furthermore for Syndicates, Communities of Irrigators and individuals to undertake the construction of secondary networks and of their extensions which they are compelled to put to use not later than two years after the canals and feeders implemented by the State operate at their normal capacities. Irrigated lands and industrial uses benefiting therefrom remain in any case liable to the payment of such progressive rates and charges as are established by the administrative authorities concerned.

The State is basically given exclusive responsibility for the construction of waterworks in the case of new irrigation networks. As to regulation, improvement and enlargement works, the State may undertake them only when these are of an evident suppletory nature. Finally, the State is authorised to take over the construction of such works for which a serious investigation demonstrates not only the clear necessity and usefulness but also the impossibility of their implementation either as part of a new irrigation network or as suppletory works.

In addition to the technical and financial requirements that such works be subject to a prior approved feasibility study based on corresponding legislative norms and to the availability of an adequate budgetary provision, the State may only undertake the construction thereof provided these works do appear in approved Government plans.

(b) Reimbursement policies, water rates and charges

According to the provisions of the legislation governing indirect taxes and levies, 4/

1/ Law of 24 July 1918 on subventions and subsidies for the drainage of lagoons and marshes; Decree of 17 May 1940 as modified by Decree of 17 March 1950; Ministerial Ordinances of 30 August 1940 and of 21 February 1952; Decrees of 27 July 1944, 27 May 1949, 1 February 1952, 10 January 1958 and 31 December 1963;

2/ Decree of 18 July 1943; Decree of 10 January 1947;

3/ Law of 24 August 1933 modifying Law of 7 July 1911 on the construction of hydraulic works;

4/ Law of 7 July 1911 on the construction of hydraulic works; Law of 26 December 1958 on indirect taxes and levies; Decrees No. 133 and 144 of 4 February 1960.

the sums to be recouped by the State on water resources development investments are correspondingly subject to flow regulation charges and irrigation rates.

1. Flow regulation charges

Flow regulation charges are levied in connection with the implementation of large dams. For this purpose, liable beneficiaries are those making use for irrigation, hydropower, industrial and water supply purposes of waterworks implemented either by the State with their financial participation or by individual or corporate concession holders and subsequently taken over by the State or its autonomous agencies by acquisition, reversion, redemption, attachment of property or for any other cause.

As amortisation payments, flow regulation charges are established on the basis of the cost of the waterwork, excluding of course that part of it which corresponds to direct State investment. Also excluded therefrom are the costs of flood protection elements which are born by the State exclusively and which are not subject to amortization. Once the effective amount subject to amortisation has been calculated, the coefficients attributable to corresponding beneficial uses are computed on the basis of the value of estimated benefits and divided into twenty-five annuities according to the legally established maximum amortisation period 1/.

The charge levels so determined constitute the first part of the flow regulation charge which corresponds to waterwork amortisation rates. To these, corresponding operation, maintenance and related administrative costs are added.

2. Irrigation rates

Where irrigation water is made available from large dams, irrigation rates are additional to corresponding flow regulation charges and relate basically to the irrigation network. In the other cases, irrigation rates refer to the irrigation intake and related networks which, usually, constitute comprehensive and exactly defined units.

The computation of irrigation rates is identical to that of flow regulation charges, although irrigators only are liable to the payment thereof in proportion to their respective irrigated land surface.

These repayment procedures refer of course only to those waterworks implemented by the State and which, once amortised, become the property of the participating Communities 2/. As to the transfer of waterworks operation and administration prerogatives to those Communities, it usually takes place at the same time as the ownership thereof is transferred to their beneficiaries.

XV - IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

Juridical protection is afforded water rights by the Ministry of Public Works in its capacity as trustee of the Public Domain when exercising its prerogatives of water and watercourses policing and in ascertaining that the water legislation is duly implemented and observed.

As to water resources administration, the Ministry of Public Works operates through its Directorate General of Hydraulic Works, the Central Water Commission and the basin Water Commissions. It is in particular entitled to introduce law revision procedures which are dealt with by the authorities having administrative jurisdictional powers.

1/ Law of 7 July 1911 on the construction of hydraulic works, art. 4

2/ Ibidem, art. 5

The Register of Public Water Use Rights constitutes another guarantee in the protection of water rights.

As to the ordinary judicial organization, it offers a further protection to water rights through its civil law procedures as concerns ownership and other possessory rights in water.

(a) Juridical protection of existing water rights

The Central Register of Public Water Use Rights and related local registers were institutionalized in Spain in 1901 1/. Provision was accordingly made for any water right not registered to be considered as abusive, and for the obligation to register all water rights acquired either under a concession or by acquisitive prescription.

The Central Register is kept by the General Directorate of Hydraulic Works and the various Registers by the Water Commission in each basin or sub-basin. The only water use titles having force of law are those covered by a Registration Certificate of the concession or by an administrative resolution of registration. The registration of water rights is constitutive in the case of new uses and declarative in the case of the transfer of already registered right titles 2/.

Water rights are registered on the basis of their legal title which is deemed to include not only concessions and acquisitive prescription deeds, but any other civil law right. In the case of Communities of Irrigators having been legally recognized for twenty years or more, the presentation of their approved regulations is sufficient for the registration of their water use rights.

As both the Water Rights and the Land Registers are coordinated, no mention may be registered in the latter failing presentation of either a title deed or of an administrative certificate of registration issued by the competent administrative authority.

The consequences of the absence of a water use registration include the lack of legal justification allowing for the revocation of competitive junior uses, the declaration that such a use is abusive, and the impossibility of access to administrative jurisdictions to call for protection of right.

(b) Water tribunal, courts or other judiciary water authorities

The water legislation provides for the administrative tribunals to be competent in hearing appeals against those decisions made by the administrative authorities in the water resources field and which cause a prejudice to rights acquired by virtue of corresponding administrative norms or which concern the imposition of limitations or liens on private property in accordance with the law, as well as in those cases where such limitations or liens give rise to compensation for resulting damages and prejudices.

As to the regular courts of law, their competence extends to matters relating to all types of water ownership and possessory rights on beaches, riverbeds and banks, to corresponding easements and servitudes, to fishing and to aquatic birds hunting rights. They are also competent for matters of preferential rainwater use rights and for matters of priority based on private law entitlements with respect to all waters not contained within their natural bed. The competence of the regular courts of law extends as well to matters involving damages and prejudices resulting from the sinking of ordinary and artesian wells, norias and underground galleries.

1/ Royal Decree of 12 April 1901

2/ Royal Decree of 7 January 1927

1. Administrative jurisdictions

As the administrative authority entrusted with the implementation of the water legislation, the Ministry of Public Works is competent for:

- the issuance of corresponding regulations and instructions;
- the sanction, either directly or through its decentralized agencies, of use rights governed by the provisions of the water legislation, provided the issuance of corresponding concessions is not expressly reserved to other administrative authorities or to the legislature;
- the final solution of all water law implementation matters, except those having become the subject of an executory decision on the part of its decentralized agencies and save for expressly provided appeals; and
- the resolution and implementation of the determination, survey and demarcation of all that, which according to legislation, pertains to the Public Domain, without prejudice to the competence of the regular jurisdiction as to matters of ownership and other possessory rights.

Provision is made for the water right issuance procedure to include, as an indispensable requisite, either the hearing of any person whose rights may be affected thereby or the public notification of the project and of related decisions made by the issuing administrative authority in cases where third parties are unknown or when the concession could affect collective interests not constituted as a juridical person or lacking statutory representation 1/.

Administrative jurisdictions are finally competent i) to declare the forfeiture of concessions issued to individuals or corporations in accordance with the provisions of the public works legislation, ii) in cases where water rights acquired in accordance with the relevant administrative provisions are harmed, iii) when compulsory servitudes, limitations or other liens are imposed upon private property in accordance with the corresponding legislation, and iv) in cases of disputes arising out of compensation requirements relating to compulsory limitations to, and liens on, property rights 2/.

Express provision is however made for the impossibility of appealing before civil law courts in order to obtain a judgement of summary possession against a decision made by administrative authorities in their field of competence 3/.

All these competences are also exercised by the Irrigation Courts of the various Communities of Irrigators.

2. Regular jurisdictions

The regular civil law courts retain their judicial prerogatives in all substantive law cases concerning public and private water ownership and other possessory rights; ownership and occupation of beaches, riverbeds and banks without prejudice to the competence of the administrative authorities with respect to the determination, survey and demarcation of all components of the Public Domain; easements and rights of way based on private law titles; and fishing rights 4/.

1/ Water Law of 13 June 1879, art. 250

2/ Ibidem, art. 253

3/ Ibidem, art. 252

4/ Ibidem, art. 254

Their competence further extends to cases of private litigation regarding priorities in the use of rainwater and of all other waters that are not contained within their natural beds, provided corresponding rights are based on private law titles.

Similarly, regular courts are competent to hear cases relating to damages and prejudices to third-party property rights resulting from the private sinking of ordinary and artesian wells, underground waterworks and from all types of water uses intended to supply third parties 1/.

As to the prosecution of offences such as the theft of water and related crimes specified in the Penal Code, the corresponding competence vests in the criminal jurisdictions.

1/ Water Law of 13 June 1879, art. 256

TURKEY 1/

I - INTRODUCTION

Turkey lies in the eastern Mediterranean region, partly in Europe and partly in Asia; included are a few small offshore islands. The shores of the two continents are separated by the Bosphorus Strait, the Sea of Marmara and the Dardanelles Strait which divide the country into unequal parts. In Asia, Turkey occupies a rectangular peninsula about 1500 kilometers from east to west and 600 kilometers from north to south. This part of the country is bordered on the west by the Agean Sea, on the north by the Black Sea, on the south by the Mediterranean Sea, Syria and Iraq, on the east, by the eastern highlands bordering Iraq, Iran and the U.S.S.R. A small portion, about 24 000 square kilometers out of a total land area of some 776 000 square kilometers, extends into Europe up to the frontier with Greece and Bulgaria.

The country is divided into five natural regions. The Agean Coastlands, or European Turkey, consist mainly of rolling plateau country which receives some 625 mm of annual precipitation; this region is well suited for agriculture. Both banks of the Bosphorus Strait rise steeply from the water and form a succession of cliffs, coves and landlocked bays. Most of the shores are densely wooded and support numerous small towns and villages. The entire Dardanelles area is used for rough grasing. As to the Asiatic part of this region, its fertile soils enjoy a typically Mediterranean climate. The densely populated lowlands contain about half of the country's agricultural whealth in the broad, cultivated valleys of Ismit, Bursa and Troy.

The Black Sea region has a steep and rocky coast and short rivers which cascade through gorges from the coastal ranges to the sea. The narrow coastal ribbon, widening here and there into a fertile delta, is an area of concentrated cultivation covered with lush vegetation. All available land, including mountain slopes wherever not too steep, are put to use; State-owned forests cover much of this area of highest rainfall (2400 mm). The mild, dump climate favours the growth of semi-tropical horticultural crops and maize.

The Mediterranean coastlands are also rich agricultural plains. Their fertile soils and warm climate support semi-tropical orchards and cotton. There are numerous lakes, but some are saline; summer is excessively hot and drought occurs at times. In the western part, rivers have not cut valleys to the sea and movement inland with the Central Plateau to the north is therefore limited.

The Central Plateau constitutes the heartland of the Anatolian peninsula. Akin to the Russian steppes and ringed on all sides by the Pontic and Taurus mountain ranges, this semi-arid, enclosed plateau varies in altitude from 600 to 1200 meters west to east and supports little plant or animal life on rain-fed conditions. Productive cultivation is restricted to the river valleys where soil moisture is adequate or irrigation is practiced, but in some, the deeply entranched rivercourses make it difficult to raise water to the surrounding agricultural land. Soil erosion and heavy lasting snows are characteristic of the area.

As to the Eastern Highlands, these constitute the mountain system in the eastern Ganos Dagi, where the northern Pontic and southern Taurus mountain ranges meet; in the west, a cluster of low mountains and deeply entranched river valleys descend gradually to the Agean Coastlands. The Eastern Highlands are, on the whole, rugged country with higher elevations, greater precipitation and a more severe climate than the Central

1/ Prepared for the F.A.O. Legislation Branch - except the Introduction which has been added - by Dr. Ismail O. Türköz, Water Rights Expert, Ankara, Turkey, December 1974.

Plateau. Mount Ararat (5165 meters) is the country's highest peak. From the highlands in the north, sometimes called "Turkey's Siberia", to the mountains of Kurdistan in the south which descend toward the Mesopotamian plain, vast stretches of this region consist only of wild or barren wasteland. Fertile basins such as the Mus Valley, west of Lake Van and the Murat and Aras river corridors, lie at the foot of lofty ranges. Here are the headwaters of the Tigris and Euphrates. This area, which holds some fertile soils in the Murat and Tigris valleys, as well as the zone around the 1600 square kilometers Lake Van which is sparsely populated by nomadic peasants and seminomadic herders, has recently been given special attention in national resettlement programmes.

In order to improve agricultural output and decrease soil erosion, water resources development has been accelerated during the last two decades. From 2 million ha of net irrigated land in 1972, the Third Five Year Plan (1973-1977) envisages the development of a further half million ha of land under irrigation. Major dams such as the Kemer and Demirköprü near Izmir on the Agean Coastlands and Sariyar, Hirfanli and Gökcekaya on the Central Plateau near Ankara have been built. The major irrigation dam provides for the irrigation of some 16 000 ha from the Seyhan River near Adana. A joint Soviet-Turkish venture provides for the harnessing of the Arpa-Çayi River for irrigation in the northeast and an additional 15 hydropower dams have either been built or are under construction. Outstanding is the Keban hydropower dam on the Euphrates which is to double Ankara and Istanbul electric capacity.

Although ninety-eight per cent of her population follows the Islamic faith, of the Sunnite School, Turkey has since 1928 constitutionally ceased to be a Moslem State. Her juridico-political history and water use tradition can be divided into three main periods, the pre-islamic, the Ottoman and the republican, or modern period.

Before the arrival of the Turks in Anatolia in the XIth Century A.D., Asia Minor had been the scene of the rise and fall of a number of empires. The earliest one, the Hittite, can be traced back to the 2nd millennium B.C.; by the XIIth Century B.C., the Phrygians, immortalised with the city of Troy in Homer's Iliad, had established their Kingdom in the Central Plateau; they were followed in the 7th Century B.C. by the Medes, the Assyrians and the Greeks. In the 6th Century B.C., the major part of Asia Minor came under the control of the Persians with the conquest of Lydia by Cyrus in 546 B.C. The conquest of Alexander the Great in 334 B.C. marks however the subjection of most Asia Minor to the Hellenistic World; during this time and until the Roman conquest in 133 B.C., there was an intermingling of Greek and Oriental cultures. Coming from Mesopotamia, the Hittite had brought with them their Babylonian water development experience and water rights administration. The Persians introduced in Anatolia their arid-land water management techniques and the Greeks their irrigation practices and regulations. With the Romans, increasingly elaborate aqueducts and drainage canals were required by the fast growing cities. Justinian's trench at Edessa and the flood-diversion works of Vespasian and Titus at Selenica Piera constituted impressive hydraulic works. At the fall of the Roman Empire, Constantine the Great established in 325 A.D. the Byzantine Empire with its capital at Constantinople, the old Byzantium. Its official language was Greek and its religion Christianity. Throughout its history, the Byzantine Empire was subjected to constant attack by northeastern nomadic tribes and by Moslem Arabs. Following the split between Roman and Byzantine Christianity western European trade competition and ruling hegemony contributed to the fall of the Empire under the Turks in 1453.

Converted to Islam in the Xth Century, the Turks established themselves in Anatolia in 1071. Seljuk, a Turk of the Oghus Tribe gave his name to the dynasty from which sprang the Ottoman Empire. Seljuk's grandson having captured the Byzantine Emperor, established the Sultanate of Rum which finally submitted to the Ottoman Turks in the late 14th Century. Osman, grandson of Suleyman, himself an Oghus Turk, established the Osmanli, or Ottoman dynasty in 1299 which, by 1331 had virtually ousted the Byzantines from Asia Minor. Except for the Mongol invasion led by Tamerlan in 1402, nothing halted

the gradual expansion of the Ottoman Empire which became formally established with the fall of Constantinople under Mehmed II in 1453. Seeing themselves as ghazi, the champions of Islam defending and extending the frontiers of the Faith, the Ottomans were organised into a traditional feudal system regulated by the Kanun, or Islamic Law based on the Shari'ah, which governed both what became later known as religious and secular affairs. The apex of Ottoman rule was reached under Suleyman the Law-giver, or Suleyman the Magnificent as he was called in the West, who governed from 1520 to 1566 and extended the Empire in the Mediterranean basin from the Balkan Peninsula to Vienna in the north and to Algeria in the south. Suleyman organized the army, land tenure and land taxes, and ordered the construction of the water supply system of Constantinople. His death marked the decline of the Empire and the period of constant struggle with the western powers. The French Revolution had little direct influence, but favoured the slow modernization process of thought which ultimately led to the westernization of Turkey. Of particular significance was the reform process initiated in the XVIIIth Century which culminated in the XIXth Century, through the tansimat or vast plan of reforms, and which institutionalized the separation between religious and secular affairs. It is during this time that the Majelle, or Ottoman Civil Code, was promulgated. It is interesting to note that, although the new codifications such as the Criminal, Commercial and Procedure Codes were adapted from western models, both the fundamental Land Law of 1859 and the Majelle (1870-1877) were, in fact, codifications of Moslem Law 1/. This period was then followed by internal upveals and external political troubles which ended with the first world war.

Following the 1922 Peace Conference of Lausanne, and under the leadership of Mustafa Kemal, Turkey was formally declared a Republic on 20 October 1923. It is only from that time that the reforms initiated towards the end of the XVIIIth Century by Selim III finally led to the overall westernization of Turkey. New codifications suppressed the traditional government hierarchy as well as religious laws and institutions, among which the Caliphate, the Ministry of the Shari'ah and the Wakf, or religious endowment. These events crystallised the separation of state and religion, a separation made final by the repeal in 1928 of the article of the 1924 Constitution which had declared Islam to be the religion of the Turkish State. To regulate the new order, new legal codes based on Roman and German Law were promulgated. Among these, the French-German Law inspired Swiss Civil Code of 1907, including the Code of Obligations (contracts and torts), the German Criminal Procedure and Maritime Codes, and the Italian Criminal Code were extensively used. In addition, administrative law and institutions were made to closely follow the French model. As regards water resources law, chief innovations were the institutionalisation of surface waters as elements of the Public Domain according to the State ownership doctrine, the vesting of groundwaters in the private dominion of the overlying landowner and the introduction of the western concept of absolute ownership rights therein. Recent tendencies might, however, favour a reinforcement of the links between State and religious institutions together with a return to the traditions and values of Islam.

II - LEGISLATION IN FORCE

Major enactments regulating water resources in Turkey include:

1. Law No. 334 (1961) promulgating the Constitution of the Republic of Turkey, as amended by laws Nos. 1421 (1971), 1448 (1971), 1254 (1974) and 1255 (1974)

2. Law No. 743 (1926) promulgating the Turkish Civil Code and repealing the 1877 Majelle-i-Ankam-Adliya (Ottoman Civil Code)

1/ For a synthetic analysis of the Majelle, see Dante A. Caponera, Water Laws in Moslem Countries, Irrigation and Drainage Paper No. 20, Vol. I, F.A.O., Rome, 1973, pp. 37-40.

3. Law (1329-1913) on the Operation of Irrigation Systems (Kanunu Amalyat-i-Iskaiya)

4. Law No. 2111 (1330-1914) on the Rehabilitation and Improvement of Flood Damaged Riverbanks and Channels

5. Law (1334-1918) on Orchards Irrigation

6. Law No. 442 (1924) on Villages

7. Law No. 831 (1926) on Water, as supplemented by Law No. 2659 (1951)

8. Law No. 927 (1926) on the Exploitation of Mineral Waters and Hotsprings, and on Thermal Establishments

9. Law No. 1580 (1930) on Municipalities

10. Law No. 1593 (1930) on General Health Protection

11. Law No. 2226 (1933) establishing the Istanbul Municipal Water Supply Agency, as amended by Law No. 6349 (1954)

12. Law No. 2805 (1935) on the Etibank

13. Law No. 2819 (1935) establishing the Electrical Works Survey Agency

14. Law No. 3127 (1935) organising and regulating the General Directorate of State Meteorological Works

15. Law No. 3025 (1936) regulating Navigation on Lake Van

16. Law No. 4039 (1936) on Rice Cultivation

17. Law No. 3653 (1939) transferring the Yalova Thermal Establishment to an Autonomous Agency under the Ministry of Health and Social Assistance

18. Law No. 3913 (1940) regulating the Exploitation of Springs, Forests and Olive Groves on Wakf (religious endowment) Land

19. Law No. 4099 (1941) regulating the Sewerage System of Ankara

20. Law No. 4268 (1942) on the Exploration and Exploitation of Mines, as amended by Law No. 6309 (1954) on Mining

21. Law No. 4373 (1943) on Flood Protection

22. Law No. 4759 (1945) on the Provincial Bank

23. Law No. 4871 (1946) on Malaria Eradication

24. Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, as amended by Law No. 5963 (1952)

25. Law No. 6200 (1953) organising and regulating the General Directorate for State Hydraulic Works

26. Law No. 6541 (1955) on Villages, Towns and Lands to be flooded following Dam Construction

27. Law No. 7116 (1958) organising and regulating the Ministry of Settlement and Improvement

28. Law No. 138 (1960) amending Article 679 of the Turkish Civil Code

29. Law No. 167 (1960) on Groundwaters

30. Law No. 178 (1960) on Drinking and Domestic Water Supply for Garrisons

31. Law No. 7428 (1960) on Drinking Water in Villages

32. Law No. 7457 (1960) organising and regulating the General Directorate for Soil Conservation and Irrigation

33. Law No. 1053 (1968) on Water Supply for Cities with a Population of over 100 000

34. Law No. 1312 (1970) on Electricity Organisation in Turkey

35. Law No. 1380 (1971) on Sea Products

III - OWNERSHIP OF WATER

Although the Turkish Constitution provides for natural wealth and resources to vest in the State 1/, the ownership regime of water resources in Turkey is still complex and, to be understood, requires a brief historical analysis. Before the promulgation of the Civil Code in 1926 and of the present Constitution in 1961, Islamic Law as embodied in the Mejelle provided for water resources, along with pasture land and fire, to be a free, common good 2/, and regulated rights of use thereof. Unlike in French Law, the Turkish Civil Code was not promulgated in parallel with a Public Domain declaration or law, but purported to regulate water use rights on an ad hoc, rather than prior-established water resources classification framework.

(a) Surface waters

Instead of referring to, or providing a definition of, public waters, the Civil Code establishes that unowned things together with public property fall under the control and disposal of the State; that waters benefitting the public, land unsuitable for agriculture, rocks, hills, mountains and springs arising therefrom are deemed unowned, unless proven otherwise; and that the use, exploitation and operation of public properties such as roads, public places, streams and their beds are subject to special legislation 3/. It follows that the effective benefit to which a water resource is put makes the latter to fall either into the Public Domain or under the private dominion, in which case the use thereof is regulated by the Civil Code. As neither the Civil Code gives a definition of the public interest nor the special legislation it provides for has been promulgated so far, the doctrine considers that each individual case is to be determined in the light of the prevailing jurisprudence and opinion of jurists 4/.

Subject to this public interest reservation, the Civil Code stipulates that ownership of land carries that of what is above and below, including springs, however to the extent it is recognised beneficial to the landowner 5/. Accordingly, surface waters may be considered as falling under private ownership subject to the threefold limitation that such waters be neither appropriated, of public interest, nor exceeding the beneficial use of the landowner.

1/ Constitution, Art. 130

2/ Mejelle, Arts. 1234, 1235

3/ Turkish Civil Code (T.C.C.), Art. 641

4/ Dr. Irfan Yasman, Kaynak Suyu Türk Medeni Hukukunda Tabi Oldugu Rejim (Ankara: Ankara Universitesi Hukuk Fakultesi Yayinlari, 1970), p. 47

5/ Turkish Civil Code, Art. 644

(b) Spring waters

The case of spring waters is however particular. The Civil Code provides for spring waters to be appurtenant to the land on which they rise and for the ownership thereof to be transferable with that of the land 1/. Furthermore, whereas upstream landowners are not entitled to retain on their land water flowing downstream in excess of their needs 2/, the Supreme Court has established that such a reservation is not applicable to spring waters, this on the basis of the provision that spring water in excess of the owner's needs is subject to expropriation 3/, thus to exclusive private ownership.

(c) Underground waters

The original provision of the Civil Code stipulated that underground waters were assimilated to springs and that the same ownership regime was applicable to both 4/. In 1960, however, this provision was amended in order to vest underground waters in the ownership of the State. Provision was accordingly made for such waters to be public waters in principle and for landownership to not necessarily entail that of underground water resources 5/. This important shift in water resources policy occured at the time a new law 6/ to regulate the use of groundwater was being promulgated and the new Turkish Constitution was in the earliest drafting stage. While the ownership status of underground water resources was thus reconciled at the special law 7/, Civil Code and draft constitutional level, spring waters were however left in the private dominion of the over-lying landowner.

It is to be noted in this connection that the Civil Code does not provide a definition of springs, a fact which resulted in diverging doctrinal interpretations 8/. The margin of doubt left in the wording of the Civil Code amendment was however definitely suppressed by the new groundwater law which stipulates that underground waters, limitatively defined as all underlying stagnant and flowing waters as well as aquifers or water-bearing strata wherefrom the withdrawal of water affects the whole aggregate of the resource, are deemed public and fall under the control and disposal of the State 9/.

(d) Mode of acquisition

With the exception of spring water and of such surface waters being subject to private interest and individual beneficial use exclusively, all water resources are public and thus not subject to private appropriation but to rights of use only.

1/ Turkish Civil Code, Art. 679

2/ Ibidem, Art. 666

3/ Ibidem, Art. 683

4/ Ibidem, Art. 679

5/ Law No. 138 (1960) amending Article 679 of the Civil Code

6/ Law No. 167 (1960) on Groundwater

7/ Ibidem, Art. 1

8/ Yasman, pp. 6-66 and 70-89; Zahit Imre, Kaynak-Yeralti Sulari ve Hukuki Durumlari (Istanbul: 1951), p. 28; Zerrin Akgun, Sular Hukuku ve Sular Ile Ilgili Arasi Davalari (Ankara: Güsel Istanbul Matbaasi, 1967), pp. 9-10; Draft Water Use Code of Turkey, op.cit., pp. 33-49.

9/ Law No. 167 (1960) on Groundwater, Art. 2.

Since surface and spring waters are appurtenant to the land on which they rise or flow, the ownership thereof may be acquired together with that of the underlying land 1/. Exclusive private appropriation rights are however the exception and, in addition, subject to numerous limitations in the exercise thereof on the basis of the general public interest criterion and of the regime of easements and servitudes provided for in the Civil Code 2/. Where private ownership rights in water have been recognised as independent and not in conflict with the public interest, these are entered into the Land Register along with all private land ownership rights and related easements and servitudes, a procedure constitutive of right 3/.

It is however expected that the differentiated legal regime of the various types of water resources will, on the basis of the hydrological cycle concept, soon or later be unified in accordance with the fundamental provision of the Constitution concerning natural resources and wealth 4/.

IV - THE RIGHT TO USE WATER OR WATER RIGHTS

(a) Mode of acquisition

The basic principle governing surface water use rights originates from the Majelle which provided that water is a public good to the use of which everyone is entitled, subject to the rights of prior users 5/. It follows that surface water use rights are normally free of any prior authorisation. As an example, an irrigator may freely dig a new ditch or extend an existing one in order to irrigate new land. If in doing so however, he takes water from a small stream used by one or a few villages with a view to irrigating land lying outside the boundaries of the village or villages using that water, he is likely to meet their resistance in proportion to the availability of excess water. Such a resistance may further increase depending on as to whether the irrigator is a member of the village or not. In case both the new irrigator and existing ones insist on their rights, court adjudication will be required. The same problem may arise among irrigators of the same village or villages in case one of them wishes to extend his irrigated area within village boundaries. In this case, the various customary rules and regulations developed locally apply. Should these not help in resolving the matter, rights are settled by court adjudication as well. Where prospective irrigators intend to divert water from larger streams, the corresponding interference with existing rights is however diffused within a much larger area with a result that no user may be able to determine his claim. Such a practice is severely affecting downstream users and, today, is rapidly approaching the stage where not only private but government irrigation schemes are confronting this type of difficulty in some river basins. Court adjudication in this case is rendered almost impossible because of the difficulty of identifying prior existing rights within basins overlying several provincial and district jurisdictions; to that, different interpretations of the law by different courts add no less important complexities to the problem.

Basic principles governing the use of private waters are embodied in the Civil Code. In particular, water rights are limited to beneficial use 6/; lower riparians are

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1/ Turkish Civil Code, Art. 644

2/ Ibidem, Arts. 641, 653, 666, 679, 682-684, 752

3/ Ibidem, Arts. 632, 752, 911-912

4/ Su Kaynaklarinin Kullanilmasi Hakukinda Kanun Tasarisi Gerekcesi (Ankara: Devlet Su Isleri Matbaasi, 1968) (Draft Water Use Code of Turkey)

5/ Majelle, Art. 1234

6/ Turkish Civil Code, Art. 644

bound to receive waters naturally flowing from upstream land and, at the same time, may not retain such waters from flowing further downstream after their needs have been satisfied 1/; and owners of interconnected springs are called upon to cooperate in the use thereof 2/. In addition to these compulsory easements and servitudes, third parties may benefit from contractual ones which, together with compulsory easements and servitudes, are to be recorded in the Land Register 3/.

As to the use of public surface waters or of private waters for hydropower production and fishing, and of all mineral and thermal waters, special legislation has been enacted which subjects such uses to the prior authorisation regime.

As regards underground water resources, these being public waters, a prior authorisation is generally required for their use. This requirement is compulsory within declared underground water exploitation areas 4/ for all wells exceeding the depth established by the water resources administration and for all karez, or underground galleries and tunnels, no matter how long and wide 5/. Outside such areas, each landowner has the free right to explore and exploit the groundwaters he may find within his holding, provided his use is beneficial 6/.

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

It is interesting to note that whereas consumptive uses of surface water are not subject to any prior authorisation or, even, to prior notice requirements, non-consumptive uses such as for hydropower production 7/ and fishing 8/ are subject to the concession regime. Similarly, the use of mineral waters, which together with thermal waters are public, is subject to the concession regime in accordance with special legislation 9/ and with rules and regulations issued by the Ministry of Health and Social Assistance 10/. As to thermal waters, use permits are issued by provincial or village authorities following a bidding procedure. Depending on the properties and location of these resources however, their use may be subject to a concession 11/.

A permit is required from the General Directorate of State Hydraulic Works (G.D.S.H.W.) in order to initiate any water well drilling or the excavation of Karez 12/; dug wells are therefore exempted 13/. Similarly, all groundwater exploration activities necessitate a permit which is issued for a one year, renewable, period 14/.

1/ Turkish Civil Code, Art. 666

2/ Ibidem, Art. 682

3/ Ibidem, Arts. 632, 641, 653-654, 679, 752, 611-612

4/ Law No. 167 (1960) on Groundwater , Art. 3

5/ Ibidem, Art. 8

6/ Ibidem, Art. 4

7/ Law of 10 June 1326 (1910), as amended by Law No. 2025

8/ Law No. 1380 (1971) on Sea Products

9/ Law No. 927 (1926) regulating the Exploitation of Cold and Hot Mineral Waters and Thermal Establishments

10/ Ibidem, Art. 1; Law No. 6309 (1954) on Mining

11/ Ibidem; Law No. 1593 (1930) on General Health Protection

12/ Law No. 167 (1960) on Groundwater, Art. 8

13/ Ibidem, Art. 5

14/ Ibidem, Art. 9

Where, following exploration, groundwater has been found, the permittee is entitled to use the resource; he is however required to immediately request a water use permit from G.D.S.H.W. 1/. Such permits determine the terms and conditions of use 2/. Finally, the deepening, enlarging and other modifications to existing wells require an additional and special permit 3/.

Application for all these permits are to be filed with the local office of G.D.S.H.W. or, in the absence thereof, through the governor or his representative. Whether the application is rejected or approved and a permit issued, applicants are to be notified within one month of the date of the application 4/. No charge is levied on applications, and permits are recorded in the register maintained by G.D.S.H.W. 5/. Except for the requirement of obtaining drilling or excavation permits, users of mineral, medicinal and thermal waters are exempted from this procedure 6/; their uses are however governed by the provisions of the relevant special legislation 7/.

V - ORDER OF PRIORITIES

In the absence of a general statutory order of priorities in Turkish water law, and except for specific priorities established for certain sectoral water uses, these are established on a case to case basis in the light of public interest and beneficial use criteria, as well as within the general framework of national planning. Special legal and economic provisions therefore regulate particular orders of priority between different uses and between different existing rights.

(a) Between different uses

Considering that uses of private waters are regulated by the provisions of the Civil Code which does not establish priorities nor provides for the registration of water rights, priorities cover exclusively the uses of public waters which are subject to special legislation and national planning.

The village drinking water legislation entitles G.D.S.H.W. to allocate public waters in general, and to regulate those formerly allocated to villages by special legislation or used by them under customary law, as well as to modify the terms and conditions of such allocations among villages and settlements on the basis of their respective needs 8/. To this end, G.D.S.H.W. may however expropriate or impose servitudes on private statutory or customary water rights against due compensation 9/. These provisions apply to villages and settlements exceeding a population of 3,000 10/. Upon having determined which of these do not benefit from a hygienic drinking water supply, priority allocation is to satisfy:

1/ Law No. 167 (1960) on Groundwater, Art. 10

2/ Ibidem, Art. 4

3/ Ibidem, Art. 11

4/ Ibidem, Art. 13

5/ Ibidem, Arts. 12, 15

6/ Ibidem, Art. 19

7/ Law No. 6309 (1954) on Mining; Law No. 927 (1926) regulating the Exploitation of Cold and Hot Mineral Waters and Thermal Establishments; Law No. 4268 (1942) on the Exploration and Exploitation of Mines; Law No. 6977.

8/ Law No. 7428 (1960) on Village Drinking Water, Art. 11

9/ Ibidem, Art. 12; Law No. 6830 on Expropriation

10/ Ibidem, Art. 15

a) the most needy;

b) the most populated villages;

c) those villages in which per capita water supply costs are smallest;

d) those which contribute spring water, money and land;

e) those which have formed drinking water supply associations, and;

f) those which have the most cooperative attitude towards government efforts in this field.

G.D.S.H.W. then prepares, in consultation with the respective provincial authorities, three-year drinking waterworks development programmes which are reviewed annually.

Similarly, G.D.S.H.W. establishes priorities for the investigation development and implementation of flood control, irrigation, land reclamation, power generation, river training and navigation improvement works. These priorities are based on economic and emergency factors decided by the Council of Ministers 1/.

As regards the planning legislation of Turkey, the Constitution provides that economic, social and cultural development is to proceed according to plan 2/. Short and long-term development plans are prepared by the State Planning Organisation (S.P.O.) in cooperation with all technical departments concerned. Development funds are then appropriated on the basis of economic criteria among the various sectors and sub-sectors. On its side, G.D.S.H.W. prepares master plans for each river basin, taking into consideration every type of water use and establishing priorities among the various projects, basically according to economic efficiency criteria. Priority projects are then submitted to S.P.O. for incorporation into the five-year Development Plan and annual programmes.

(b) Between different existing rights

The problem of priorities among existing rights suffers the same degree of complexity as that of the water ownership regime due to the absence of existing statutory provisions in this respect on the one hand and, on the other hand, because of the imprecision in the relevant provisions of the 1926 Civil Code and the 1961 Constitution.

While the Civil Code has abrogated the Majelle, rights existing on the date of its promulgation have been maintained into force 3/. The Civil Code further provides that in the absence of a statutory provision, courts are to apply existing customary law 4/. Since the Majelle had consisted in a codification of Islamic Law based on Hanafi jurisprudence, its provisions on water rights have been upheld by the courts as applying with respect to prior existing rights and to issues for which there are no statutory provisions 5/.

1/ Law No. 6200 (1953) organizing and regulating the General Directorate of State Hydraulic Works, Art. 21

2/ Constitution, Art. 129

3/ Law concerning the Procedureof Implementation and Validity of the Civil Code, Arts. 1, 18, 22, 38-39

4/ Turkish Civil Code, Art. 1

5/ Akgun, op. cit., pp. 107-191

It is to be recalled in this connection that whereas the Civil Code assumes private ownership to constitute the rule 1/, the Majelle had taken the opposite view. Indeed, it provided for water resources to be a common good (mubah) in which the whole community (naas) has equal rights 2/; it further regulated three types of use, that is the right of thirst (haq-al-chafa) 3/ which was given absolute priority, the right to irrigate (haq-al-shirb) and that to operate mills 4/. Although the customary right of thirst and of watering animals finds no equivalent in existing statutory provisions and has not been the object of a court decision, it can be assumed in accordance with the spirit of Turkish Law, that this right can similarly be exercised according to the current legal system.

As regards the other two types of right, the Majelle recognized a kind of prior appropriation system according to which public (mubah) waters could, under certain circumstances, give rise to private ownership or private use rights. In this case, the system of priority in time was applied. Based on the concept that private appropriation was subject to the protection of existing rights 5/, it follows that in time of water shortage senior rights could not be reduced in favour of junior rights. Due to the lack of records and through passage of time however, rights acquired since time immemorial (kadeem) had to be recognized the same degree of priority, a situation of fact confirmed by the provision that "kadeem rights are maintained in their priority" 6/, wherein "kadeem" is defined as "the origin whereof is not known by anyone" 7/. In 1955, the Supreme Court confirmed this rule by refusing to consider as kadeem competitive rights originating respectively 42 and 12 years back since, in the alternative, these would have been given the same order of priority 8/.

Accordingly, kadeem rights have priority over junior rights, and water use rights in existence prior to the promulgation of the Civil Code have priority over those created thereafter. Similarly, senior private rights acquired in accordance with the provisions of the Civil Code have precedence over junior ones.

Finally, it is to be recalled that no general legislation to regulate the right to use public waters has yet been promulgated in accordance with the corresponding provision of the Civil Code 9/. Special laws have however been issued for sectoral uses introducing the prior authorization system in which priorities are regulated on a case to case basis. Similarly, the planning legislation provides for water use priorities to be established within the framework of the development plans and programmes. It follows that, in this case, the allocation of priorities among different existing rights in public waters vests exclusively with the water resources administrative authorities by means of the terms and conditions of the authorization, permit or concession granted to each individual user.

1/ Turkish Civil Code, Art. 641

2/ Majelle, Arts. 1234, 1235

3/ Ibidem, Art. 1267

4/ Ibidem, Art. 1265

5/ Ibidem, Arts. 1265, 1267, 1269

6/ Ibidem, Art. 6

7/ Ibidem, Art. 166

8/ Supreme Court, 6th Section, 5.3.1955: No. 1186

9/ Turkish Civil Code, Art. 641

VI - LEGISLATION ON BENEFICIAL USES OF WATER

(a) Domestic and Municipal Uses

In rural areas, villagers are responsible for their own drinking water supply 1/. Relevant provisions regulate the construction and maintenance of the necessary closed conduits, fountains, public wells, springs, baths, laundries and toilets. These include the obligation to avoid exposing drinking water supply piping systems to unhealthy conditions and places such as cemeteries and the like.

In urban areas, municipalities are entrusted with the supply of citizens with drinking water and with the control of existing facilities 2/. Municipalities are further entitled to build drinking water storages and ice factories and are vested with the establishment and operation of all types of public utilities 3/. Until 1970, private organizations which had been operating such facilities were however maintained in their trade provided they observed the relevant government rules and regulations.

Rural and urban drinking water supply functions vest in the village and municipal Councils 4/. Since 1926, all supply systems formerly owned and operated by Wakf administrations have been handed over to village and municipal Councils 5/, except, however, those facilities which prior to that date were the subject of contractual arrangements. Municipalities were then given five years to prepare plans and projects for the improvement of all water supply facilities and to submit the same to the Ministry of Health and Social Assistance 6/.

Municipalities are further empowered to control sources of supply located outside their territorial jurisdictions in order to maintain springs, water conduits and canals in good conditions and to prevent their contamination 7/. The sharing of water among villages and municipalities dependent on the same source of supply is regulated in accordance with recognised customs 8/. Where a clear separation can be made between the respective shares, these are administered accordingly; otherwise, existing practices and usage are maintained.

Once new drinking water supply works have been constructed, these are handed over to the respective village or municipal council; where more than one village or municipality are concerned, such works are handed over to their associations and become their property 9/. Military garrisons benefit from the same provisions, but under the joint control of the Ministry of Defence and the Ministry of Energy and Natural Resources. However, where garrisons located within a municipal area cannot satisfy their drinking water requirements from the existing network, the Ministry of Settlement and Improvement, through the Provincial Banks, the Ministry of Defence and the Ministry of Energy and Natural Resources, through G.D.S.H.W., are jointly responsible to provide therefor 10/.

1/ Law No. 442 (1924) on Villages, Arts. 13 and ff.

2/ Law No. 1580 (1930) on Municipalities, Art. 15

3/ Ibidem, Art. 19

4/ Law No. 831 (1926) on Water, Art. 1

5/ Ibidem, Art. 2

6/ Ibidem, Art. 5

7/ Law No. 831 (1926) on Water as supplemented by Law No. 2659

8/ Ibidem, Art. 3

9/ Law No. 7428 (1960) on Drinking Water in Villages, Art. 9

10/ Law No. 178 (1960) on Drinking and Domestic Water Supply for Garrisons, Art. 1

Within cities of more than 100 000 inhabitants, the responsibility for the supply of drinking water vests with G.D.S.H.W. which is granted exceptional financial means for the purpose 1/. Large cities like Ankara for instance, have had their sewerage networks constructed by the Ministry of Energy and Natural Resources which has further been responsible for the connection of individual premises therewith 2/. The operation of the municipal water supply and sewerage system of Istanbul has been entrusted to a municipal water supply agency 3/. A similar institution has been established for Ankara.

(b) Agricultural uses

In addition to the general rules of the Civil Code which govern neighbourliness among private persons, including related easements and servitudes, special laws have been enacted to regulate public irrigation and private networks connected therewith. Together with a definition of the various waterworks, provision is made for the sharing of related construction and maintenance obligations between the government and individual users 4/. Accordingly, the maintenance of irrigation works implemented by the Government, or mains, falls upon the Government agency concerned; individual or joint farm intakes, ditches and drainage outlets connected with Government networks are however constructed and maintained by their users.

In order to protect the interest of neighbouring landowners, several provisions specify the type and location of waterworks within the holding in which they are implemented, together with related rights of way 5/. In particular, lower riparians are compelled to receive drainage water from upper riparian holdings, subject to compensation 6/; the owner of land crossed by irrigation and drainage canals is under an obligation to suffer the existence thereof, provided these were approved by the competent irrigation agency 7/. Modalities for compensation are regulated in detail 8/.

The connection of private ditches with public irrigation canals is subject to the prior authorisation of the local government upon approval by the responsible irrigation agency 9/; approval is given provided canal alignment and location are considered adequate. Where private canals and ditches cut across or interfere with other public works, special regulations and standards are to be observed 10/.

Landowners not having direct access to water may obtain rights of way upon intermediate holdings; these servitudes may be temporary or permanent 11/. Temporary rights of way to water may not exceed 9 years, but may be converted into a permanent servitude provided a request therefor is filed before the current temporary right lapses. Compensation for such rights of way is equivalent to half the value of the land allocated for the purpose in the case of temporary, and the full value thereof in the case of permanent servitudes. Where, as a result of the constitution of a right of way, the servient holding is parcelled, additional compensation is due. Once the right is constituted, the beneficiary is entitled to draw as much water as the corresponding canals or ditches can carry and, where the capacity thereof requires a subsequent increase,

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1/ Law No. 1053 (1968) on Water Supply for Cities with a Population of over 100,000

2/ Law No. 4099 (1941) regulating the Sewerage System of Ankara, Art. 2

3/ Law No. 2226 (1933) establishing the Istanbul Municipal Water Supply Agency, as amended by Law No. 6349 (1954)

4/ Law (1329-1913) on the Operation of Irrigation Systems, Chap. I

5/ Ibidem, Chap. II

6/ Ibidem, Chap. II, Art. 10

7/ Ibidem, Art. 11

8/ Ibidem, Arts. 12-13

9/ Ibidem, Chap. II, Art. 14

10/ Ibidem, Art. 15

11/ Ibidem, Art. 16

related waterwork improvements may be made provided corresponding losses to the servient holding are duly compensated 1/.

Once approved by the competent authority however, irrigation canals and ditches are to be maintained in their original shape and capacity; the State is further entitled to reserve part of the established water flow for public use, this without compensation requirements 2/. Water allocated for irrigation can be used for other purposes provided its original destination is not interfered with 3/.

As to private irrigation schemes, the chief local administrator is entitled, upon request by at least two irrigators, to enforce the sharing of irrigation work construction, operation and maintenance costs 4/. In this case, a layout of the proposed irrigation scheme is prepared along with cost estimates and with the determination of the acreage and limits of the various holdings to be fed by the system. The scheme is then approved by the district council and individual costs apportioned accordingly. Prospective users are duly notified and may appeal the decision within 15 days from the notification date 5/. Approved works are implemented under the control of a board of trustees elected from among the irrigators at a majority vote 6/. The construction of Karez, or underground water galleries, is subject to the same provisions 7/.

Government irrigation projects are undertaken by G.D.S.H.W. 8/. Corresponding land surveys and the determination of which lands are to be included in, or excluded from, irrigation projects are subject to the prior approval of the Council of Ministers upon recommendation of the Ministry of Energy and Natural Resources. Affected project lands are designated by public posters in the relevant administrative centres 9/. The operation of State irrigation systems may either be partial, experimental or permanent. Partial operation may take place provided construction progress is not harmed thereby; experimental operation may be undertaken as from the completion of the works until the reimbursement period is initiated by decision of the Council of Ministers, but not later than 10 years therefrom; permanent operation commences with the reimbursement period declaration or automatically ten years after project completion 10/.

Land levelling and the construction of distribution ditches and drainage canals within individual holdings using irrigation water either from State irrigation systems or available otherwise for agricultural lands, is however the responsibility of the General Directorate for Soil Conservation and Irrigation (G.D.S.C.I.). G.D.S.C.I. is also responsible for the construction and operation of small irrigation systems using less than 500 litres/sec. of water 11/.

1/ Law (1329-1913) on the Operation of Irrigation Systems, Art. 17

2/ Ibidem, Art. 19

3/ Ibidem, Art. 20

4/ Law (1334-1918) on Orchard Irrigation, Art. 1

5/ Ibidem, Art. 2

6/ Ibidem, Art. 3

7/ Ibidem, Art. 5

8/ Law No. 6200 (1953) organizing and regulating the General Directorate for State Hydraulic Works, Art. 2

9/ Ibidem, Art. 24 o)

10/ Ibidem, Art. 27

11/ Law No. 7457 (1960) organizing and regulating the General Directorate for Soil Conservation and Irrigation, Art. 2.

In the particular field of rice cultivation, provision is made for special Rice Commissions to determine the extent and location of rice fields and to supervise irrigation operations therein 1/. These commissions are chaired by the provincial Governor, or his Deputy, and comprise the Head of the Chamber of Agriculture, the Directors of Agriculture, Public Works, Malaria Eradication, Health and Social Assistance, one representative of the rice farmers at the provincial level and corresponding government officers at the district level. Rice cultivation experts of the Ministry of Agriculture join the commissions when available. In provinces or districts wherein rice land covers less than 10 hectares however, the membership of the commission is restricted to the Governor, or his Deputy, and to the Directors of Agriculture, Malaria Eradication and Health and Social Assistance 2/.

In order to proceed with the delimitation of rice cultivation areas, the commissions take into consideration yearly hydrological characteristics, the number of prospective farmers and the total cultivable land surface. The schedules of irrigation water turns are then established accordingly.

To facilitate the work of the Rice Commission, prospective farmers are called upon to apply for the authorization to cultivate at least three months before the planting season. In their applications, farmers are to provide details on the part of the land intended for rice growing, the type of crops grown the preceding year, the source of irrigation water, the location of canals and ditches, and that of drainage outlets. Applications are investigated on the site by the Rice Commission whether traditional or new rice fields are concerned. The members of the Rice Commission are jointly responsible for damages resulting from their negligence in failing to decide on an application within two months 3/.

The decisions of the Rice Commissions are implemented by a Board of Trustees which operates irrigation facilities. Where irrigation schemes lie in two or more districts, the commissions concerned work jointly; jurisdictional controversies are settled by the Governor if litigating districts form part of one province and, in the alternative, by the Minister of Agriculture 4/.

Where rice fields are of a sufficient superficies and concentrated within one location, the irrigation water supply is cut off for 48 hours every 10 days 5/. This system is compulsory in areas designated by the Minister of Health and Social Assistance 6/. At the individual field level, water turns are established by the Rice Commission 7/. Rice fields are levelled in such a way that no water may remain on the land surface during the 48 hours cut-off period 8/. This irrigation system is practiced where fields are at distances of 50, 500 and 1000 meters respectively from villages, towns and cities. Rice fields may however remain under permanent water cover provided they are located no less than 3 kms from inhabited centres 9/.

1/ Law No. 4039 (1936) on Rice Cultivation, Art. 2
2/ Ibidem, Art. 1
3/ Ibidem, Art. 9
4/ Ibidem, Art. 3
5/ Ibidem
6/ Ibidem, Art. 17
7/ Ibidem, Art. 4
8/ Ibidem, Art. 18
9/ Ibidem, Art. 19

Each Rice Commission further prepares plans for the siting and construction of new irrigation systems. Farmers are called upon to volontarily join in the proposed works failing which the Rice Commission apportions corresponding individual costs and entrusts a Board of Trustees elected from among the farmers to collect related funds and to supervise the construction on its behalf. Contributions in kind and labour may replace part or whole of the estimated individual contribution 1/. Irrigation and drainage works, including farm ditches, are constructed in accordance with the Rice Commission plan irrespective of individual water rights 2/. These are so constructed as to prevent percolation or the formation of stagnant water bodies. To this effect, waters flowing through rice fields are usually connected with streams and other receiving water bodies. Following harvests, rice fields may normally not be covered with water until the next growing season. Exceptions may however be authorized by the responsible Rice Commission.

Water disputes among farmers are settled by the relevant Boards of Trustees. Appeals may be made to the Rice Commission whose decision is however final 3/.

(c) Fishing

Since 1971, all provisions regulating inland and sea fishing have been codified into a single enactment which covers all aquatic fauna, flora and their spawns 4/. All fishing enterprises are subject to the permit system 5/. Fishing permits are issued by the Office of the Governor upon consultation with all interested government agencies within the applicant's province of residence. Enterprises working within forest or water resources project areas require the additional endorsement of the Forest Ministry's regional office or of G.D.S.H.W.; boats or ships used for fishing require a special permit from the provincial or sub-provincial authority with which they have been registered. Leisure fishing by citizens or tourists outside prohibited areas is exempted from permit requirements, subject to the general limitations and restrictions with respect to types and size of catches and fishing periods being observed 6/.

Fishing permits are issued for a one year, renewable period. Applications for extension are to be submitted between 1 June and 31 July 7/. Permits may only be issued to Turkish citizens above 18 years of age and upon presentation of a health certificate. Extension or renewal of permits is subject to the same terms and conditions 8/.

Except for areas owned by the Treasury or G.D.S.H.W. which form part of the Public Domain of the State, fish production areas are determined by a special committee. Copies of the area map are filed with the Ministry of Finance, the Ministry of Commerce and the Office of Land Registration 9/. Production areas forming part of the Public Domain are leased by the Ministry of Agriculture to fishing cooperatives, their associations and to village associations on a bargaining basis. Leased areas may not be transferred or sub-leased. Should no bid be submitted within one month from the date bidding has been opened, fishing areas may then be leased out to individuals and corporate entities; in this case, however, commercial bidding procedures are followed. Leases may not exceed a 30 year term 10/. Fishermen associations are established in

1/ Law No. 4039 (1936) on Rice Cultivation, Art. 5

2/ Ibidem, Art. 4

3/ Ibidem, Art. 8

4/ Law No. 1380 (1971) on Sea Products, Art. 1

5/ Ibidem, Art. 3; Sea Products Regulation, Art. 5

6/ Law No. 1380 (1971) on Sea Products, Arts. 3-23; Sea Products Regulation, Art. 7

7/ Sea Products Regulation, Art. 2

8/ Ibidem, Arts. 2-3

9/ Law No. 1380 (1971) on Sea Products, Art. 5

10/ Ibidem, Art. 4

accordance with the various cooperative laws and regulations 1/.

Any modification to fish production areas such as water diversion, land reclamation, extension or filling, requires the prior approval of the Ministry of Agriculture 2/. Similarly, the instructions of the Ministry of Agriculture are to be followed with a view to the full protection of aquatic life before water is stored behind dams or in artificial lakes and whenever inland water resources are being developed for irrigation, power generation and other purposes 3/.

Enterprises planning to establish inland commercial fish ponds are required to submit to the Ministry of Agriculture all information on their proposed location, together with relevant characteristics, plans and designs. Permits are issued provided the Ministry of Agriculture is satisfied that there will be no harm to the public health, the national economy and transportation; the Ministry of Transport is consulted to this end. The Ministry of Agriculture is entitled to obtain from fishermen and fishing enterprises all relevant data on their activities; such information is however confidential and may not constitute proof or documentary evidence against those who provide it 4/. Together with the Ministry of Commerce, the Ministry of Agriculture is further entitled to control and inspect all enterprises engaging in the processing and sale of fish products, their shops and stores, fish markets, production areas, fishing gear and implements in order to recommend or enforce improvements and corrective measures 5/. The processing, transportation and sale of fish products not meeting legal requirements and standards are deemed unlawful 6/.

All constructions and works in or across watercourses likely to prevent the free movement of aquatic life require the prior authorization of the Ministry of Agriculture. The construction of fish ladders and similar devices permitting the passage of aquatic animal and plant life through dams and diversion weirs is compulsory 7/.

Except for scientific research purposes, fishing with trolls is prohibited 8/. In addition, the use of explosives, chemicals of any kind, electricity and quicklime for fishing purposes constitutes criminal offences 9/. Special provisions further prohibit the disposal into water of waste likely to harm aquatic fauna and flora or the public health, as well as the deposit thereof in or around fish production areas 10/.

All activities related to fisheries survey, research and training vest with the Ministry of Agriculture which, in cooperation with the Ministry of Commerce, the Hydrobiological Institute, Universities and other scientific research bodies and experts through a special committee comprising representatives of the private sector, implements recommended improvements and programmes 11/.

1/ Sea Products Regulation, Art. 15; Law No. 2834 on Agricultural Sales Cooperatives and Associations; Law No. 2836 on Agricultural Credit Cooperatives; Law No. 1163 on Production Cooperatives

2/ Law No. 1380 (1971) on Sea Products, Art. 7

3/ Ibidem, Arts. 8-9

4/ Ibidem, Art. 28

5/ Ibidem, Art. 31

6/ Ibidem, Art. 25

7/ Ibidem, Art. 22

8/ Ibidem, Art. 24

9/ Ibidem, Art. 19

10/ Ibidem, Art. 20

11/ Ibidem, Arts. 14-16

Finally, some provisions govern credit, financial exemptions and grants for the control of harmful fish varieties 1/.

(d) Hydropower

The production of hydro-electric power constitutes a full Government prerogative. With the exception of rural electrification which is undertaken by the General Directorate for Road, Water and Electricity in Villages, hydropower development surveys, planning and implementation vests with G.D.S.H.W. 2/. In its planning activities, G.D.S.H.W. is however assisted by the Etibank 3/ which cooperates as well in the operation and maintenance of hydropower plants. For multipurpose dams which include a power component, G.D.S.H.W. benefits from the cooperation of the Turkey Electricity Organization 4/ which, in addition, has overall responsibility for power distribution and supply.

(e) Industry and Mining

Although industrial uses of water are rapidly increasing, especially in western Turkey, water supply for industrial plants and related undertakings is still treated as a domestic or municipal use, or as individual groundwater extractions. In the absence of special provisions on water use for industrial and mining purposes, the general rules governing the use of surface waters and the terms and conditions of groundwater use permits apply.

(f) Transportation

As Turkish rivers are not suitable for navigation, only a few provisions of the sea transport and port administration legislation regulate the use of fresh water in this connection.

Provision is made, in particular, for port installations and navigable canals to be placed under the control of the competent provincial or municipal administration. Facilities of major economic or strategic importance fall however under the control of a special government agency 5/. Within port areas, the prior authorization of the President of the Port Authority is required for the installation of any work or facility and for the disposal of waste 6/.

The Government encourages the formation of joint stock companies which take over the functions of ship loading and unloading and of fuel and water supply. Where required, the government participates in such companies 7/. Tariffs for port monopoly services are established subject to the approval of the Ministry of Transport; within municipal areas, such tariffs are reviewed every six months by a special committee 8/.

1/ Law No. 1380 (1971) on Sea Products, Arts. 15-18

2/ Law No. 1312 (1970) on Electricity Organization in Turkey, Art. 3-b

3/ Law No. 2805 (1935) on Etibank

4/ Law No. 2819 (1935) establishing the Electrical Works Survey Agency; Law No. 1312 (1970) on Electricity Organization in Turkey

5/ Law No. 618 (1925) on Sea Ports, Art. 1; Law No. 2521 (1934) on Government Administration of Port Activities, Art. 3

6/ Law No. 618 (1925) on Sea Ports, Arts. 4, 5

7/ Ibidem, Art. 8

8/ Law No. 2521 (1934) on Government Administration of Port Activities, Art. 4; Law No. 618 (1925) on Sea Ports, Art. 10.

Passenger fees for the use of port and canal transport facilities are however established by the competent provincial, municipal or village administration following an inquiry by the Ministry of Transport and upon approval of the Council of Ministers 1/. The competent local administration retains 30 per cent of the proceeds arising therefrom 2/.

Finally, all commercial craft are subject to a yearly technical inspection in order to establish the ship fitness for the purpose for which they are put in use. Except for passenger ships, parts under water are however examined only every two years. Craft considered fit for navigation are delivered a transportation permit 3/.

(g) Medicinal and Thermal Uses

Whereas the public ownership status of medicinal and thermal waters has been established at the time the Civil Code was promulgated 4/, the various provisions of the mining legislation promulgated subsequently have created a rather complex status in respect of the control of their use .

The original legislation provides for the mining administration to declare mineral water and hotspring areas pursuant to the recommendations of special technical committees, and for the use thereof to be subject to the concession regime governed by the bidding legislation 5/. The concession holder is entitled to exploit any mineral water and hot-spring within the boundaries of the concession area, including public and private land 6/. In the absence of mutual agreement for the transfer to the concession holder of private rights and property required for exploitation, such a transfer is effectuated by means of expropriation, against due compensation, under the authority of the Ministry of Commerce. Private rights and property not subject to transfer are however reserved and protected 7/. Related rights of way, easements and servitudes are then subject to registration by the Land Registration Office as real property rights 8/.

Provision is also made for all construction material and equipment required for the exercise of concession rights to be imported free of duty up to eight years from the concession grant upon approval of the Ministry of Commerce 9/. The concession holder is further exempted from income and property taxes during five and ten years respectively from the date of the concession grant 10/.

To these provisions, the mining legislation of 1942 added new requirements. Accordingly, mineral waters and hotsprings, whether under exploitation or not, may either be exploited directly by the interested provincial or local government or made subject to the concession regime through the established bidding procedures; related direct and indirect taxes accrue to the provincial government authorities or, where enterprises are not operated by provincial government authorities, to municipal or village administrative units; and the construction of mineral water plants as well as the installation of equipment are subject to the requirements of the sanitary legislation and to the prior approval of the Minister of Public Health 11/.

1/ Law No. 3004 (1936) on Piers Management, Art. 1

2/ Law No. 618 (1925) on Sea Ports, Art. 5

3/ Law No. 4922 (1946) on the Protection of Life and Property at Sea, Arts. 3, 4

4/ Law No. 927 (1926) on the Exploitation of Mineral Waters and Hotsprings, and on Thermal Establishments

5/ Ibidem, Art. 1; Law (1341-1925) on Bidding

6/ Ibidem, Art. 2

7/ Ibidem, Art. 3

8/ Supreme Court decision No. 1937/157

9/ Law No. 927 (1926) on the Exploitation of Mineral Waters and Hotsprings, and on Thermal Establishments, Art. 4 as amended

10/ Ibidem, Art. 5; Law No. 5421 on Income Tax, Art. 21

11/ Law No. 4268 (1942) on the Exploration and Exploitation of Mines, Art. 2; Law No. 442 (1924) on Villages, Art. 17/16; Law No. 1593 (1930) on General Health Protection.

While the 1942 mining legislation did not modify the 1926 law on mineral and thermal waters, it did abrogate the 1925 bidding procedures with the result that the concession regime in this field was left in a vacuum. The only alternative is therefore to resort to the provisions of a 1910 law regulating the granting of general public interest concessions 1/.

In 1954, a law on mines was promulgated which, except for those provisions regulating mineral and thermal waters, abrogated the 1942 mining legislation 2/. According to the same law however, all waters containing minerals are subject to its provisions 3/. Such a situation adds to existing mineral and thermal water use control difficulties, in particular with respect to procedural matters which remain duplicated by the various enactments relevant to this field.

VII - LEGISLATION ON HARMFUL EFFECTS OF WATER

(a) Flood control

Zones threatened by floods are identified and delimited by the Ministry of Public Works and declared as flood control areas by the Council of Ministers 4/. Within such areas, all buildings, installations, trees, plantations, waterworks and other obstacles to the free flow of flood water in streams are removed in accordance with the provisions of the expropriation legislation 5/. Those buildings, installations, internal and adjoining lands which can still be kept in use are however left in the ownership of the landlords and compensation payments reduced accordingly. The level of compensation due in the case of expropriation is determined by three-member committees appointed by the provincial or municipal councils as required. The removal or demolition of all buildings, installations, plantations and waterworks within flood control areas takes place once compensation has been paid by the Ministry of Public Works. Such payments are however not required where the owner is either the State, provincial or local administrative units, including village corporations and Wakf. Similarly, unimportant earth dams, dikes and intakes are removed without compensation.

Decisions of the three-member committees may be appealed to the Provincial Governing Board which represents the Central Government within five days from the date of the expropriation notice. A final decision is to be taken within a month while execution proceeds. Upon written application, however, the appelant may be granted a specified delay for the removal of plantations and material that can be used elsewhere. In this case, the commercial value thereof is deducted from the amount due for compensation.

Owners of ditches carrying water for irrigation, mill operation and for other beneficial purposes within flood control areas are given a specified period of time in order to carry out recommended modifications and improvements, failing which their properties are expropriated.

There is a general prohibition to build or implant new, or to modify existing buildings and plantations. The Regional Director of G.D.S.H.W., or the provincial Director of Public Works in the absence thereof, is entitled to grant permits when such works or plantations are unlikely to harm the public interest 6/.

1/ Law (1326-1910) on General Public Interest Concessions

2/ Law No. 6309 (1954) on Mining, Art. 158

3/ Ibidem, Art. 1

4/ Law No. 4373 (1943) on Flood Protection, Art. 1

5/ Ibidem, Art. 2; Law No. 6830 on Expropriation

6/ Ibidem, Art. 3

In the case of imminent floods, every knowing person is compelled to inform local C.D.S.H.W. units, the Minister of Public Works, the nearest village headmen, security forces and other government administrative units. Where floods threaten lower basin areas, the population concerned is warned by people in the upper basin who hold the obligation to do so during flood seasons 1/. To this end, cable and telephone services are free of charge, as are communication facilities available at railway stations 2/. In addition, all men between 18 and 50 years of age and living in an area threatened by floods are bound to participate, with their own tools and implements, in flood protection works. Where required, people in neighbouring zones may be called upon to help by the Governor or Deputy Governor of the province or district concerned; their own Governor or Deputy Governors are informed accordingly and bound to cooperate either by sending rescue teams or personally if required 3/. In cases of severe floods, all government, civil, military and private organizations may be compelled to assist 4/.

People engaging in flood protection or rescue operations are not entitled to wages but are provided with food and transport. In cases of emergency, private means of transport may be requisitioned. Individual tools and implements damaged in the course of such flood prevention and rescue operations as well as requisitioned private means of transport are subject to government compensation 5/. The requisition of railways, free hospital care and medical treatment for people injured, and compensation payments to dependents of people killed in the course of these operations are regulated by the corresponding provisions of the Armed Forces regulations 6/.

(b) Drainage and Sewerage

Provision is made for private entrepreneurs to take initiative in the reclamation of unowned swamps, marshy lands, lakes and other bodies of stagnant water and for the ownership thereof to be correspondingly acquired 7/. Such reclamation works are however undertaken under the supervision of the Ministry of Public Works and provided an application therefore has been filed with the Governor's Office in the province wherein the land or water body to be reclaimed is located. Where such lands or water bodies are spread over more than one province, the application is to be filed with the Governor of the province wherein the largest portion of the land or water body is sited. Disagreements on jurisdictional competences are decided by the Minister of Public Works. Special provincial committees under the chairmanship of the Governor and composed of the head of the provincial finance office (Daftardar) and of the provincial Directors of Public Works, Health and Social Assistance, State Hydraulic Works and Malaria Eradication have been established for the purpose 8/.

Upon receipt of an application, the special committee concerned decides as to whether the works are to be undertaken as part of national malaria eradication operations or not. In the alternative, the application is referred to the Prime Ministry which, following consultation with all government agencies concerned, advises the special committee and the applicant as to whether such works are to be undertaken by the State or privately. Where land reclamation is declared public, the State is under an obligation to start operations within four years from the date of the original application. Should the State refrain from assuming responsibility for such works or

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1/ Law No. 4373 (1943) on Flood Protection, Arts. 4, 5

2/ Ibidem, Art. 12

3/ Ibidem, Art. 6

4/ Ibidem, Arts. 7, 8

5/ Ibidem, Arts. 9, 10

6/ Ibidem, Art. 13

7/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, Art. 1

8/ Ibidem, Art. 3

fail to effectively undertake public land reclamation within four years, villages, water users' cooperatives and their associations are duly notified thereof by public notice and, within two months from the date of notification, are given priority to apply with the special provincial committee. In the case of multiple applications, the village or water users' cooperative to be granted the authorization is selected on the basis of prevailing local conditions.

Where no village or water users' cooperative has applied, the original applicant or applicants are duly informed and the authorization granted to the one who offers to abandon the largest portion of the reclaimed land to the State.

The beneficiary is given a three months period to prepare a preliminary project plan for submission to the Ministry of Public Works which is to approve or modify the project within two months. Where the beneficiary is a village, a water users' cooperative or an association thereof, the relevant project plans are drawn up by the Ministry of Public Works directly. The project area is delimitated by the special committee in the driest season. Once the project is approved, the applicant is to submit the final engineering designs within a year 1/.

Upon approval of the final designs, project terms and conditions are agreed between the applicant and the special committee subject, for important projects, to the approval of the Ministry of Public Works 2/. The beneficiary is given one year from the date of project approval to initiate works, failing which he looses all rights to the authorization, project plans and designs 3/. Lands subject to reclamation may not be disposed of by the State as from the date of the original application. Existing users of such land may however continue their use thereof until project completion, provided their activities do not impede land reclamation works 4/.

Once the project is completed, the special committee carries out, together with a representative of the Ministry of Public Works if required, an inspection of the works and, where project terms and conditions have been duly observed, authorizes the registration of the reclaimed land free of charge in the name of the beneficiary. Reclamation costs assigned by the special committee are to be born by the beneficiary, or beneficiaries, and these are guaranteed by a compulsory mortgage until all costs have been paid off 5/. In addition, beneficiaries are bound by a compulsory servitude to maintain land reclamation works, an obligation binding upon all subsequent owners 6/.

In addition, neighbouring landowners are under an obligation to allow for their land to be used for the required land reclamation works and installations. Resulting damages or losses are however subject to compensation in cash or in land. In the latter case, compensation may reach twice the area of reclaimed land against that given up for the project. Should landowners fail to reach agreement on the level of compensation,

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1/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, Arts. 2, 4-5

2/ Ibidem, Art. 6

3/ Ibidem, Art. 2

4/ Ibidem, Art. 7

5/ Ibidem, Art. 8

6/ Ibidem, Art. 9

neighbouring lands are expropriated in accordance with the general land expropriation legislation. Provisional land occupation is equally subject to compensation 1/.

As to coverage, and with the exception of the special provisions regulating the Ankara Sewerage System, the disposal of domestic and municipal waste waters is governed by the general provisions of the municipal and village organisation legislation covering domestic and municipal uses of water.

VIII - LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

(a) Waste and Misuse of Water

In the absence of a general provision preventing the waste or misuse of surface waters, such malpractices can only be prosecuted pursuant to a third-party claim establishing that a damage or loss has effectively been suffered thereby. There are however special provisions which regulate waterworks construction and maintenance, government irrigation schemes and city water supply in order to ensure the rational use of water resources; except for uses covered by a concession which may provide for the cancellation thereof for breach of the terms and conditions thereof, private litigation remains however the essential and limited means available to control water uses.

As concerns groundwater uses however, those which are subject to a permit are limited by the beneficial use criterion and by the corresponding terms and conditions established by the issuing authority 2/. The non-observance thereof is then not only liable to prosecution and fines, but to the cancellation of the permitted use right 3/.

(b) Health preservation and pollution

The Ministry of Health and Social Assistance is responsible for the control of drinking and domestic water wholesomeness in accordance with standards established by the medical profession 4/. Municipalities are to purify or treat such waters in order to meet or maintain such standards 5/.

In order to protect sources of drinking water supply, the competent technicians and medical experts are empowered to establish corresponding protected zones. Required land is expropriated by the Municipality concerned in accordance with the general expropriation legislation. Expropriation powers may be exercised outside municipal boundaries as well. Once a protected zone is established, the land therein may not be used for any other purpose 6/. In the case of private wells, the obligation to maintain water free of contamination devolves upon owners; municipalities are however empowered to take all necessary measures at the owner's expenses in the case of default 7/.

1/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, Art. 10

2/ Law No. 167 (1960) on groundwaters, Arts. 4, 5

3/ Ibidem, Art. 18

4/ Law No. 1593 (1930) on General Health Protection, Art. 235

5/ Ibidem, Art. 236

6/ Ibidem, Arts. 237, 238

7/ Ibidem, Art. 239

All natural spring waters sold to the public are subject to the control of the municipal health authorities which establish as well standards for all related utensils, containers and marketing facilities. The owners of springs and of other drinking or domestic water supply sources are to observe relevant contamination prevention instructions 1/. In particular, any installation, work or individual activity likely to contaminate watercourses is to be prevented; any harmful waste may not be disposed of into water bodies unless it has been treated to meet the required standard 2/. Whenever a spring, well or fountain is contaminated or naturally not suitable for drinking, signs are installed thereon by municipalities to publicise the unsuitability thereof for human consumption 3/.

Ice factories are also subject to sanitary inspection and the water used for ice-making is to satisfy drinking water quality standards 4/.

In addition to drinking water quality control, municipalities hold responsibility for the construction and control of public baths (hemam) and for the disposal of sewage 5/. Sewage outlets may not discharge into watercourses unless they have been proven to be harmless. Such outlets are to be located at a safe distance from residential areas and are expropriated in order to prevent their use for other purposes 6/. In residential areas wherein sewerage systems cannot be installed, cesspools are established in accordance with Ministry of Health and Social Assistance specifications. The municipalities provide for the necessary cleaning of cesspools and for the removal of sewage at reasonable cost. Sewage may not be used as manure for agricultural use 7/. As to the siting of cemeteries, due consideration is taken of the possible harmful effects thereof for watercourses and water supply systems 8/

Special provisions regulate water uses in connection with malaria eradication imperatives. In particular, all small surface water bodies which would subsist long enough to allow for mosquito breeding are to be drained by the possessor of the land concerned, whether private or public 9/. Similarly, large expenses of water likely to constitute sources of malaria are to be drained by local inhabitants provided they are in a position to undertake such a work. To this end, all working males between the age of 18 and 60 in the area are compelled to contribute 5 working days annually. Disabled persons and soldiers are exempted. Cash may be offered instead of personal labour 10/. The relevant Malaria Commissions delimitate the eradication area and the list of people to be called to work. These commissions are comprised of the Governor, the Mayor, the provincial Directors of Health and Social Assistance, Malaria Eradication, Public Works, Agriculture, of the corresponding district officers or of the village council under the supervision of the Deputy Governor and of a malaria eradication medical officer at the village level 11/. Where applicable, senior physicians of military garrisons, Commanders or their representatives join these commissions which supervise the collection and spending of moneys offered in lieu of personal labour. Where required, the owners of the land to be drained and an official of the Ministry of Health and Social Assistance assist in drainage works 12/.

1/ Law No. 1593 (1930) on General Health Protection, Art. 240

2/ Ibidem, Art. 242

3/ Ibidem, Art. 241

4/ Ibidem, Art. 243

5/ Ibidem, Art. 18

6/ Ibidem, Art. 244

7/ Ibidem, Art. 245

8/ Ibidem, Art. 212

9/ Law No. 4871 (1946) on Malaria Eradication, Art. 6

10/ Ibidem, Art. 8

11/ Ibidem, Art. 9

12/ Ibidem, Art. 11

Before the construction of any public work, waterwork , factory or farm is undertaken, the Ministry of Health and Social Assistance has to be consulted in order to ensure that all necessary malaria prevention measures have been taken 1/. Employers, whether private or public, are to provide workers in malaria infested zones and areas with medicine free of charge and are to take all the protection measures that may be required 2/. In particular, cesspools are to be adequately covered or sealed 3/. In areas wherein malaria eradication is likely to take a long time, inhabitants may be resettled in malaria free zones or areas by decision of the Council of Ministers. In this case, compensation is paid to settlers in accordance with the provisions of the land distribution legislation 4/.

As far as mineral and thermal waters are concerned, their quality control pertains as well to the Ministry of Health and Social Assistance. The producers of such waters are to facilitate such a control by all available means 5/. This Ministry is also responsible for the certification of the wholesomeness and therapeutical properties of such waters. Such a certification is required prior to the commercial exploitation of mineral waters or of thermal establishments. In addition, the terms and conditions of the corresponding concessions are reserved 6/.

In order to obtain the Ministry of Health and Social Assistance Certificate, applicants are required to submit a copy of the permit or concession issued by the competent authority, a 1:200 sketch map of the source of water and of the surrounding area within a radius of 125 meters, a report on the medicinal properties of the water, the estimated amount of water to be used and the type of facilities intended to be installed. If required, an official water analysis may be taken by an expert of a provincial laboratory at the expense of the applicant 7/.

No natural or artificial additives may be added to bottled or otherwise marketed mineral water unless the Ministry of Health and Social Assistance has been informed beforehand. Mineral water containers are to bear the mention of all additives 8/. Operators of mineral water facilities or establishments may seek from the Ministry of Health and Social Assistance the declaration of a surrounding protected area within which activities likely to interfere with their trade are prohibited. Applications to this effect are to include all supporting documentation, including the number of customers supplied during the preceding three years 9/. Depending on the size of the installation and the number of customers, mineral and thermal water establishments are to employ a certified physician 10/.

1/ Law No. 4871 (1946) on Malaria Eradication, Art. 13

2/ Ibidem, Art. 14

3/ Ibidem, Art. 15

4/ Ibidem, Art. 17; Law No. 4753 (1945) on Land Distribution to Landless Farmers

5/ Law No. 1593 (1930) on General Health Protection, Art. 202

6/ Ibidem, Art. 200

7/ Ibidem, Art. 201

8/ Ibidem, Art. 203

9/ Ibidem, Art. 204

10/ Ibidem, Art. 205

The Ministry of Health and Social Assistance controls as well all imports of mineral waters 1/. All bottles and other containers of artificial mineral waters, whether manufactured in the country or imported, are to bear the detailed mention of their contents. Fraudulent advertisements are prosecuted 2/.

Population centres wherein mineral and thermal water establishments are exploited may, upon inspection by the Ministry of Health and Social Assistance and by the Ministry of the Interior, be declared as medicinal and thermal resort areas 3/. Users of such facilities coming to reside therein for a certain period of time during specified seasons may be charged a special fee. The amount of this fee is established on the basis of the location and the condition of the available facilities by the Ministries of Health and Social Assistance, of the Interior and of Commerce, subject to the approval of the Council of Ministers. Proceeds from such fees may only be used for the improvement of the relevant cities, towns and related facilities. Veterans of war, destitutes and patients benefiting from State medical care are exempted from payment of this fee 4/.

IX - LEGISLATION ON UNDERGROUND WATER

a) Exploration and exploitation licences

Except for dug wells and for holes and bores not exceeding the depth authorized by G.D.S.H.W., the drilling of all wells and the excavation of all types of underground galleries, or Karez, require a permit issued by G.D.S.H.W. 5/. Such permits are issued for a one-year term. In cases where the permitted groundwater exploration is not completed, the permittee may have his right extended for another year, provided he has applied therefor during the last month of the authorized one-year term. Should exploration works not be completed during the renewed period, the permit is cancelled and the permittee has to submit a new request 6/.

All groundwater exploration operations are to be undertaken in accordance with the specifications issued by the Ministry of Power and Natural Resources 7/. There is no legal requirements for drillers to be licenced. G.D.S.H.W. determines however the number of permits to be delivered, the number and location of wells, their depth and other technical specifications 8/. G.D.S.H.W. is furthermore entitled to sink, or to have wells sunk for underground water exploration, survey and control purposes. Such activities require neither the expropriation of private land nor the payment of compensation 9/.

Once groundwater has been found, the use thereof is authorized immediately, but is limited by the beneficial use criterion; in addition, an application for the obtention of an exploitation permit is to be filed with G.D.S.H.W. 10/. If the permit is granted, the terms and conditions thereof stipulate, among others, the amount of water authorized to be extracted and the approved mode of use 11/. Unless a well modification or improvement permit is obtained from G.D.S.H.W., beneficiaries of ground-

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1/ Law No. 1593 (1930) on General Health Protection, Art. 206

2/ Ibidem, Art. 207

3/ Ibidem, Art. 208

4/ Ibidem, Arts. 209, 210

5/ Law No. 167 (1960) on Groundwater, Art. 8

6/ Ibidem, Art. 9

7/ Ibidem, Art. 4

8/ Ibidem

9/ Ibidem, Art. 7

10/ Ibidem, Art. 10

11/ Ibidem, Art. 4

water exploitation permits may not deepen, enlarge or modify their wells in any way in order to increase the yield thereof or for any other purpose 1/.

Whereas public exploration or control wells may be sunk on private land without the requirements of expropriation and compensation, the transformation thereof into exploitation wells is subject to the expropriation of private land for the well itself as well as for related water conveyance installations. Expropriation is undertaken by G.D.S.H.W. and corresponding compensation payments included in project costs. The right to use water from such wells may then be rented out to both individuals and corporations at a rate established by G.D.S.H.W.; expropriated landowners are given priority in renting such water rights 2/. Special regulations govern the right to groundwater use from third-party wells and the corresponding mode of compensation in cases where a landowner in need of water fails to find an underground supply within his holding 3/.

b) Control on depletion of aquifers

For the purpose of groundwater control, the Ministry of Power and Natural Resources is empowered to declare groundwater areas wherein groundwater resources conservation, development and use is placed under centralized administration 4/. When the total amount of water requested for use by several applicants reaches the established safe yield of an aquifer, all applications filed during the preceding week are investigated together and water use permits granted on the recommendation of an interministerial committee 5/.

c) Interference with other uses

Although the drilling of wells for purposes other than water resources exploitation do not require a water use permit, G.D.S.H.W. is entitled to request from the operators of such wells all information it deems necessary 6/.

X - LEGISLATION ON CONTROL AND PROTECTION OF WATERWORKS AND STRUCTURES

As a matter of principle, waterworks of public interest are undertaken by government agencies and private waterworks by their owners and beneficiaries, whether on public or private waters. The construction of most private waterworks is however under the control of the competent local government agency. In addition, private owners of waterworks hold corresponding operation and maintenance responsibilities which, in the case of works relating to a permitted water right, are specified in the corresponding terms and conditions thereof. Whenever possible, such obligations as concern public waterworks are transferred to the beneficiaries thereof, either as individuals or as public or private associations, in which case special regulations or the terms and conditions of the corresponding concessions apply. As to the construction of public water works, G.D.S.H.W. 7/ is generally responsible for the development of watercourses with a discharge of over 500 liters/sec., the General Directorate for Soil Conservation and Irrigation 8/ for smaller surface streams, and the General Directorate for Road, Water and Electricity for village waterworks.

1/ Law No. 167 (1960) on Groundwater, Art. 11

2/ Ibidem, Art. 7

3/ Ibidem, Art. 6

4/ Ibidem, Arts. 3, 4

5/ Ibidem, Art. 14

6/ Ibidem, Art. 8

7/ Law No. 6200 (1953) organizing and regulating the General Directorate for State Hydraulic Works, Art. 2

8/ Law No. 7457 (1960) organizing and regulating the General Directorate for Soil Conservation and Irrigation, Arts. 2, 16

Normal village waterworks are undertaken, operated and maintained by villagers 1/, whereas drinking water supply and sewerage works are undertaken by municipalities 2/ in accordance with plans and projects approved by the Ministry of Health and Social Assistance 3/. The operation and maintenance of municipal waterworks is undertaken by the responsible municipalities. Large-scale schemes constructed by government agencies are handed over to the interested municipality or to the village council concerned for operation and maintenance or, where more than one village council or municipality are involved, to their associations 4/. Waterworks located outside municipal areas have been placed as well under the control of the nearest municipality 5/.

As regards agricultural waterworks, the operation and maintenance of all main structures implemented by the government are undertaken by the responsible agency. The construction, operation and maintenance of farm intakes, ditches and drainage outlets from government networks and the construction, operation and maintenance of joint networks is however left to their users 6/. In cases where the necessary labour for main waterwork and structure maintenance cannot be found or in cases of emergencies, farmers are to contribute accordingly against compensation 7/. Modifications to government networks are to be approved by the Minister of Power and Natural Resources upon proposal by the provincial Director of Irrigation; minor modifications may however be undertaken by the Director of Irrigation, subject to subsequent notification to the Minister 8/. Where the owners of land on which irrigation or drainage canals are located suffer damages for lack of proper maintenance thereof, they may apply to the local irrigation engineer and, failing action on his part without a technical reason, may appeal to the Provincial Director of Irrigation 9/. Where beneficiaries fail to adequately maintain their farm ditches and drainage outlets in accordance with the instructions of the Director of Irrigation however, the required operations are undertaken by the controlling government agency at their expenses, reimbursement thereof being due after the harvest 10/.

Individual farm intakes and ditches may however be modified on the basis of seasonal and crop requirements. Although the cutting of ditches through the land of intermediate landowners is not subject to their prior authorization, the necessary care is expected to be taken in order to prevent damages to land and crops. Conflicts arising out of the alignment of ditches are settled by the Section Engineers 11/. The occupation or expropriation of land for major waterworks and structures is however subject to a rent or payment of compensation. Where any structure or work becomes unnecessary, the expropriated land is offered for sale by bidding or leased out on reasonable terms 12/.

1/ Law No. 442 (1924) on Villages, Art. 13; Law No. 831 (1926) on Water, Art. 1

2/ Law No. 1580 (1930) on Municipalities, Art. 15; Law No. 831 (1926) on Water, Art. 1; Law No. 1593 (1930) on General Health Protection, Art. 18

3/ Law No. 831 (1926) on Water, Art. 5

4/ Law No. 7428 (1960) on Drinking Water in Villages, Art. 9

5/ Law No. 831 (1926) on Water, as supplemented by Law No. 2659

6/ Law (1329-1913) on the Operation of Irrigation Systems, Chapter I

7/ Ibidem, Art. 24

8/ Ibidem, Arts. 25, 26

9/ Ibidem, Art. 27

10/ Ibidem, Art. 28

11/ Ibidem, Art. 29

12/ Ibidem, Art. 30

Unless authorised by the Director of Irrigation, no trees may be planted on land expropriated for the laying of irrigation canals or ditches. As to the use of trees planted thereon prior to expropriation, ownership thereof passes to the State together with that of the expropriated land. Trees may be planted between and along private canals and drains, but subject to the authorization of the competent Section Engineer. Trees and plantations obstructing the flow of water in private canals and drains are to be removed by the owners thereof or are disposed of by the Section Engineer; in this latter case, removed trees and plantations are sold with the approval of the Director of Irrigation and proceeds handed over to the defaulting landowner as compensation 1/.

In the case of the irrigation of orchards and of Kares development, water users are to organize into water users' associations, each under an elected Board of Trustees under the supervision of which waterworks are constructed and maintained. These Boards function under the control of the local government which is empowered to levy individual waterworks operation and maintenance fees in accordance with the provisions of the general taxation legislation 2/.

Where new areas are brought under rice cultivation, the layout and location of irrigation and drainage canals as well as of farm ditches is established by the relevant Rice Commission. Irrigators undertake to work jointly in the implementation of such irrigation networks. Failing agreement among farmers, the Rice Commission establishes relevant costs estimates and the shares of each water user. Corresponding funds are collected by an elected Board of Trustees under the supervision of which development work is then undertaken 3/.

Land reclamation works are undertaken either by the Government, village associations or individuals under the control of the Ministry of Public Works. The operation and maintenance of such works rest on who undertook them 4/. In the case of works on reclaimed land which has become the property of the reclaimer, operation and maintenance thereof become the object of a corresponding servitude recorded in the Land Register together with the land ownership title 5/. The same Ministry controls as well the implementation of flood control works which are undertaken, operated and maintained by G.D.S.H.W. with the help of all available local labour 6/. Waterworks implemented within malaria infested areas are however operated and maintained by the beneficiaries thereof 7/. Finally, mineral and thermal waterworks and installations are operated and maintained by the concessionnaires under the control of the Ministry of Health and Social Assistance 8/.

XI - LEGISLATION TO DECLARE PROTECTED ZONES OR AREAS

a) In the case of beneficial uses of water

Provision is made for the Ministry of Power and Natural Resources to declare groundwater areas wherein uses are subject to central control under the permit system 9/.

1/ Law (1329-1913) on the Operation of Irrigation Systems, Chapter III

2/ Law (1334-1918) on Orchards Irrigation, Arts. 1-5

3/ Law No. 4039 on Rice Cultivation, Art. 5

4/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, as amended, Arts. 1, 2

5/ Ibidem, Art. 9

6/ Law No. 4373 (1943) on Flood Protection, Arts. 2-3, 7-8

7/ Law No. 4871 (1946) on Malaria Eradication, Art. 12

8/ Law No. 4268 (1942) on the Exploration and Exploitation of Mines, as amended, Art. 2; Law No. 1593 (1930) on Municipalities, Art. 201

9/ Law No. 167 (1960) on Groundwaters, Art. 3

Where State irrigation works are developed, G.D.S.H.W. determines the land area to form part of the irrigation scheme. Irrigation areas are then established by decision of the Council of Ministers upon recommendation of the Minister of Power and Natural Resources 1/.

Fish breeding areas are determined by a special committee and established by decision of the Ministers of Finance and of Commerce 2/. Where such areas are located on State lands, the Ministry of Agriculture is given authority to lease them out to cooperatives, village associations, private corporations and individuals. The pre-existing regime of fishing rights has however been maintained within restricted fishing areas such as the Daylan (a system of fish nets fastened to poles, one of which is fitted with a look-out to watch the catch) and the Yoli (the area needed to operate the lowering and lifting of a suspended circular fishing net); in particular, any concession holder therein failing to exercise his right without justification for three consecutive years looses title thereto, and third parties benefit from a legal right of way therein 3/.

b) In the case of harmful effects of water

Flood protection areas are declared by decision of the Council of Ministers upon determination by the Ministry of Power and Natural Resources 4/. All works and plantations therein are to be approved by G.D.S.H.W. or by the provincial Director of Public Works 5/. Flood warning and rescue operations are centrally organized and implemented within each area 6/.

Land reclamation areas are determined by special provincial committees and established by decision of the Prime Minister upon recommendation of the Ministry of Public Works 7/. As soon as applications for land reclamation have been filed with the competent authority, the land comprised within reclamation areas may no longer be disposed of by the State 8/. Works are implemented under the control of the land reclamation authority and, once completed, become the property of the applicants concerned 9/.

Within malaria infested zones, malaria commissions establish eradication areas wherein all waterworks are controlled by the Ministry of Health and Social Assistance 10/. Provision is further made for populations residing within areas wherein eradication measures are expected to spread over a long period of time to be resettled 11/. In addition, rice fields and all water bodies likely to cause the spreading of malaria are to be kept at a distance of at least 3 km away from villages, towns and other residential areas 12/.

1/ Law No. 6200 (1953) organising and regulating the General Directorate for State Hydraulic Works, Art. 24/c

2/ Law No. 1380 (1971) on Sea Products, Art. 5

3/ Ibidem, arts. 10-11

4/ Law No. 4373 (1943) on Flood Protection, Art. 1

5/ Ibidem, Art. 3

6/ Ibidem, Arts. 4-8, 12

7/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, as amended, Art. 3

8/ Ibidem, art. 7

9/ Ibidem, Art. 9

10/ Law No. 4871 (1946) on Malaria Eradication, Art. 9

11/ Law No. 4871 (1946) on Malaria Eradication, Art. 17; Law No. 4753 on Land Distribution to Landless Farmers

12/ Law No. 4039 (1936) on Rice Cultivation, Arts. 19-21

c) Other cases

In addition to the general provision on the expropriation of land for the purpose of protecting sources of water supply and works and of the regime of neighbourliness regulated by the provisions of the Civil Code, those of the Mejelle governing prohibited areas (Harim) along watercourses and around sources of supply and waterworks on unowned (Mewat) land have been maintained in force for such areas as had been established prior to 1926. These are of 80 Arshin 1/ for springs and wells, and of 100 Arshin for Kares 2/. The prohibited area along streams extends for half the width of the riverbed on each bank in the case of streams subject to regular maintenance; for streams not subject to regular maintenance, this area is to be sufficient for depositing thereon silt and other material extracted from the riverbed 3/. The same principle applies to irrigation ditches crossing private land 4/. In all cases, the ownership of the land falling within prohibited areas vests in the owner of the spring, well or karez or in the lawful users of streams 5/.

XII - GOVERNMENT WATER ADMINISTRATION AND INSTITUTIONS

There is no central water resources administration in Turkey. Economic and social development planning proceeds from sectoral contributions by each government agency concerned under the coordination of the central planning organization. Since 1964, however, plan implementation in the field of natural resources is being concentrated under fewer government agencies and more resource-oriented policies.

a) At the national level

1. The State Planning Organisation (S.P.O.)

S.P.O. is responsible for national economic and social planning through the formulation of short and long-term national as well as sectoral development plans. S.P.O. is attached to the Office of the Prime Minister and is composed of a High Planning Council and of a Central Organisation. The High Planning Council consists of the Prime Minister, or his Deputy, three Ministers appointed by the Council of Ministers, the Under-Secretary and Department Heads of S.P.O. The Central Organisation is divided into Economic, Social and Co-ordination Departments which are in charge of interministerial and inter-agency co-ordination. While there is no established national water resources policy, in practice the Five-year development plans and corresponding yearly implementation programmes proceed, in the water resources field, from the relevant inputs of the various competent agencies which, on the basis of Central Budget allocations, are then responsible for plan implementation.

While the necessary data for development project formulation are generally collected and maintained by the relevant sectoral agencies, the State Statistical Institute has overall responsibility for general economic data inventories and constitutes, together with the General Directorates for Cadastral Survey and Land Registration and for State Hydraulic Works, the main source of statistical information on national land and water resources. Sectoral water resources data are further contributed by various other agencies and reconciled through individual basin master plans which serve as the basis for project formulation and inclusion into the national development plan.

1/ One Arshin equals 68 cm.

2/ Mejelle, Arts. 1281-1282, 1285

3/ Ibidem, Arts. 1283-1284

4/ Ibidem, Art. 1290

5/ Ibidem, Art. 1286

2. The Ministry of Power and Natural Resources

This Ministry was created in 1964 and vested with central control powers over natural resources and energy. In the field of water resources, it operates essentially through its General Directorate for State Hydraulic Works, General Directorate for Power Survey and Turkish Electricity Organisation. Drinking water supply and sewerage for large cities 1/, groundwater development 2/ and related functions formerly assumed by the Ministry of Public Works have been transferred to this Ministry which, in addition, is now empowered to declare groundwater areas 3/, to recommend to the Council of Ministers the declaration of flood protection areas 4/, and to regulate corresponding activities therein.

3. The General Directorate for State Hydraulic Works (G.D.S.H.W.)

Formerly under the Ministry of Public Works, G.D.S.H.W. was transferred to the Ministry of Power and Natural Resources upon the creation thereof in 1964 5/. This General Directorate holds the main water resources inventory, planning, co-ordination and development functions at the national level 6/. In particular, G.D.S.H.W. prepares basin master plans for approval by S.P.O.; issues groundwater exploration, use and well modification permits 7/; plans and allocates drinking water supplies in villages with less than 3000 inhabitants 8/; implements and controls water supply works in cities and towns of more than 100 000 inhabitants 9/; implements State irrigation works and determines irrigation areas subject to Council of Ministers declaration 10/; controls flood protection works in cooperation with the Ministry of Public Works 11/; determines cropping patterns and corresponding irrigation needs in cooperation with the Ministry of Food, Agriculture and Animal Husbandry 12/; surveys and plans hydro-power projects 13/; and undertakes all waterworks on streams with a discharge of more than 500 liters per second 14/.

4. The Ministry of Rural Affairs and Cooperatives

Through its General Directorate for Road, Water and Electricity in Villages, which was established by Government Decree in 1964 and vested with the functions and powers formerly exercised by a Section of G.D.S.H.W. 15/, this Ministry holds general

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1/ Law No. 4099 (1941), art. 2

2/ Law No. 167 (1960), art. 4

3/ Ibidem, art. 3

4/ Law No. 4373 (1943), art. 1

5/ Government Decree No. 76-468-496 of 7 February 1964

6/ Law No. 6200 (1953) organizing and regulating the General Directorate for State Hydraulic Works

7/ Law No. 167 (1960) on Groundwaters, arts. 8, 9

8/ Law No. 7428 (1960) on Drinking Water in Villages, art. 11

9/ Law No. 1053 (1968) on Water Supply for Cities with a Population of over 100 000 inhabitants

10/ Law No. 6200 (1953) organising and regulating the General Directorate for State Hydraulic Works, art. 24/c

11/ Law No. 4373 (1943) on Flood Protection, arts. 4, 5

12/ Law No. 6200 (1953) organising and regulating the General Directorate for State Hydraulic Works, arts. 2-h, 1

13/ Law No. 1312 (1970) on Electricity Organisation in Turkey, art. 3-b

14/ Law No. 1053 (1968) on Water Supply for Cities with a Population of over 100 000 inhabitants, art. 2-e

15/ Law No. 7428 (1960) on Drinking Water in Villages, art. 1

responsibilities for village water supply and related works. In addition, its General Directorate for Soil Conservation and Irrigation is responsible for the control of private irrigation works and practices within networks fed from State irrigation works 1/.

5. The General Directorate for Soil Conservation and Irrigation (G.D.S.C.I.)

G.D.S.C.I. has overall responsibility for the inventory of small streams and springs and for the control of private irrigation works fed from State irrigation networks and for the implementation and control of all waterworks fed from streams with a discharge of less than 500 liters per second 2/. Within forest areas, G.D.S.C.I. cooperates with the Ministry of Forestry which holds major responsibility for all activities therein 3/.

6. The Ministry of Health and Social Assistance

The Minister of Health and Social Assistance has overall control over water quality and is thus entitled to declare corresponding protected zones around water supply sources and intakes 4/. The Ministry further controls municipal and village drinking water supplies 5/ and regulates mineral and thermal water uses, for which it delivers certificates of fitness, and is empowered to declare mineral and thermal water areas 6/. As part of its malaria eradication responsibilities, this Ministry is empowered to declare malaria eradication areas, as recommended by the relevant Malaria Commissions functioning under its aegis, and to control more particularly the effects of rice cultivation within controlled areas 7/.

7. The Ministry of Public Works

The Ministry of Public Works holds major responsibility for flood control and, through its Provincial Directors, controls waterworks of public interest 8/. It is further empowered to recommend to the Prime Minister the declaration of land reclamation areas and has first priority in undertaking corresponding works 9/.

In the field of navigation, this Ministry is responsible for the construction and rehabilitation of navigation facilities and issues rules and regulations for their operation and maintenance 10/. Provincial and municipal authorities cooperate closely with the Ministry in this field.

8. The Ministry of Food, Agriculture and Animal Husbandry

This Ministry is the main government agency dealing with fishing. It is empowered to control fish-breeding areas and to regulate all related activities therein, including

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1/ Law No. 7457 (1960) organising and regulating the General Directorate for Soil Conservation and Irrigation, art. 2

2/ Ibidem, art. 2

3/ Law No. 6831 on Forests, art. 20

4/ Law No. 1593 (1930) on General Health Protection, arts. 200, 235, 237-238

5/ Law No. 831 (1926) on Water, art. 5

6/ Law No. 927 (1926) on the Exploitation of Mineral Waters and Hotsprings, and on Thermal Establishments; Law No. 1593 (1930) on General Health Protection, arts. 201, 208

7/ Law No. 4871 (1946) on Malaria Eradication, art. 9; Law No. 4039 (1936) on Rice Cultivation, art. 17

8/ Law No. 4373 (1943) on Flood Protection, arts. 1, 3

9/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, as amended, arts. 1, 3

10/ Law No. 3611 (1939) establishing and regulating the Ministry of Public Works, arts. 1,2; Law No. 4770 (1955) establishing and regulating the Ministry of Communications, arts. 1, 16.

waterworks before the implementation of which it is to be consulted 1/. The Ministry issues fishing permits and controls the observance of the terms and conditions thereof 2/. Finally, the Ministry functions as appelate jurisdiction for cases the relevant Rice Commissions are unable to settle 3/.

9. The Ministry of Communications

This Ministry is in charge of inland navigation control 4/ and, in cooperation with the relevant municipal and village authorities, of the establishment of water transport tariffs and of the collection of inland waterway transport and river-crossing charges 5/.

10. The Ministry of Forestry

In cooperation with other government agencies concerned, this Ministry holds major responsibility for fishing, water resources storage and irrigation facilities, soil erosion, watershed management, river-crossings and animal watering points within forest areas 6/.

11. The Ministry of Commerce

This Ministry has overall control over mineral water concessions 7/ and, in cooperation with the Ministry of Finance, is empowered to declare fish-breeding areas 8/.

(b) At the regional level

Technical government departments in general, and the General Directorates for State Hydraulic Works, for Soil Conservation and Irrigation and for Road, Water and Electricity for Villages, in particular, are decentralised into Regional Directorates. Although the Regional Directorates of G.D.S.H.W. and G.D.S.C.I., the main water agencies, have areas of jurisdiction which, in practice, largely correspond to river basins, there is no such legal requirement 9/. Each Regional Directorate is administratively organized following the pattern of its mother organisation. Whenever local conditions warrant, a given portion of one basin may be made to fall under the jurisdiction of one Regional Directorate, in which case procedures ensure adequate coordination; in other cases, the whole of a basin falling under the jurisdiction of two or more Regional Directorates may be placed under one of them only. River basin authorities as such do however not exist.

1/ Law No. 1380 (1971) on Sea Products, art. 7

2/ Ibidem, art. 28

3/ Law No. 4039 (1936) on Rice Cultivation, art. 3

4/ Law No. 1380 (1971) on Sea Products, art. 28

5/ Law No. 618 (1925) on Sea Ports, art. 1; Law No. 2521 (1934) on Government Administration of Port Activities, art. 3

6/ Law No. 6831 on Forests, arts. 1, 20, 23, 58; Law No. 1380 (1971) on Sea Products

7/ Law No. 927 (1926) on the Exploitation of Mineral Waters and Hotsprings, and on Thermal Establishments, as amended, art. 4

8/ Law No. 1380 (1971) on Sea Products, art. 5

9/ Law No. 6200 (1953) organising and regulating the General Directorate for State Hydraulic Works, art. 3; Law No. 7457 (1960) organising and regulating the General Directorate for Soil Conservation and Irrigation, art. 4

The General Directorate for Road, Water and Electricity for Villages is equally decentralised into Regional Directorates; in this case however, regional areas of jurisdiction may vary considerably from those falling under G.D.S.H.W. and G.D.S.C.I. As to G.D.S.H.W., its administrative and financial prerogatives are considerably wider, as compared with G.D.S.C.I., than those of the Provincial Governors heading the Provinces wholly or partly included under its Regional Directorates.

As to other government agencies such as the General Directorate for Power Survey, the Turkish Electricity Organisation and the Provincial Bank, for instance, they operate mainly at the national level but may have operational branches at the regional and provincial levels.

(c) At the Provincial level

The territory of Turkey is administratively divided into 67 Provinces (vilayets) headed by a Governor (Wali). Each Province is subdivided into counties (kazalar), districts (ilce) and villages. Public administration in Turkey is fully centralised and the Governor holds full administrative powers at the provincial level under the authority of the Ministry of the Interior.

1. The Provincial Governor

As Chief Executive Officer at the provincial level, the Governor is assisted by a Provincial Administrative Council. He coordinates the work of the various Regional Directorates of the technical departments and agencies within his Province and consults with neighbouring governors on matters of common interest to his and their respective areas of jurisdiction. In this capacity, the Governor chairs the special Land Reclamation Committees 1/, the Rice Commissions 2/ and the Malaria Commissions 3/. In addition, he is empowered to issue underground water use permits on behalf of G.D.S.H.W. 4/ and fishing permits in consultation with the responsible government agencies 5/. He is further entitled to settle disputes among Rice Commissions 6/.

2. Land Reclamation Committees

These committees, chaired by the Provincial Governor, consist of the provincial finance officer and of the Directors of Public Works, Health, State Hydraulic Works and Malaria Eradication 7/. They study and approve land reclamation works and supervise the implementation thereof by the Ministry of Public Works, local Government agencies, water users' associations or private individuals, as the case may be 8/.

1/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, art. 3

2/ Law No. 4039 (1936) on Rice Cultivation, art. 2

3/ Law No. 4871 (1946) on Malaria Eradication, art. 9

4/ Law No. 167 (1960) on Groundwaters, art. 8

5/ Law No. 1380 (1971) on Sea Products, art. 3

6/ Law No. 4039 (1936) on Rice Cultivation , art. 3

7/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps and on Reclaimed Land Distribution, art. 3

8/ Ibidem, art. 1

3. The Rice Commissions

Under the chairmanship of the Governor, the Rice Commissions consist of the Head of the Chamber of Agriculture, the Directors of Agriculture, Public Works, Malaria Eradication and of Health, of a representative of rice farmers each at the provincial and district levels, and of an expert of the Ministry of Food, Agriculture and Animal Husbandry 1/. These Commissions delimitate rice cultivation areas, establish irrigation turns, issue and control corresponding water rights and supervise drainage activities 2/. They further control the various Boards of Trustees which the farmers elect among themselves to implement rice cultivation programmes 3/.

4. Malaria Commissions

These Commissions include, in addition to the Provincial Governor as Chairman, the Mayor or Mayors concerned, the Directors of Health, Malaria Eradication, Public Works, Agriculture, corresponding district officers, or village council representatives, and a medical officer. They determine Malaria Eradication Areas and regulate relevant operations therein 4/.

(d) At the local level

i) Local Government Institutions

General administrative powers at the county level vest in County Administrative Boards and, at the District level, in a District Committee and a District Council. At the village level, the smallest administrative unit in Turkey, the Village Chief (Mukhtar) is assisted by a Council of Elders. Provincial and District capitals are organised into Municipalities under a Mayor assisted by a Municipal Assembly and a Municipal Council. Towns of more than 2 000 inhabitants are automatically organised into municipalities. Each local government unit is responsible for the coordination of all activities within its area of jurisdiction, including general water resources matters and, through Section Engineers, for the control of public as well as private irrigation in particular 5/. There is however no clear-cut separation of jurisdiction between provincial, district, municipal and other local government units which function under the technical coordination of the relevant Regional Directorates and the administrative authority of the Governor.

1. Municipalities

Municipalities are essentially responsible for drinking water supply, utilities and sewerage 6/. In addition, they are competent for land reclamation and the conservation of water resources within municipal areas 7/.

1/ Law No. 4039 (1936) on Rice Cultivation, art. 2

2/ Ibidem, art. 9

3/ Ibidem, art. 3

4/ Law No. 4871 (1946) on Malaria Eradication, art. 9

5/ Law (1329-1913) on the Operation of Irrigation Systems, arts. 17-20; 29; Law (1334-1918) on Orchards Irrigation, art. 1

6/ Law No. 1580 (1930) on Municipalities, art. 19; Law No. 1593 (1930) on General Health Protection, arts. 15, 18

7/ Law No. 831 (1926) on Water, as amended, art. 1

2. Villages

Similarly, villages hold primary responsibility for drinking water supply and general water management at the rural level 1/. In the pursuance of this task, village authorities are however assisted by the General Directorate for Road, Water and Electricity for Villages.

ii) Water Users' Associations

Traditionally, drinking water supply, orchard and field crop irrigation, flood prevention and control, drainage, malaria eradication, public water utilities and quality control at the village level vest in the villagers under the control of their respective village council and assembly 2/. To this end, villagers have usually formed corresponding water users' associations which, with the growing complexity and cost of related works, have gradually been regulated as State intervention increased. Customary associations of Karez users were regulated first and institutionalised under an elected governing body called the Karez Board of Trustees 3/.

Provision was subsequently made for G.D.S.K.W. to create water users' associations in connection with large scale development works which, once completed, are handed over to these associations for operation and maintenance 4/. Similarly, G.D.S.C.I. is empowered to set-up cooperatives or associations for small scale irrigation, soil conservation and land reclamation development 5/. As regards land reclamation works in particular, interested persons may further join into special associations which, under the supervision of the relevant land reclamation committee, construct the approved structures and, thereafter, acquire the ownership of the reclaimed land subject to the obligation to adequately operate and maintain corresponding works 6/.

Similar provisions apply at the municipal level. Municipalities are under the obligation to see to it that adequate water supplies are available within their areas of jurisdiction for drinking, domestic, municipal and irrigation purposes 7/; they are entitled to set-up water users' associations for this purpose. These associations are then established by the relevant municipal councils or assemblies with members selected from among persons qualifying for election in such councils or assemblies 8/.

Finally, water supply projects feeding more than one village are handed over to their associations 9/, as are those interesting more than one municipality 10/.

1/ Law No. 442 (1924) on Villages, art. 13; Law No. 831 (1926) on Water, as amended, art. 1

2/ Law No. 442 (1924) on Villages, art. 12

3/ Law (1334-1918) on Orchards Irrigation, arts. 1-5

4/ Law No. 6200 (1953) organising and regulating the General Directorate for State Hydraulic Works, art. 2-j

5/ Law No. 7457 (1960) organising and regulating the General Directorate for Soil Conservation and Irrigation, art. 2-i

6/ Law No. 5516 (1950) on the Reclamation of Marshes and Swamps, and on Reclaimed Land Distribution, arts. 2, 9

7/ Law No. 831 (1926) on Water, art. 1

8/ Law No. 1580 (1930) on Municipalities, arts. 133-148; Law No. 2659, art. 4

9/ Law No. 7428 (1960) on Drinking Water in Villages, art. 9

10/ Law No. 1580 (1930) on Municipalities, arts. 133-148

(e) At the international level

The Republic of Turkey shares frontier waters with most of her neighbours. With the exception of the Mesve Daresi River on the Black Sea and the Delva River which form the frontier with the People's Republic of Bulgaria for 42 and 16 km respectively, the regime of her frontier waters is regulated by the following international agreements:

1. A 1927 Convention and Protocol 1/ regulate the use of the Arpacay and Arax Rivers which, until the Iranian border, form the frontier with the U.S.S.R. for some 246 km. Provision is made therein for a Mixed Commission to proceed with joint surveys and waterworks 2/. In 1937, a Convention was further entered into for the settlement of frontier disputes through the institution of frontier commissioners 3/. The border line on these rivers follows the Thalweg.

2. A 1934 Agreement 4/ provides for consultations and exchanges of information concerning the waters of the Maritsa River and its tributaries which are of common interest to the Republic of Turkey and Greece. The frontier between the two States follows the median line of the river.

3. A 1946 Protocol 5/ regulates the sharing of the waters of the Tigris and Euphrates Rivers between Turkey and Iraq.

XIII - SPECIAL AND AUTONOMOUS WATER DEVELOPMENT AGENCIES

Various special and autonomous agencies are either directly or indirectly concerned with water resources matters. These include:

1. The Istanbul Municipal Water Supply Agency

This Agency was established in 1933 as an autonomous body responsible for the construction, operation and maintenance of the drinking, municipal and sewerage supply network for the City of Istanbul 6/.

2. Etibank

Etibank was created in 1935. Although mainly concerned with mining, it cooperates with G.D.S.H.W. in the planning, financing and implementation of hydropower projects and, once implemented, is made responsible for the operation and maintenance thereof 7/. In the case of multi-purpose projects, however, operation and maintenance may vest in G.D.S.H.W. and the Turkish Electricity Organisation.

1/ Convention entre l'Union des Républiques Socialistes Soviétiques et la Turquie pour la jouissance des eaux limitrophes et Protocole concernant la Rivière Araxe, signed at Kars on 8 January 1927, 127 BFSP 926

2/ Ibidem, art. 4

3/ Protocol No. 2 of 15 July 1937, ST/LEG/SER B/12, p. 388

4/ Accord entre la Grèce et la Turquie relatif à la Réglementation des Travaux Hydrauliques sur les Deux Rives du Fleuve Maritsa-Ebros, signed at Ankara on 20 June 1934, ST/LEG/SER B/12, p. 803

5/ Protocole Relatif à la Régularisation des Eaux du Tigre et de l'Euphrate et de leurs Affluents Annexé au Traité d'Amitié et de Bon Voisinage entre l'Irak et la Turquie, signed at Ankara on 29 March 1946, 37 UNTS 286

6/ Law No. 2226 (1933) establishing the Istanbul Municipal Water Supply Agency, as amended by Law No. 6349 (1954)

7/ Law No. 2805 (1935) on Etibank

3. The Yalova Thermal Establishment

Formerly a dependent institution, this Establishment was made an autonomous agency in 1939 and placed under the surveillance of the Ministry of Health and Social Assistance 1/.

4. The Ankara Sewerage Agency

This Agency was established in 1941 to take care of sewerage management in Ankara. As an exception, however, the Ministry of Public Works was in charge of the construction of the corresponding system, including its connection with individual buildings, which it then handed over to the Agency for operation and maintenance 2/. As to water supply for drinking and municipal purposes, the City of Ankara has a Municipal Water Supply Agency patterned on that of Istanbul.

5. The Provincial Bank

The Provincial Bank was established in 1945 with a view to financially assist provincial and local government authorities in their general development activities 3/. It holds considerable funds contributed by provincial, municipal and village administrative units. A considerable portion of its annual budgets is devoted to drinking and municipal water supply projects.

6. The Chambers of Agriculture and their Association

The Chambers of Agriculture have become more and more concerned with water management as part of their assistance activities in various agricultural development sectors 4/. As public professional associations, they operate at the district level. Their Boards meet once a year in the provincial capital where annual programmes and co-ordination activities are discussed. At these meetings, provincial delegates to the Association are elected 5/. At the General Assembly of the Association, which convenes once a year in December 6/, an Executive Board is elected and entrusted with the implementation of the programmes approved by the Association 7/. Such programmes include, in particular, assistance to irrigation schemes and the control of the timely distribution of irrigation water among different irrigation areas and crops.

XIV - LEGISLATION ON FINANCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES DEVELOPMENT

(a) Government financial participation and reimbursement policies

The basic policy for water resources development financing in Turkey is that of self-help and community participation. State financing as such has developed recently in areas and for works the capital investment level whereof is beyond the capacity of the beneficiaries directly or indirectly concerned.

1/ Law No. 3653 (1939) transferring the Yalova Thermal Establishment to an autonomous Agency under the Ministry of Health and Social Assistance

2/ Law No. 4099 (1941) regulating the Sewerage System of Ankara

3/ Law No. 4759 (1945) on the Provincial Bank

4/ Law No. 6964 on the Chambers of Agriculture and their Association

5/ Ibidem, art. 17

6/ Ibidem, arts. 24-26

7/ Ibidem, art. 28

Village water supply constitutes the joint obligation of all villagers who contribute their labour under the surveillance of their association or village authorities. Where funds are needed to purchase materials and equipment, or where villagers prefer to pay rather than to contribute their labour, the village Council is entitled to levy a special tax (Solma) on prospective beneficiaries 1/. Similarly, after village or municipal waterworks constructed by the General Directorate for Road, Water and Electricity for Villages or by G.D.S.H.W. have been handed over to village or municipal authorities, these are entitled to levy from beneficiaries such monies as are required for the operation and maintenance thereof 2/. Capital funds required for village drinking water supply projects are allocated from the central budget to G.D.S.H.W. annually 3/. Operation and maintenance costs are however contributed by the interested villages 4/. Where a municipality wishes to benefit from a village water supply project, the General Directorate for Road, Water and Electricity for Villages is empowered, in cooperation with the Provincial Bank, to provide for the necessary connection, provided the municipality shares in total project costs 5/. Municipalities may in turn charge their subscribers a reasonable rate for the water they consume. As to sewerage, special regulations govern the allocation of relevant costs among the State, municipalities and beneficiaries along with the determination of project implementation, operation and maintenance 6/.

Special regulations govern the apportionment of irrigation and related development costs among G.D.S.H.W. and the water users' associations concerned 7/. Sectoral costs of multi-purpose projects are allocated by the Council of Ministers upon recommendation of the Minister of Power and Natural Resources 8/. Except for flood control works 9/, the cost of land reclamation projects are shared by the landowners in proportion to the size of their holding 10/. Reimbursement terms and schedules are established by the Council of Ministers upon recommendation of the Minister of Power and Natural Resources; in exceptional cases, such terms may be extended according to the same procedure 11/. Reimbursement payments normally carry interest, but exemptions are provided for in cases not justifying such a charge. Interest rates are determined by G.D.S.H.W. and established by the Council of Ministers on recommendation of the Minister of Power and Natural Resources 12/. Yearly land reclamation cost repayment installments are determined by dividing the total investment cost by the reclaimed land surface and by the number of years established for the repayment period; this quotient is then multiplied by the surface of each individual holding 13/

1/ Law No. 442 (1924) on Villages, arts. 15, 16; Law No. 3684, arts. 2-4

2/ Law No. 831 (1926) on Water, arts. 1, 4; Law No. 2659, arts. 4, 9

3/ Law No. 7428 (1960) on Drinking Water in Villages, art. 2

4/ Ibidem, art. 10

5/ Ibidem, art. 8

6/ Law No. 4099 (1941) regulating the Sewerage System of Ankara, art. 3

7/ Law No. 6200 (1953) organizing and regulating the General Directorate for State Hydraulic Works, arts. 23-b, 24

8/ Ibidem, as amended, art. 23-c

9/ Ibidem, art. 25-a

10/ Ibidem, as amended, art. 23-d

11/ Ibidem, art. 24-a

12/ Ibidem, art. 24-b

13/ Ibidem, art. 25-b, c

For hydro-power projects, annual reimbursement instalments are determined by dividing total project investment by the established number of years for repayment and by the yearly Kw/h production; individual rates are then obtained by multiplying the Kw/h production cost by the number of Kw/h effectively consumed each year.

Fishing development costs are recouped from individual beneficiaries through their cooperatives or associations to which natural and artificial fishing areas have been leased through bidding by the special committees concerned 1/.

Investment in mineral and thermal water development may be amortised through a special charge which the operating agency or the concession holder is entitled to levy on users of related facilities in accordance with the specifications of the bidding procedure pursuant to which the concession has been won 2/.

As to flood protection works and public health preservation measures, or non-development works in general, these are fully State financed.

(b) Water rates and charges

Water supply projects undertaken by villages themselves feed public fountains and places but do not extend to individual households; hence no charges or rates are levied on their use 3/. Where such projects are implemented by the General Directorate for Road, Water and Electricity for Villages however, villagers may request that their households be connected therewith, provided they are prepared to pay for corresponding expenses. In this case, village authorities may charge subscribers a fixed annual fee or a rate proportional to the amount of water consumed.

Within municipalities, public utility charges constitute part of budgetary incomes. Rates and tariffs for such utilities as water, gas, electricity and public transport are determined by the municipal assemblies, taking into consideration operation, maintenance as well as replacement costs, and approved by the Governors or their deputies. In no case can resulting profits exceed current interest rates on corresponding investments. Should provincial or county authorities fail to approve recommended rates and tariffs within a week from their date of submission, municipalities are entitled to appeal to the Council of State (Danistay), the highest administrative court whose decision is final 4/.

Water rates for local irrigation are established by the village or municipal councils concerned 5/. Such rates are to cover corresponding operation and maintenance costs. With respect to State irrigation, rates for the use of waters from projects under partial or experimental operation are determined jointly by the Ministers of Power and Natural Resources, of Food, Agriculture and Animal Husbandry and of Finance for approval by the Council of Ministers. Rates for the use of water from operational irrigation projects are determined according to the same procedure by dividing total

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1/ Law No. 1380 (1971) on Sea Products, art. 4

2/ Law No. 927 (1926) on the Exploitation of Mineral Waters and Hotsprings, and on Thermal Establishments, as amended by Law No. 4268 (1942) and Law No. 6309

3/ Law No. 442 (1924) on Villages

4/ Law No. 5237 on Municipal Revenue, arts. 39-1 (F), 39-2; Law No. 1580 (1930) on Municipalities, arts. 19-4, 19-5, 71

5/ Law No. 831 (1926) on Waters, as amended by law No. 2659, art. 6

operation and maintenance costs for the previous year by the total irrigated area in order to establish the corresponding coefficient per unit. Adjustments are however made for different crops, rates for cotton irrigation being usually higher than those applying to cereals for instance. At the end of each financial year, plus or minus balances over actual operation and maintenance costs are carried over for the determination of rates to apply the following year 1/. Similarly, any negative balance resulting from the determination of below-cost rates due to special circumstances in a particular year is carried over to the next financial exercise 2/.

Bottled mineral waters are sold at a fixed price established by the municipalities concerned 3/.

Tariffs for inland waterway transport are established by Village Councils in the case of watercourses open to navigation up to six months a year and by municipalities in the case of watercourses navigable for more than six months a year 4/.

XV - IMPLEMENTATION OF WATER LAW AND ADMINISTRATION

(a) Juridical protection of existing water rights

In the absence of a centralized water resources administration, the lack of corresponding procedures results in a situation where existing water rights, except the few categories subject to the prior authorisation régime, can only be protected on a case to case basis by those courts having territorial and appellate jurisdiction in the matter. When seized of a disputed case, courts have to establish whether the plaintiff has been using water undisturbed for a sufficiently long time to benefit from an acquisitive prescription (Kadeem). Should such a use be recognised the court accepts the suit and investigates whether the plaintiff has been deprived of his beneficial use of water as a result of the act of the defendant or not. In cases where the time of first use by the plaintiff can be formally established however, his right is not recognized as Kadeem, vested or acquired, and is given the same priority as that of the concurrent or competitive use of the defendant.

Water rights subject to the prior authorization régime, such as in the fields of groundwater, hydropower and fishing for instance, benefit however from the protection legally afforded them by the terms and conditions of the corresponding water use permit or concession.

(b) Modification or re-allocation of water rights

Water use rights not subject to the prior authorization régime are permanently acquired. Modifications thereto are therefore subject to private contractual arrangements, to the constitution of compulsory servitudes and easements, to expropriation with compensation or to expropriation without compensation in special public interest cases, or where the non-beneficial nature of the use has been established. All such cases usually require court adjudication.

Permitted or concessed water uses are however subject to the terms and conditions of their corresponding title and may thus only be modified, terminated or cancelled accordingly.

1/ Law No. 6200 (1953) organising and regulating the General Directorate for the State Hydraulic Works, arts. 28-b, 28-c

2/ Ibidem, art. 29

3/ Law No. 5237 on Municipal Revenue, art. 32; Law No. 442 (1924) on Villages, arts. 16, 17

4/ Law No. 422 (1924) on Villages, arts. 17-11

In 1960, the newly enacted groundwater legislation required all owners of existing wells used for agricultural, mining and industrial purposes to apply for the title confirmation of their right within two years 1/. Since then, groundwater uses became thus subject to State control and to modification in accordance with their respective authorized terms and conditions.

(c) Water tribunal, courts and other judiciary water authorities

Since there are no water tribunals or courts in the Republic of Turkey, water disputes are normally settled by the regular courts of law. Whereas the competent government departments such as G.D.S.H.W. and the Ministries of Power and Natural Resources and of Health and Social Assistance for instance have been given, through special legislation, non-negligeable judicial prerogatives, their decisions are nevertheless subject to appeal before the courts, up to the Supreme Court in cases of substantive law and to the Council of State in cases of administrative litigation.

(d) Penalties

Numerous provisions of the legislation in Turkey establish penalties in the field of water resources. These cover offences against the public and private interest as well as cases of damage to public property. A number of penalties are provided for in the Criminal Code 2/, others in special legislation. A different penalty sanctions wilful and negligent crimes and offences. Such penalties range from the mere obligation to compensate for the damage caused, combined with a 24 hours minimum jail term in the case of obstruction to watercourses, streams of their banks 3/, to a fine of up to 5 000 Turkish Lira 4/ together with emprisonment and dismissal in the case of a government official failing to act during flood emergencies 5/, and to life emprisonment where wilfully generated floods result in human death 6/, for instance.

Special offences, such as the poisoning of water and foodstuffs, the non-observance of the terms and conditions of a groundwater use permit, failure to employ a physician within mineral water and thermal establishments and the unauthorized use of irrigation water for instance, carry either heavier sentences such as emprisonment up to 10 years 7/, or additional measures such as the cancellation of the water use permit in the case of relapse 8/, the temporary closing of the establishment 9/ or the cutting of the water supply, by force if necessary 10/.

Provision is also made for village communities to be jointly and severally liable in cases the offender cannot be identified 11/, and for the amount of damages due to be based on actual repair or replacement costs rather than on the advantages or benefits accrued to the defendant.

1/ Law No. 167 (1960) on groundwaters, Transitory Provisions

2/ Law No. 765 (1926) promulgating the Criminal Code, arts. 373-375, 394, 513

3/ Law (1329-1913) on the Operation of Irrigation Systems, art. 33

4/ One US dollar equalled 14 Turkish Lira in December 1974

5/ Law No. 4373 (1943) on Flood Protection, art. 15; Criminal Code, art. 230

6/ Criminal Code, art. 374

7/ Criminal Code, art. 394

8/ Law No. 167 (1960) on Groundwaters, art. 18

9/ Law No. 1593 (1930) on General Health Protection, art. 298

10/ Law No. 4039 (1936) on Rice Cultivation, art. 11

11/ Law No. 7428 (1960) on Drinking Water in Villages, art. 16

ANNEX

OUTLINE FOR THE PREPARATION

OF A

NATIONAL WATER RESOURCES LAW INVENTORY

I. INTRODUCTION

II. LEGISLATION IN FORCE

III. OWNERSHIP OR OTHER JURIDICAL STATUS OF WATER RESOURCES

- a) Surface Water Resources
- b) Groundwater Resources
- c) Other Water Resources
- d) Mode of Acquisition

IV. THE RIGHT TO USE WATER OR WATER RIGHTS

- a) Mode of Acquisition
- b) Water Use Authorizations, Permits or Concessions

V. ORDER OF PRIORITIES

- a) Between Different Uses
- b) Between Different Existing Rights
- c) Between Different Areas

VI. LEGISLATION ON BENEFICIAL USES OF WATER

- a) Domestic and Household Uses
- b) Municipal Uses
- c) Agricultural Uses
- d) Fishing
- e) Hydropower
- f) Industrial and Mining Uses
- g) Transport
- h) Medicinal and Thermal Uses
- i) Recreational Uses
- j) Other Beneficial Uses

VII. LEGISLATION ON HARMFUL EFFECTS OF WATER

- a) Flood Control, Overflow and Bank Protection
- b) Soil Erosion and Siltation
- c) Drainage and Sewerage
- d) Salinization
- e) Other Harmful Effects

VIII. LEGISLATION ON WATER USE, QUALITY AND POLLUTION CONTROL

a) Waste and Misuse of Water
b) Re-cycling and Re-use of Water
c) Health preservation
d) Pollution
e) Environmental Protection
f) Other Control Measures

IX. LEGISLATION ON GROUNDWATER RESOURCES USE

a) The Licensing of Drillers
b) Exploration and Exploitation Licences
c) Groundwater Resources Protection Measures
d) Other Control Measures

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

a) Waterworks Construction
b) Waterworks Operation and Maintenance
c) Waterworks Protection Measures

XI. LEGISLATION ON THE DECLARATION OF PROTECTED ZONES OR AREAS

a) In the Case of Beneficial Uses of Water
b) In the Case of Harmful Effects of Water
c) In the Case of Water Quality and Pollution Control
d) Zoning
e) Other Cases

XII. GOVERNMENT WATER RESOURCES INSTITUTIONS AND ADMINISTRATION

a) At the National Level
b) At the Intermediate Level
   (i) At the inter-state, inter-regional or inter-provincial level
   (ii) At the State, regional or provincial level
   (iii) At the inter-basin level
   (iv) At the basin or sub-basin level
c) At the Local Level
   (i) Local water rights institutions and administration
   (ii) Water users' associations
d) At the International Level
   (i) International treaty provisions
   (ii) International basin or river commissions or boards

XIII. SPECIAL AND AUTONOMOUS WATER RESOURCES DEVELOPMENT AGENCIES

a) At the National Level
b) At the Regional or Basin Level
c) At the Project Level
d) At the Users' level

XIV. LEGISLATION ON WATER RESOURCES DEVELOPMENT FINANCING

a) Government Financial Participation and Reimbursement Policies
b) Water Rates and Charges

XV. WATER LAW IMPLEMENTATION

a) Juridical Protection of Existing Water Rights
b) Modification, Termination and Re-allocation of Water Rights
c) Water Tribunals, Courts and Other Judiciary Water Authorities
d) Penalties
e) Other Water Law Implementation Matters

XVI. CUSTOMARY WATER LAW AND INSTITUTIONS

a) The Legal Regime of Water Resources and Water Rights
b) Water Resources Management and Administration
c) Water Rates and Charges
d) The Settlement of Disputes
e) Customary Water Law Implementation