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WATER ACCOUNTS IN SPAIN

Paper submitted by the Instituto Nacional de Estadística¹

Abstract: This paper presents the results of the 1999 Water Satellite Accounts in Spain. For their elaboration, the NAMEA methodology has been used in order to describe monetary and non-monetary flows; some data on subtracted pollutants by economic activities before or after use are also included.

1 Introduction

Water is a rare, irreplaceable, vulnerable natural source, that is also prone to alternative uses, is the obvious basis for many ecosystems as well as the final destination of spill. It is essential to human activity and, whatever its situation or condition, it is subject to a permanent cycle where the aggressive economic development modifies its quantitative and qualitative characteristics. Its use depends on the level of development of hydrographic infrastructures which allow to adapt its irregular stock to the unceasing needs throughout time and space. This situation implies that it has become ever more necessary to study its availability and quality in order to increase the quantity of water, protect its quality and rationalize its use in accordance with the remaining natural resources.

The use of water may be analyzed from two angles, the economic and the environmental. From the economic point of view, water is studied when it is directly or indirectly, actually or potentially, influenced by the development of human activities. At present, **water is produced** in the sense that it provides inputs to the economy, is part of the production process of almost all economic activities and is the fundamental input for many of them.

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From the environmental viewpoint, water resides in many ecosystems and contributes to the well-being of men. It receives waste that causes a loss of quality and important economic and environmental costs.

It is, therefore, necessary to set up a theoretical framework containing economic as well as environmental data on water: it will allow to work out policies in the field of hydrography.

The theoretical model that solves most problems of users concerned with statistics on water, is the **water satellite accounting**.

2 Objectives

The main objective of this paper is to present the results of the statistical tables of the **1999 water satellite accounts**. They describe the monetary flows of economic activities concerned with water and the non-monetary flows, whether quantitative or qualitative, of water.

Another objective is the breakdown of some of the monetary and non-monetary tables by Autonomous Communities (NUTS II) in order to quantify the uses and prices of water in smaller territories.

The development of this model gives rise to a data base which contains a complete description of the aspects **time and space**, which will make it possible to start a study on the demands of water at the medium and long term.

3 Approach of the study

Water has several environmental economic functions which may be summarized as follows:

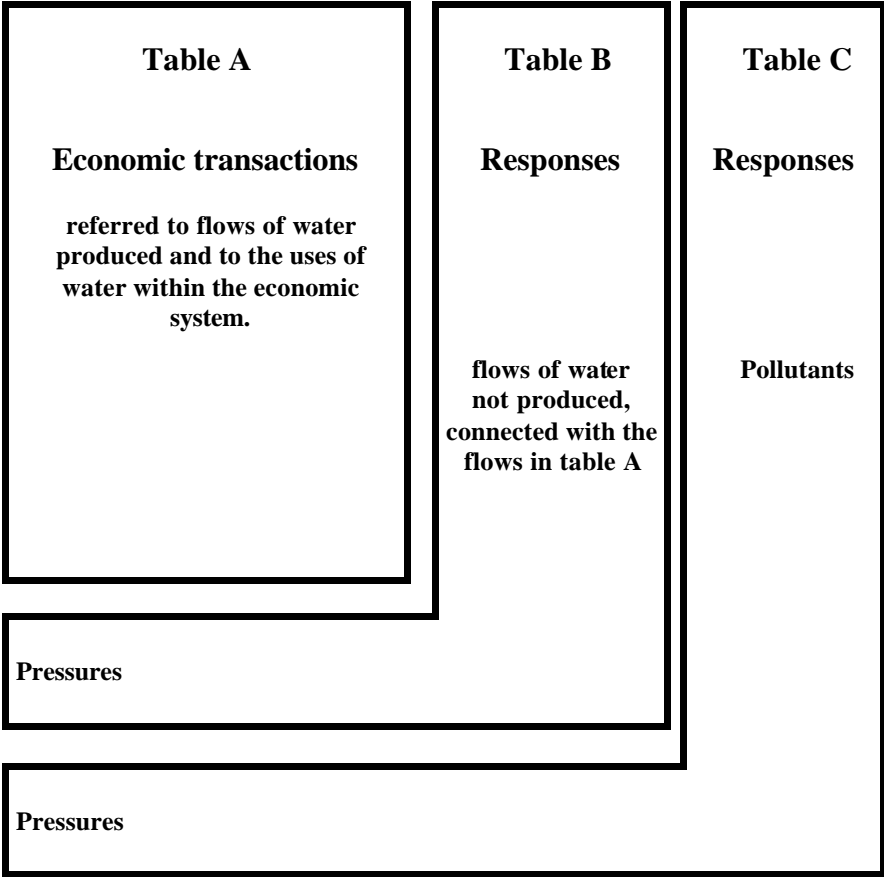
- a) It provides input to the economy. This input is fundamental for a great many economic activities, from the agricultural sector to the services sector.
- b) It receives greatly varying residues and waste derived from society's productive and consuming activities.
- c) It offers the possibility to mankind to directly receive comfort or esthetic enjoyment.

The **water satellite accounting** project only includes the first two functions since they determine a positive economic value. In this context, the accounts' core is exclusively restricted to water produced and canalized through networks, leaving out the water that is not apt for human activities.

4 Conceptual model

The **water satellite accounts** which are shown here are based on the **National Accounting Matrix Environmental Accounting (NAMEA)** and describe the water flows within the economic system and also those economy and natural environment.

This model may be as shown below:



5 Water Satellite Accounts in Spain

5. 1 Introduction

Water is an indispensable natural resource for a country’s economic development. The fact that Spain’s economic and social structure is based on a strong agricultural sector with a growing irrigation farming and on a powerful tourism sector whose basic elements are the sun and water, causes that the future development of these sectors is closely connected with the availability of water when and where it is needed.

A description will now be given of the production units under consideration as well as of the estimation procedures and the statistical sources used for the elaboration of the tables of which the water satellite accounts in Spain are made up of.

5.2 Production units

There are different types of production units. Those engaged in irrigation services are the **Comunidades de Regantes (Irrigation Communities)** which are organizations in charge of managing the adequate use of water in irrigation agriculture. To this end, their role as public law entities, is decisive.

The units that produce water distribution services are the **water supply enterprises and the municipal water services**, which thus perform a public function through a network of municipal supply, regardless of the ownership of the public supply network.

The production units also include the **Confederaciones Hidrograficas (Hydrographic Confederations)**, public law entities with their own legal personality that currently belong to the Ministry of Environment. These organisms are tasked with the planning of hydraulic infrastructures to guarantee the supply of water, a natural resource which is essential to economic and social development. They also protect the public hydraulic services from environmental impacts derived from economic and social activities, or restore them when necessary. They likewise integrate them in development plans and seek the most rational usage of the resource under consideration.

The “Public Administration” sector includes organisms that provide services in charge of programming a better management of water and the treatment of waste water. They are: Dirección General de Obras Hidráulicas y Calidad de Agua and Dirección General de Política Rural (Ministerio de Agricultura, Pesca y Alimentación).

The services of depuration and treatment of waste water are carried out by **enterprises for the treatment of sewage and municipal water services**. These units collect waste water by means of drains networks and treat and eliminate waste water and the resulting sludges.

5.3 Estimation methods

5.3.1 Irrigation systems

The **irrigation communities** produce irrigation water, which is entirely consumed, as an intermediate consumption, by those production units that belong to the branches of **agriculture, hunting and forestry**. The latter use it for irrigation produce, which is not demanded by other economic units for final and/or intermediate consumption or for exports.

The main statistical source is the INE **Survey on water usage in the agriculture sector**. The accounting and monetary information yielded by the survey makes it possible to estimate all the economic variables and aggregates according to the National Accounts System SEC-95 accounting norms: production, intermediate consumption, compensation of wage earners, taxes and subsidies and gross fixed capital formation, as well as the number of hours worked.

The capture, production and loss of irrigation water, in cubic metres, are estimated on the basis of the survey’s non-monetary data.

Statistical sources

Survey on water usage in the agriculture sector. National Statistical Institute.
Survey on agricultural structures. National Statistical Institute.
Statistical Yearbook. Ministry of Agriculture, Fishery and Food.
Reports of the Hydrographic Confederations. Ministry of Environment.

5.3.2 Water capture, depuration and supply

Production units are those economic activity ones that are classified in CNAE-93 division 41. They are supply enterprises that distribute water called *agua en alta* to water stores and/or to towns, Hydrographic Confederations carrying out services connected with water and Municipal Water Supply Services which distribute water by means of their own supply networks. The production of these units goes to intermediate consumption of the production entities classified in other branches of economic activities (agriculture, industry and services) and to the final consumption of households. There is no exportation of water and stocks are unimportant.

These economic units yield drinking and non-drinking **produced water** as well as water related services.

The main statistical source is the INE **Survey on water supply and treatment**, although complementary information is drawn from the following surveys: **Survey on industrial enterprises**, **Survey on water use in industry** and **Survey on water use in services**. The data of these surveys enable the estimates of economic transactions according to the SEC-95 accounting norms. Capture, production and loss of water in cubic metres are calculated on the basis of non-monetary data of the specific survey.

Surveys on the use of water in industry and services, generate information on the use of water distributed through public supply networks for these sectors' economic activity branches. The data are given in monetary terms, intermediate consumptions, and in physical units, cubic metres. The industrial economic branches' own use water capture and discharges into the natural environment in cubic metres, are estimated with data from surveys on water use in industry and services.

Statistical sources

Survey on water supply and treatment. National Statistical Institute.
Survey on industrial enterprises. National Statistical Institute.
Survey on water usage in industry. National Statistical Institute.
Survey on services enterprises. National Statistical Institute.

5.3.3 Public Administration Services

The production is carried out by the Public Administration units in charge of water related services: Dirección General de Obras Hidráulicas y Calidad de las Aguas, and Dirección General de Política Rural (Planes de regadíos). It goes entirely to final consumption of the Autonomous Communities (public consumption).

The reports of these organisms are the information sources for the estimates of the main economic and employment variables.

Statistical sources

Public expenditure in environment. Ministry of Environment.
Yearbook of the Ministerio de Fomento.

5.3.4 Services of waste water treatment

The production goes to intermediate consumption of production units belonging to other branches of economic activity (agriculture, industry and services) and to final consumption by households. There is no exportation of services and stocks are unimportant.

The main source of information is the **INE Survey on water supply and treatment**, although information is also used from the following surveys: **Survey on public sewage**, **Survey on water use in industry** and **Survey on water use in services**. The data of these surveys enable the estimates of economic transactions according the SEC-95 accounting norms. The discharges in cubic metres are estimated on the basis of the surveys' non-monetary data. The study "*Industrial Waste Water*" carried out by the Fundación COTEC makes it possible to check the reliability of the results.

Statistical sources

Survey on water supply and treatment. INE.
Survey on public sewage enterprises. INE.
Survey on public sewage of municipal services. INE.
Survey on services enterprises. INE.

6 Some comments on the results

In 1999, the amount of hydric resources stemming from nature and supplied and/or used to/by entities of the national economy for their production or consumption, was 33.687 Hm³. 72% of this amount was distributed through agricultural irrigation systems, 15% went to public supply and the remaining 13% was directly subtracted for own consumption.

Losses were 5.603 Hm³, that is 15% of subtracted water, the remainder of 28.084 Hm³ being used in the economic system. Of these losses, 4517 Hm³ correspond to the canalization of irrigation systems, and 1086 Hm³ to the supply of public water.

Of the 28.084 Hm³ of water used, 85%, that is 23.853 Hm³, was distributed through canalization networks. Water distributed by the irrigation networks amounted to 19.775 Hm³ and that of public supply was 4.078 Hm³.

Public supply water is distributed as follows: 58% goes to households, 2.354 Hm³, and 1.724 Hm³ to economic sectors such as input or their auxiliary production activities.

As to water use by economic sectors, agriculture consumes 22.306 Hm³ (79,4%) and the remaining economic areas 5.778 Hm³.

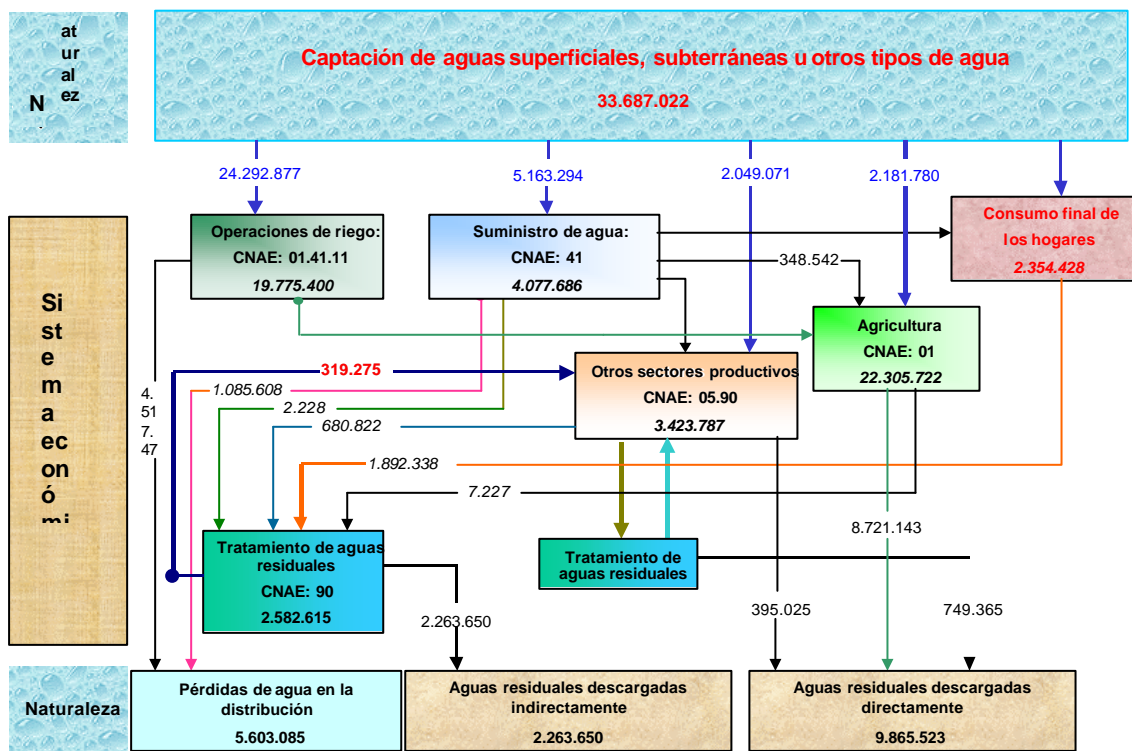
The amount of water that returns to nature is 17.732 Hm³, that is 53% of total water abstracted. This means that 47%, 15.955 Hm³, of abstracted water has been incorporated into the production system. 73% of this quantity has been included in agricultural products, 11647 Hm³, and the remaining 4308 Hm³ in the rest of industrial and services activities.

As far as discharges of waste water is concerned, 12.129 Hm³, 81%, 9.865 Hm³, is unloaded directly, whereas 19%, 2.264 Hm³, stem from treated waste water. 88%, 8.721 Hm³, of direct discharges comes from the agricultural sector and 1.144 Hm³ from the remaining economic areas.

Regarding waste water treated by depuration, the percentage collected and treated is 63% of distributed water and 76% of the total waste water collected.

The quantity of water obtained after treatment of waste water, i.e. recycled water, is 12%, 319 Hm³, of the overall treated water. It is consumed by other economic sectors, particularly by services of public sewage, urban cleanup, sewage and the irrigation of gardens and parks.

Water flows into the economy and between the economy and environment 1999



Tables

Table 1

Supply table of water distribution and waste water collection and treatment

Unit: millions pesetas

Product	Water distribution and treatment (CPA codes)						
	01.41.11 Part operation of irrigation systems	41.00.11 Drinking water	41.00.12 Non drinking water	41.00.20.01 Distribution services of drinking water	41.00.20.01 Distribution services of non drinking water	41.00 Total distributed water	75.12.13 Water related administrative services
economic activities							
Producción total a precios básicos	61.060	303.014	13.220	40.435	28.820	385.489	9.563
O1 Operation of irrigation systems	61.060						
A Agriculture, Hunting and forestry							
B Fishing							
CA Mining and Quarrying of energy producing materials							
CB Mining and Quarrying except energy producing materials							
DA Manufacture of food products;Beverages and tobacco							
DB Manufacture of textiles and textile products							
DC Manufacture of leather and leather products							
DD Manufacture of wood and wood products							
DE Manufacture of pulp, paper and pepaer products;publishing and printing							
DF Manufacture of coke, refined petroleum products and nuclear fuel							
DG Manufacture of chemicals, chemical products and man-made fibres							
DH Manufacture of rubber and plastic products							
DI Manufacture of other non-metallic mineral products							
DJ Manufacture of basic metals and fabricated metal products							
DK Manufacture of machinery and equipment n.e.c.							
DL Manufacture of electrical and optical equipment							
DM Manufacture of transport equipment							
DN Manufacturing n.e.c.							
41 Collection, purification and distribution of water		303.014	13.220	40.435	28.820	385.489	
E Electricity, gas and water supply							
F Construction							
75 Public administration and Defence;compulsory social security							9.563
90 Sewage removal and treatment							
R Others activities (G to Q, except 75 y 90)							
Taxes on products	487	1.640				1.640	
Of which environmental							
Subsidies on products	1.768	3.846				3.846	
Of which environmental							
Imports CIF							
Total supply at purchasers prices	59.779	300.808	13.220	40.435	28.820	383.283	9.563

Table 2

Use of water distribution and waste water collection and treatment

Unit: millions pesetas

Products	Water distribution and treatment (CPA codes)							
	01.41.11 Part operation of irrigation systems	41.00.11 Drinking water	41.00.12 Non drinking water	41.00.20.01 Distribution services of drinking water	41.00.20.01 Distribution services of non drinking water	41.00 Total distributed water	75.12.13 Water related administrative services	90.00.11 Sewage removal & treatment
Economic activities								
Total of intermediate consumptions by economics activities	59.779	96.184	9.870	13.822	28.641	148.517		30.436
O1 Operation of irrigation systems		267		100	12.674	13.041		57
A Agriculture, Hunting and forestry	59.779	1.330	5.900	186	2.487	9.903		250
B Fishing		1.051		148	91	1.290		200
CA Mining and Quarrying of energy producing materials		125		18	97	240		31
CB Mining and Quarrying except energy producing materials		324		50	440	814		24
DA Manufacture of food products;Beverages and tobacco		4.896		682	1.283	6.861		3.104
DB Manufacture of textiles and textile products		683		95	520	1.298		360
DC Manufacture of leather and leather products		388		50	396	834		185
DD Manufacture of wood and wood products		207		28	48	283		112
DE Manufacture of pulp, paper and pepaer products;publishing and printing		889		124	670	1.683		196
DF Manufacture of coke, refined petroleum products and nuclear fuel		1.957		273	448	2.678		962
DG Manufacture of chemicals, chemical products and man-made fibres		5.644		786	1.549	7.979		2.941
DH Manufacture of rubber and plastic products		3.490		486	1.662	5.638		1.975
DI Manufacture of other non-metallic mineral products		1.874		266	286	2.426		504
DJ Manufacture of basic metals and fabricated metal products		2.325		324	257	2.906		659
DK Manufacture of machinery and equipment n.e.c.		936		130	193	1.259		489
DL Manufacture of electrical and optical equipment		772		108	143	1.023		215
DM Manufacture of transport equipment		1.739		242	94	2.075		381
DN Manufacturing n.e.c.		619		87	117	823		117
41 Collection, purification and distribution of water						0		185
E Electricity, gas and water supply		3.950		552	840	5.342		1.676
F Construction		2.729		381	94	3.204		466
75 Public administration and Defence;compulsory social security		4.629		707	130	5.466		1.287
90 Sewage removal and treatment		3.273	2.075	459	3.513	9.320		
R Other activities (G to Q, except 75 y 90)		52.087	1.895	7.540	609	62.131		14.060
Total final consumption		204.624	3.350	26.613	179	234.766	9.563	79.132
By Government							9.563	
By NPISH								
By households		204.624	3.350	26.613	179	234.766		79.132
Changes in inventories								
Exports FOB								
Total use at purchasers prices	59.779	300.808	13.220	40.435	28.820	383.283	9.563	109.568

Table 5

Supply of distributed water and of waste water collection and treatment

Units: in thousands m³

Products	Water distribution and treatment (CPA codes)				
	01.41.11 Irrigation water delivered	41.00.11 Drinking water delivered	41.00.12 Non drinking water delivered	41.00 Total water delivered, drinking and non drinking	90.00.11 Waste water treated by sewage networks
economic activities					
Total production	19.775.400	3.601.950	475.736	4.077.686	2.582.615
O1 Operation of irrigation systems	19.775.400				
A Agriculture, Hunting and forestry					
B Fishing					
CA Mining and Quarrying of energy producing materials					
CB Mining and Quarrying except energy producing materials					
DA Manufacture of food products;Beverages and tobacco					
DB Manufacture of textiles and textile products					
DC Manufacture of leather and leather products					
DD Manufacture of wood and wood products					
DE Manufacture of pulp, paper and pepaer products;publishing and printing					
DF Manufacture of coke, refined petroleum products and nuclear fuel					
DG Manufacture of chemicals, chemical products and man-made fibres					
DH Manufacture of rubber and plastic products					
DI Manufacture of other non-metallic mineral products					
DJ Manufacture of basic metals and fabricated metal products					
DK Manufacture of machinery and equipment n.e.c.					
DL Manufacture of electrical and optical equipment					
DM Manufacture of transport equipment					
DN Manufacturing n.e.c.					
41 Collection, purification and distribution of water		3.601.950	475.736	4.077.686	
E Electricity, gas and water supply					
F Construction					
75 Public administration and Defence;compulsory social security					
90 Sewage removal and treatment					2.582.615
R Others activities (G to Q, except 75 y 90)					
Imports					
Total supply	19.775.400	3.601.950	475.736	4.077.686	2.582.615

(*) does not include division 41

Table 6

Use of distributed water and of waste water collection and treatment

Units: in thousands m³

Products	Water distribution and treatment (CPA codes)				
	01.41.11 Irrigation water used	41.00.11 Drinking water used	41.00.12 Non drinking water used	41.00 Total water delivered, drinking and non drinking	90.00.11 Waste water discharged by sewage networks
economic activities					
Total of intermediate consumptions by economic activities	19.775.400	1.349.922	373.336	1.723.258	690.277
O1 Operation of irrigation systems		2.958		2.958	1.802
A Agriculture, Hunting and forestry	19.775.400	134.542	214.100	348.642	7.227
B Fishing		10.695		10.695	6.385
CA Mining and Quarrying of energy producing materials		4.816		4.816	592
CB Mining and Quarrying except energy producing materials		11.749		11.749	1.899
DA Manufacture of food products;Beverages and tobacco		58.803		58.803	42.688
DB Manufacture of textiles and textile products		7.089		7.089	4.325
DC Manufacture of leather and leather products		4.962		4.962	2.905
DD Manufacture of wood and wood products		3.355		3.355	2.051
DE Manufacture of pulp, paper and pepaer products;publishing and printing		13.483		13.483	3.966
DF Manufacture of coke, refined petroleum products and nuclear fuel		35.754		35.754	14.091
DG Manufacture of chemicals, chemical products and man-made fibres		79.331		79.331	44.481
DH Manufacture of rubber and plastic products		49.994		49.994	36.144
DI Manufacture of other non-metallic mineral products		24.889		24.889	10.973
DJ Manufacture of basic metals and fabricated metal products		29.489		29.489	13.373
DK Manufacture of machinery and equipment n.e.c.		11.030		11.030	6.388
DL Manufacture of electrical and optical equipment		9.588		9.588	4.830
DM Manufacture of transport equipment		28.159		28.159	9.007
DN Manufacturing n.e.c.		9.340		9.340	2.522
41 Collection, purification and distribution of water				0	2.228
E Electricity, gas and water supply		44.968		44.968	24.802
F Construction		34.862		34.862	15.636
75 Public administration and Defence;compulsory social security		48.354		48.354	29.150
90 Sewage removal and treatment		52.430	102.136	154.566	
R Others activities (G to Q, except 75 y 90)		639.282	57.100	696.382	402.812
Total final consumption		2.252.028	102.400	2.354.428	1.892.338
By Government					
By NPISH					
By households		2.252.028	102.400	2.354.428	1.892.338
Changes in inventories					
Exports					
Total use	19.775.400	3.601.950	475.736	4.077.686	2.582.615

Table 7

Total abstraction of water from the water bodies and total discharges of waste water directly into water bodies

Units: in thousands m³

Products	Abstraction from				Discharges to			
	Fresh surface water	Fresh ground water	Other water	Total abstractions	Fresh surface water	Fresh ground water	Other water	Total discharges
economic activities	27.892.061	4.776.599	1.058.726	33.727.386				12.129.173
O1 Operation of irrigation systems	22.835.100	1.092.973	364.804	24.292.877				
A Agriculture, Hunting and forestry	35.780	2.146.000	0	2.181.780				8.721.143
B Fishing	15.340	0	0	15.340				10.350
CA Mining and Quarrying of energy producing materials	15.790	8.567	567	24.924				15.365
CB Mining and Quarrying except energy producing materials	91.466	28.407	3.959	123.832				93.613
DA Manufacture of food products;Beverages and tobacco	26.627	97.965	3.820	128.412				31.197
DB Manufacture of textiles and textile products	96.511	18.065	3.512	118.088				99.963
DC Manufacture of leather and leather products	383	1.550	2	1.935				997
DD Manufacture of wood and wood products	917	22.661	15	23.593				717
DE Manufacture of pulp, paper and pepaer products;publishing and pri	239.836	17.603	1.810	259.249				227.078
DF Manufacture of coke, refined petroleum products and nuclear fuel	13.585	1.862	0	15.447				12.301
DG Manufacture of chemicals, chemical products and man-made fibres	362.648	55.537	120.821	539.006				354.093
DH Manufacture of rubber and plastic products	17.941	4.644	241	22.826				13.891
DI Manufacture of other non-metallic mineral products	9	13.098	1.065	14.172				13.520
DJ Manufacture of basic metals and fabricated metal products	178.567	13.569	32.546	224.682				135.274
DK Manufacture of machinery and equipment n.e.c.	904	1.465	269	2.638				2.505
DL Manufacture of electrical and optical equipment	901	3.446	27	4.374				3.770
DM Manufacture of transport equipment	7.555	1.652	72	9.279				8.714
DN Manufacturing n.e.c.	46.926	19.075	438	66.439				36.382
41 Collection, purification and distribution of water	3.809.675	1.193.080	200.903	5.203.658				
E Electricity, gas and water supply								
F Construction								
75 Public administration and Defence;compulsory social security								
90 Sewage removal and treatment			319.275	319.275				2.263.650
R Others activities (G to Q, except 75 y 90)	95.600	35.380	4.580	135.560				84.650
Households (for final consumption)								
Total	27.892.061	4.776.599	1.058.726	33.727.386				12.129.173

Table 9
Balance of flows of water between the economy and the water system

Units: in thousands m³

Products	abstraction	losses	table5	table 6	tabla 6	table5	table7	total
economic activities	33.687.022	5.603.085	23.853.086	21.498.658	690.277	2.582.615	12.129.173	15.492.674
O1 Operation of irrigation systems	24.292.877	4.517.477	19.775.400	2.958	1.802	0	0	1.156
A Agriculture, Hunting and forestry	2.181.780	0	0	20.124.042	7.227	0	8.721.143	13.577.452
B Fishing	15.340	0	0	10.695	6.385	0	10.350	9.300
CA Mining and Quarrying of energy producing materials	24.924	0	0	4.816	592	0	15.365	13.783
CB Mining and Quarrying except energy producing materials	123.832	0	0	11.749	1.899	0	93.613	40.069
DA Manufacture of food products;Beverages and tobacco	128.412	0	0	58.803	42.688	0	31.197	113.330
DB Manufacture of textiles and textile products	118.088	0	0	7.089	4.325	0	99.963	20.889
DC Manufacture of leather and leather products	1.935	0	0	4.962	2.905	0	997	2.995
DD Manufacture of wood and wood products	23.593	0	0	3.355	2.051	0	717	24.180
DE Manufacture of pulp, paper and pepaer products;publishing and pri	259.249	0	0	13.483	3.966	0	227.078	41.688
DF Manufacture of coke, refined petroleum products and nuclear fuel	15.447	0	0	35.754	14.091	0	12.301	24.809
DG Manufacture of chemicals, chemical products and man-made fibres	539.006	0	0	79.331	44.481	0	354.093	219.763
DH Manufacture of rubber and plastic products	22.826	0	0	49.994	36.144	0	13.891	22.785
DI Manufacture of other non-metallic mineral products	14.172	0	0	24.889	10.973	0	13.520	14.568
DJ Manufacture of basic metals and fabricated metal products	224.682	0	0	29.489	13.373	0	135.274	105.524
DK Manufacture of machinery and equipment n.e.c.	2.638	0	0	11.030	6.388	0	2.505	4.775
DL Manufacture of electrical and optical equipment	4.374	0	0	9.588	4.830	0	3.770	5.362
DM Manufacture of transport equipment	9.279	0	0	28.159	9.007	0	8.714	19.717
DN Manufacturing n.e.c.	66.439	0	0	9.340	2.522	0	36.382	36.875
41 Collection, purification and distribution of water	5.163.294	1.085.608	4.077.686	0	2.228	0	0	-2.228
E Electricity, gas and water supply	0	0	0	44.968	24.802	0	0	20.166
F Construction	0	0	0	34.862	15.636	0	0	19.226
75 Public administration and Defence;compulsory social security	0	0	0	48.354	29.150	0	0	19.204
90 Sewage removal and treatment	319.275	0	0	154.566		2.582.615	2.263.650	792.806
R Others activities (G to Q, except 75 y 90)	135.560	0	0	696.382	402.812	0	84.650	344.480
Households (for final consumption)	0	0	0	2.354.428	1.892.338	0	0	462.090
Total	33.687.022	5.603.085	23.853.086	23.853.086	2.582.615	2.582.615	12.129.173	15.954.764

Table 12**Pollutants subtracted by economic activities (either after abstraction of water or before discharges into the water system)**units: gr/m³/dia

	DOB	DOQ	metals	nitrogen	phosphorous
O1 Operation of irrigation systems					
A Agriculture, Hunting and forestry					
B Fishing					
CA Mining and Quarrying of energy producing materials					
CB Mining and Quarrying except energy producing materials	305	127	53	26	11
DA Manufacture of food products;Beverages and tobacco	1.019	646	95	96	60
DB Manufacture of textiles and textile products	1.253	496	37	121	39
DC Manufacture of leather and leather products	1.861	926	53	56	20
DD Manufacture of wood and wood products	1.141	535	15	80	19
DE Manufacture of pulp, paper and pepaer products;publishing and printing	951	460	242	138	39
DF Manufacture of coke, refined petroleum products and nuclear fuel	544	271	196	75	50
DG Manufacture of chemicals, chemical products and man-made fibres	1.037	880	526	63	62
DH Manufacture of rubber and plastic products	738	395	52	59	59
DI Manufacture of other non-metallic mineral products	853	292	42	52	32
DJ Manufacture of basic metals and fabricated metal products	1.004	512	164	39	51
DK Manufacture of machinery and equipment n.e.c.	556	270	65	68	73
DL Manufacture of electrical and optical equipment	518	254	169	91	56
DM Manufacture of transport equipment	582	362	99	115	27
DN Manufacturing n.e.c.	1.082	531	26	141	66
41 Collection, purification and distribution of water	242	480	156	45	32
E Electricity, gas and water supply					
F Construction					
75 Public administration and Defence;compulsory social security					
90 Sewage removal and treatment	214	347	209	42	33
R Others activities (G to Q, except 75 y 90)					
Households (for final consumption)					
Total	818	458	129	77	43

Table 13

Average purchaser's prices of water distribution and waste water collection and treatment

Units: pesetas/ m³

	01.41.11 Part operation of irrigation systems	41.00.11 Drinking water	41.00.12 Non drinking water	41.00.20.01 Distribution services of drinking water	41.00.20.01 Distribution services of non drinking water	41.00 Total distributed water	90.00.11 Water related administrative services
Total of intermediate consumptions by economic activities	3,02	71,25	26,44	10,24	76,72	86,18	44,09
O1 Operation of irrigation systems		90,26		33,81			31,63
A Agriculture, Hunting and forestry	3,02	9,89	27,56	1,38	11,62	28,40	34,59
B Fishing		98,27		13,84		120,62	31,32
CA Mining and Quarrying of energy producing materials		25,96		3,74		49,83	52,36
CB Mining and Quarrying except energy producing materials		27,58		4,26		69,28	12,64
DA Manufacture of food products;Beverages and tobacco		83,26		11,60		116,68	72,71
DB Manufacture of textiles and textile products		96,35		13,40		183,10	83,24
DC Manufacture of leather and leather products		78,19		10,08		168,08	63,68
DD Manufacture of wood and wood products		61,70		8,35		84,35	54,61
DE Manufacture of pulp, paper and pepaer products;publishing and printing		65,93		9,20		124,82	49,42
DF Manufacture of coke, refined petroleum products and nuclear fuel		54,74		7,64		74,90	68,27
DG Manufacture of chemicals, chemical products and man-made fibres		71,14		9,91		100,58	66,12
DH Manufacture of rubber and plastic products		69,81		9,72		112,77	54,64
DI Manufacture of other non-metallic mineral products		75,29		10,69		97,47	45,93
DJ Manufacture of basic metals and fabricated metal products		78,84		10,99		98,55	49,28
DK Manufacture of machinery and equipment n.e.c.		84,86		11,79		114,14	76,55
DL Manufacture of electrical and optical equipment		80,52		11,26		106,70	44,51
DM Manufacture of transport equipment		61,76		8,59		73,69	42,30
DN Manufacturing n.e.c.		66,27		9,31		88,12	46,39
41 Collection, purification and distribution of water							83,03
E Electricity, gas and water supply		87,84		12,28		118,80	67,58
F Construction		78,28		10,93		91,91	29,80
75 Public administration and Defence;compulsory social security		95,73		14,62		113,04	44,15
90 Sewage removal and treatment		62,43	20,32	8,75	34,40	60,30	
R Others activities (G to Q, except 75 y 90)		81,48	33,19	11,79	10,67	89,22	34,90
Total final consumption		90,86	32,71	11,82	1,75	99,71	41,82
By Government							
By NPISH							
By households		90,86	32,71	11,82	1,75	99,71	41,82

Regional data

Purchasers prices production 1999

	01,41,11	41	90	75	total
Andalucía	32.097	47.604	24.809		104.510
Aragón	1.958	7.048	4.061		13.067
Asturias	0	4.603	2.357		6.960
Islas Baleares	0	9.684	5.671		15.355
Islas Canarias	1.761	38.204	2.160		42.125
Cantabria	0	4.128	1.380		5.508
Castilla León	2.048	17.052	2.545		21.645
Castilla La Mancha	4.163	8.999	2.150		15.312
Cataluña	1.412	90.311	20.255		111.978
Comunidad Valenciana	7.855	35.612	7.459		50.926
Extremadura	1.588	6.719	1.422		9.729
Galicia	48	20.854	3.362		24.264
Comunidad de Madrid	243	53.260	9.953	9.563	73.019
Región de Murcia	5.435	10.706	2.559		18.700
C. Foral de Navarra	441	4.376	2.588		7.405
País Vasco	151	20.834	15.193		36.178
La Rioja	579	2.340	1.212		4.131
Ceuta y Melilla	0	949	432		1.381
España	59.779	383.283	109.568	9.563	562.193

	agriculture	industry	services	total	consumption by households	total uses
Andalucía	37.355	3.850	12.313	53.518	26.183	79.701
Aragón	3.500	711	1.632	5.843	3.163	9.006
Asturias	773	789	1.144	2.706	1.897	4.603
Islas Baleares	1.004	63	1.608	2.675	7.009	9.684
Islas Canarias	2.007	4.041	3.653	9.701	30.264	39.965
Cantabria	424	425	1.132	1.981	2.147	4.128
Castilla León	4.171	768	4.862	9.801	9.299	19.100
Castilla La Mancha	5.881	836	2.464	9.181	3.981	13.162
Cataluña	3.907	16.904	13.697	34.508	57.215	91.723
Comunidad Valenciana	10.900	2.472	7.722	21.094	22.373	43.467
Extremadura	3.205	141	1.320	4.666	3.641	8.307
Galicia	94	1.455	5.589	7.138	13.764	20.902
Comunidad de Madrid	440	6.414	10.992	17.846	35.657	53.503
Región de Murcia	5.902	2.562	1.396	9.860	6.281	16.141
C. Foral de Navarra	879	796	928	2.603	2.214	4.817
País Vasco	180	4.883	3.616	8.679	12.306	20.985
La Rioja	824	316	666	1.806	1.113	2.919
Ceuta y Melilla	34	0	226	260	689	949
España	81.480	47.426	74.960	203.866	239.196	443.062

(*) does not include waste water treatment

Regional data

Water uses (*)

unidades: thousands m³

	agriculture	industry	services	total	consumption by households	total
Andalucía	5.459.974	59.356	161.486	5.680.816	396.060	6.076.876
Aragón	2.883.472	16.549	26.242	2.926.263	65.793	2.992.056
Asturias	17.050	11.507	18.723	47.280	49.971	97.251
Islas Baleares	12.340	616	15.927	28.883	37.489	66.372
Islas Canarias	157.980	24.611	33.260	215.851	92.552	308.403
Cantabria	7.342	4.449	15.700	27.491	36.178	63.669
Castilla León	2.258.967	8.455	63.327	2.330.749	140.554	2.471.303
Castilla La Mancha	1.975.533	8.767	40.172	2.024.472	93.882	2.118.354
Cataluña	2.004.793	128.600	155.950	2.289.343	428.185	2.717.528
Comunidad Valenciana	2.467.348	19.882	87.665	2.574.895	247.417	2.822.312
Extremadura	1.572.800	3.046	17.569	1.593.415	55.014	1.648.429
Galicia	35.374	20.451	60.094	115.919	148.286	264.205
Comunidad de Madrid	149.857	57.382	118.046	325.285	337.987	663.272
Región de Murcia	405.639	22.055	17.159	444.853	59.139	503.992
C. Foral de Navarra	440.332	9.871	13.028	463.231	29.881	493.112
País Vasco	24.391	59.258	44.160	127.809	111.290	239.099
La Rioja	264.098	5.906	9.599	279.603	17.322	296.925
Ceuta y Melilla	405	0	2.095	2.500	7.428	9.928
España	20.137.695	460.761	900.202	21.498.658	2.354.428	23.853.086

(*) does not include waste water treatment