Input - Output & Environment

International Input Output Meeting on Managing the Environment

SEVILLE (SPAIN)
July 9 - 11, 2008
http://www.upo.es/econ/IIOMME08

Water consumption based on a disaggregated Social Accounting Matrix of Huesca

Cazcarro, Ignacio [a*] ***; Sánchez Chóliz, Julio*** [b]

[a] *University of Zaragoza*
Department of Economic Analysis, Gran Vía 2-4, 50005; Zaragoza, Spain
Phone +34-976-754621. Fax +34-976-761996.E-mail: icazcarr@unizar.es

[b,] *University of Zaragoza*
Department of Economic Analysis, Gran Vía 2-4, 50005; Zaragoza, Spain
Phone +34-976-761826. Fax +34-976-761996.E-mail: jsanchez@unizar.es

Abstract

Making use of the Social Accounting Matrix (SAM) of the Spanish province of Huesca in 2002 (DSAMH02) updated following Junius & Oosterhaven (2003) GRAS method-, the water footprint of the region is estimated, defined as the volume of water needed for the production of the goods and services consumed by the inhabitants. We build an open Leontief Model which give us vertically integrated values of the water accounts, representing the quantities "embodied" -the direct and indirect consumption-. The valuations concern the industrial and domestic sectors water consumption, the virtual water export to other countries -due to the export of domestically produced products-, and the agricultural water use. The last one, clearly the sector that shows greater water consumption, is deeply examined, and so it is disaggreggated for the calculations in 31 irrigation land products, dry land, and 9 Animal Husbandry classifications. We make use of the volume of crop produced and its corresponding virtual water content, and as one of the main contributions of the paper, the data of agricultural costs and sales obtained from the National Agrarian Statistics is reelaborated to be applied for every crop.

Keywords: SAM, GRAS, Virtual Water, Water Footprint, Agrarian Sector, Huesca.

[*] Corresponding Author. E-mail: icazcarr@unizar.es

1. INTRODUCTION

In the last decade, the agriculture of Aragon has suffered a significant transformation, shifting crops and technologies, especially in irrigation activities. This has led to changes in the demands for water and impacts on the environment. There have also been alterations in the livestock and food industry, and that is why it is so important to analyze the key strategic role of the agroalimentary system and its impact in the regional economy on the rest of sectors. The urgency of this analysis has been accelerated by the guidelines of the Water Framework Directive of the European Parliament and the Council, which states that the costs associated with the uses of water are paid by those who benefit, and the conservation or recovery of the good status of the masses of water.

One way to explore these issues is through the input-output analysis, from which we can get a multisectoral model to investigate the functioning and structure of the economy. The Social Accounting Matrix (SAM) extends the information contained in the Input-Output Tables to represent the circular flow of income. With the SAM we know the links and dependencies between production processes, and the relationships between processes and factors of production, households, societies, public administrations, the external sector, investment, etc. Traditionally, the SAMs have served to organize economic and social information, to observe impacts on endogenous variables from changes in exogenous ones (changes in tax policy, investment,...), or as databases useful to construct more advanced macroeconomic models devoted to analyze economic policies.

In this paper, we add to the SAM an environmental account: the water requirements of each sector, which will help us to make an estimatation of the footprint of water in the region. We compute *blue water* (regulated, controlled, used,…) and forget about the *green water*. Apparently we leave information behind, but we believe that this method enable us to have homogeneous data for all sectors, and see more clearly the difference in needs in the irrigated and non-irrigated land to be transferred to other sectors. In addition, political action and environmental intervention is much easier and quicker on the blue water. Under those conditions, open-Leontief models are constructed, taking as exogenous “Households” and “Foreign sector”, in order to obtain the vertically integrated values of water.

To give greater importance and precision to the analysis of the agri-food sectors, we go ahead with the sub-division of the agrarian sector. Specifically 9 animal husbandry classifications are done; we also distinguish between Dryland Agriculture and Irrigation, and within this later one 31 items (24 crops of Irrigation and 7 items to gather "OTHER products" that we consider relevant (with respect to foreign trade,...). The disaggregated SAM Huesca for 2002 (DSAMH02 from now on) let us obtain the direct and indirect water demands to produce the different agrarian products, and see the contents of embodied water in the consumption and exports.

Section 2 covers the background in the calculations of the water values and virtual water. Section 3 deals with the methodology used in the construction of the SAM for the province of Huesca in 2002. In Section 4 it is described the data of water requirements, and the way to use it to get the water footprint - or the "virtual water consumed" -of products consumed by households or exported. The fifth section contains the results, and the sixth the conclusions.

2. BACKGROUND

The idea of linking the economic accounts with the natural system and the environment has precedent in the work of Isard (1969); Ayres & Kneese (1969), as well as models of the pioneer Daly (1968); Leontief (1970) and Victor (1972). The first consisted of a matrix "industry-by-industry" expanded with environmental rows and columns, the second "goods by industry" allowing that it was not an square matrix, and the third introduces pollutants in rows as another input. In that thread of thought continue the works of Leontief & Ford (1972), Stone (1972), and subsequently Hudson & Jorgeson (1974) integrating econometric models; Forsund (1985); Proops. (1988); Proops., Faber & Wagenhals (1993), Hawdon & Pearson (1995) introducing also energy in the analysis. In Spain, Pajuelo (1980) studied air pollution; Alcántara and Roca (1995) the elasticities of demand and added value of carbon dioxide; and Castro, Morillas & Melchor (1996) studied the influence of the structure of demand in the growth and the environment of Andalucía.

The first integration of the needs of water as input in a traditional Input-Output model was made by Lofting & McGauhey (1968). In Spain, the first study applying the Input-Output methodology to water was that of Sanchez-Chóliz, Bielsa & Arrojo (1992) in which they calculated the so-called water values, for Aragon. With the same methodology, Bielsa (1998) studied water consumption and participation in the productive framework; and Duarte (1999) the values of water pollution; aspects that were completed in Duarte, Sanchez-Chóliz & Bielsa (2002) and Sanchez Chóliz & Flores (2007) for Aragon. In Sáenz de Miera (1998) they set the prices and quantities model to study water consumption in Andalusia. Velázquez (2003) presents a model that enables to study the productive capacity of an economy togheter with consumption of water resources, including consumption in a production model. More recently Dietzenbacher, E. & Velázquez, E. (2006), and Velázquez (2006), using the concept of Virtual Water that we will explain in the following, distinguishes the agricultural sector in various crops to calculate the virtual water imported and exported, to detect sustainable consumption in Andalusia.

The present work goes along the methodological lines presented, while trying to adapt some of the concepts handled in the new literature on water management. In this sense, authors like Aguilera (1993) or Naredo (2006) raise proposals for a management of demand that relaxes the pressure on the resource, and there it could be framed and the concept of Virtual Water (AV). It was defined by Allan (1993, 1994) as the embodied water in a product, meaning the amount of water that has been necessary to use to generate a given product. Closely linked to the concept AV is used the *water footprint* of a country[1], which is defined as the volume of water necessary for the production of goods and services consumed by the inhabitants thereof. The international commodity trade involves water flow and therefore it can be assessed, according to Chapagain & Hoekstra (2004: 11), taking the use of national water resources, plus the net flow of virtual water (imported-exported) that enters the country. The withdrawal of surface water and groundwater and the use of soil water (agricultural production) are included in both the works of Hoekstra & Hung (2002), and Hoekstra & Chapagain (2007), were they estimate the water footprint (m^3/per capita/year), distinguishing the consumption pattern of countries.

[1] And developed similarly to the concept of *ecological footprint* of a population, which represents the area of productive land of the ecosystems, and the water required to produce the resources used, and to assimilate waste.

3. METHODOLOGY of the SAM

3.1 OBTAINING THE SAM OF HUESCA 2002 (SAMH02)

We obtain the SAMH02, starting from the SAM for Aragon for 1999 (SAMA99 onwards) elaborated and used by Flores & Mainar (2005) and Flores & Sánchez Chóliz (2007), and applying the GRAS method of Junius & Oosterhaven (2003), which is as a satisfactory alternative to face shortages theoretical and sometimes empirical deficiencies in the RAS procedures to update or regionalize when there are non-squared matrices or negative entries[2]. Vectors **u** and **v** - the prescribed row and column sum vectors, are obtained from the total values of the SAM for 1999 of Mainar, A. (SAMH99). We derive them, in most cases, according to the % of Gross Value Added (GVA) at basic prices[3] of the sectors in Huesca in 2002 with respect to Huesca 1999. The data are obtained from the Regional Accounting of Spain from the National Statistics Institute (NSI)[4]. The accounts of the European Union (EU from now onward) and the Rest of the World (RW) are updated by the ratio (2002/1999) in which the amount of imports and exports increased, while the rest of the accounts without available Value Added data -including that of the / Rest of Spain (RS)- are estimated maintaining the ratio of Total GVA (2002/1999). The listing of accounts included in the MCSH02 can be seen in Table 1.

Table 1

We apply the GRAS algorithm to the SAMA99, getting an Auxiliary SAM for Huesca for 2002. On this auxiliary matrix modifications are made with reliable information available regarding some differences in the productive structures of Huesca and Aragon; mainly those about the Foreign Sector. Then the GRAS is applied again with vectors **u** and **v**, and the AuxSAMH02 amended. As the GRAS iterative process converges rapidly, the values of the resulting matrix-the SAMH02- were obtained after the fifth iteration. The resulting table can be seen in Table 3 of the Annex.

Table 3

---

[2] Splitting the matrix **A** into positive and negative parts **P** and **N**, we must solve the following non-linear system, to obtain the matrix **X:**

$$(\hat{\mathbf{r}}\mathbf{P}\hat{\mathbf{s}} - \hat{\mathbf{r}}^{-1}\mathbf{N}\hat{\mathbf{s}}^{-1})\mathbf{i} = \mathbf{u} \quad (9)$$

$$\mathbf{i}(\hat{\mathbf{r}}\mathbf{P}\hat{\mathbf{s}} - \hat{\mathbf{r}}^{-1}\mathbf{N}\hat{\mathbf{s}}^{-1}) = \mathbf{v} \quad (10)$$

being the **X** matriz searched $\left[\hat{\mathbf{r}}\mathbf{P}\hat{\mathbf{s}} - \hat{\mathbf{r}}^{-1}\mathbf{N}\hat{\mathbf{s}}^{-1}\right] / e$.

[3] The NSI provides this data for the provinces at current prices; in any case, we prefer this than taking over the GVAs of Aragon at constant prices for our objectives.

[4] Regional Accounting of Spain. Base 1995. **GVAs:** Homogeneous Series 1995-2005. Regional and provincial macromagnitudes - "1.1 Classified data by province, branches, magnitudes and years" .
Labour Factor. "2.1 Allocation of primary income Account (for Provinces, incomes/expenditures and period) - RESOURCES: Remuneration of employees".
Households: "2.2 Account secondary distribution of income by Provinces, incomes/expenditures and period".

3.2 OBTAINING THE DISAGGREGATED SAM OF HUESCA 2002 (DSAMH02)

The breakdown has been largely determined and completed on the basis of the information from the Agrarian Accountancy Net (AAN from now on) of the MAPA (Ministry of Agriculture, Fisheries and Food *in Spanish*) 2002. Specifically, we use the tables M122.MDB, RM02.MDB and M52.MDB. In Table 5 there is a list of the 32 accounts in which the Agriculture is broken and the 9 of Animal husbandry. In addition to the Dry Land and the 24 accounts of Irrigation that are identified with the Codes of MAPA for the disaggregation[5], we add 7 accounts (in capital letters and withouth a code)[6].

Table 4

Firstly, we desaggregate the totals of both the Agriculture and Animal husbandry accounts with these data from the AAN and from the foreign commerce, and then use these values as control and adjustment of the inner values. Specifically, the gross output total of the new rows and columns of Agriculture and Animal husbandry has been obtained from the "Evolution of Agrarian magnitudes (Methodology SEC-95) in Aragon" which were published by the Aragonese Institute of Statistics (IAEST[7] *in Spanish*). In the case of Livestock, disaggregation is made with the ratios resulting from these data of Animal production (for Aragon), adjusted by the ratio which represents Huesca over Aragon (sacrificed animals, from the Agrarian Statistical Yearbook 2003 which provides details of 2002 (ASY onwards)). As regards the disaggregation of plant production, we estimate the proportion in production between Huesca and Aragon from the data of the ASY, and from that we get the gross output totals of each crop, taken from the value of its production in the already mentioned AAN of the MAPA (the value of production is called “VENTAS12” according to its terminology in Table M122).

3.2.1 Disaggregation of rows & columns of the Agrarian Sector (except Foreign Sector)

To divide up the column of Agriculture (expenditures on other sectors), we use the structure of costs presented in the table RM02.MDB of the MAPA 2002. Since this does not distinguish between productions of Dry Land and Irrigation, we relate it to the table M122.MDB, identifying all exploitations by technical economic macro-orientations (MOTEs *in the terminology of the MAPA*) and macro-classes of economic dimension (MCDEs). For each of the types of costs that we use, the costs in the MOTEs of each product are given out, and then those of the same product are joined. The decision of following this methodology is based on the belief that the number of MOTEs is very small, that their costs are not representative of their dominant crops, and that the information on the production and sales of products can be very useful to divide the table and see the water needs.

[5] Those items represented respond to most relevant productions, since the low productions do not allow a good matching among the tables provided by the MAPA.

[6] That comprised products not covered directly by a code of the Agrarian Accountancy Net (AAN) of the MAPA (Ministry of Agriculture, Fisheries and Food) 2002, especially those products that are practically not produced but are imported.

[7] Last disaggregated data for 2000, and aggregated for 2001; its source was: MAPA years 1990-2000. Dep. of Agriculture and food from the Govt. of Aragon years 2001 et seq. Evolution of Agrarian magnitudes (Methodology SEC95). Aragon. Years 1990-2006.

Another serious difficulty to get the disaggregated values, which would also appear if we had unbundled only to the level of MOTEs, is that the cost categories of the MAPA do not coincide with the different accounts of the SAMH02, which are productive accounts. This has implied being careful with the identification of costs, for example:

- REEMPLEO: Reuse in the sector itself, considering that are used in the production of the product itself. Accordingly, at the cross between the rows and columns of Agriculture we only complete cells in the main diagonal[8].
- ABONOS (Fertilizers and amendments) and FITOS (crop protection products): They are used to calculate the % of purchases made by agriculture to the chemical sector.
- ENERGÍA (energy: fuel, lubricants and electricity) and AGUA (water, including irrigation): " Energy Products Sector" and "Water Sector" respectively.

- SALPAG (Salaries and social security costs paid for): We use this value to distribute by products the row of Labour Factor.
- …

To conclude the obtaining of new columns of the matrix DSAMH02, as the figures do not verify now that their sums are exactly the totals of production, it is necessary to perform a new RAS adjustment in this part of the table.

For the row of Agriculture we use the "value of solod production"[9] offered by the ASY, table RM02.MDB and table M122.MDB that has been described above. Finally, another partial RAS is also needed.

For the disaggregation of the column of Animal husbandry, the table M52.MDB of the AAN provided by the MAPA (2002) gives us information on the meat products of Aragon. It shows the sales and purchases of livestock, with a great disaggregation, both in value (euros), and in number of animal heads. The sub-division of the column is carried out by the Animal husbandry value of purchases, which is represented by EURC5 in the M52.MDB Table. "Purchases and sales of livestock. Weighted averages" in the AAN of the MAPA (2002). Purchases of agricultural products by the new livestock accounts are estimated according to the composition of sales of agricultural products, which we have identified in M52.MDB as major purchases of Animal husbandry. The value of each sector is obtained by a process similar to that followed for agriculture; however, now the unit costs and distributions are performed using the value of total purchases of livestock products, which is represented by EURC5 in Table M52.

The row of Animal husbandry is unbundled by the value of sales, which is represented by EURV5 (which includes re-use) of the Table M52.MDB[10]. The re-use of non-meat Animal husbandry classifications, as it was done for Agriculture, is calculated according to the value of "Reempleos" offered by M122.MDB table, where they are

[8] Given the lack of accurate data we have about the expenditures among the different cultivations, outside the main diagonal, the crossed agrarian entries are supposed to be 0.

[9] It distinguishes between the "Selling to the consumer" -used to distribute household-column, "Selling to industry" –for the industrial sectors, of which the most important is the Agroalimentary-; "Selling private marketing operators" –for the unbundling of Services Sectors (Commercial Services, Transport and Communications,…), and "Other forms of marketing" -used, despite the ambiguity of the concept, to distribute data from other sectors (State Education, Public Health, and Public Services).

[10] "Purchases and sales of Livestock. Weighted averages" from the AAN of the MAPA (2002).

detailed. For livestock, it is made an estimation based on the data of re-used feed (fodder).

3.2.2 Foreign Sector: Agriculture and Animal Husbandry

As the product codes of Foreign Trade do not match those followed by the MAPA (cod. 12), we transform them using the Combined Nomenclature[11] offered by the Tax Agency. One first difficulty arised to divide up the values of products whose production can be both in Dry and Irrigated land; to overcome it, we used the proportions of productions of each type for every crop. The second comprises the trade with the Resto of Spain (RS), where eventually a similar structure by products to the trade with the EU was assumed[12].

Much of the information regarding the Livestock is provided by Chapter 1-LIVE ANIMALS, which is divided into the 6 major items we use in our Table. The same applies to Agriculture -as an example Table 2: - and the data on exports and imports that do not perfectly correspond with the codes we use are introduced in the most disaggregated tables under the headings of "OTHERS" within its own classification.

Table 2

4. METODOLOGHY of the SAMEA

4.1 Open Leontief model and vertically integrated values

The DSAMEAH02 offers a numeric description of water flows in the economy of Huesca, but the interrelationships are better captured and the changes in water demands better analyzed with the open Leontief models. We define the exogenous accounts, the Foreign Sector and Households, and the coefficient matrix A[13]. With this and a vector of unit coefficients for water these models let us obtain vertically integrated coefficients, which are $\mathbf{\Lambda}' = (\lambda_i)' = \mathbf{w}'(\mathbf{I}-\mathbf{A})^{-1}$. These values capture all the water incorporated, directly or indirectly, by unit of demand, and λ_i is in the water used to obtain a net unit of the good *i* of the final demand. In what follows, *k* will represent the consumption or direct use, or physical consumption.

---

[11] Following: *Aduanas e Impuestos Especiales >> Estadísticas Comercio Exterior >>Descarga de Datos Estadísticos >>Información suministrada por EUROSTAT sobre el comercio exterior >>Nomenclatura Combinada 2003.*

[12] A notable exception to this fact was the import of citrus. In data from the Tax System, export (to the EU and the RW), although very low, is greater than the import of this product. Obviously, this structure is not maintained at all in the trade of Huesca with the rest of Spain, which makes great imports. To fix this, we have used the proportion of the expenditure in Citrus with respect to fruits, of the people in the area of northeastern Spanish (data by geographical area of the spending offered by the MAPA).

[13] $\mathbf{y} = \mathbf{A}\,\mathbf{y} + \mathbf{x} \Rightarrow \mathbf{y} - \mathbf{A}\,\mathbf{y} = \mathbf{x} \Rightarrow (\mathbf{I}-\mathbf{A})\mathbf{y} = \mathbf{x} \Rightarrow \mathbf{y} = (\mathbf{I}-\mathbf{A})^{-1}\,\mathbf{x} = \mathbf{M}\,\mathbf{x}$; where $\mathbf{A}$ is the technical coefficient matrix, a_{ij} the coefficient of the row-account *i* and column-account *j*, $\mathbf{I}$ is the Itdentity matrix, $\mathbf{M}$ the matrix of accounting Multipliers and m_{ij} the multipliers of rows *i* and columns-account *j*.

If $\mathbf{w}_k$ refers to these vectors of unit coefficients and *k* to one of the types of the resource water, $\mathbf{\Lambda}'_k = (\lambda_{ki})' = \mathbf{w}'_k\ \mathbf{M}$ will be the vertically integrated coefficients of *k*, that is to say, λ_{ki} is the quantity of water *k* needed, directly or indirectly, per unit of exogenous spending on products of the account *i*.

If $\mathbf{y}_r$ is the column exogenous *r*, $\sum_r \mathbf{\Lambda}'_k \mathbf{y}_r$ is the totality of the water of type *k*, which is used in the endogenous accounts of the Huesca economy to produce final demand $\mathbf{y}_r$. In addition to this endogenous component, other component is associated with the activities or accounts that we considered exogenous. If $\mathbf{d}_{kr}$ is the resource of type *k* per unit of exogenous account *r* and $\mathbf{x}_r$ is the total fo the account *r* in the SAM, the expression that gives us the total of the resource *k* of the economy is: $\sum_r \mathbf{\Lambda}'_k y_r + \sum_r \mathbf{d}'_{kr} \mathbf{x}_r$.

To approach the virtual water contained in imports we assume that imports have consumptions and technological conditions equal to the Spanish averages, since most of them come from the Rest of Spain (RS). Once established these conditions, we can get the vector of values:

$$\Lambda_k^{imp} = \left(\lambda_{ki}^{imp}\right) = \mathbf{w}_{kS}(\mathbf{I} - \mathbf{A}_S)^{-1}$$

Where $\mathbf{w}_{kS}$ the vector of uses of type *k* per unit of basic output and $\mathbf{A}_S$ the Spanish matrix of technical coefficients calculated for the basic output[14].

Known the Λ_k^{imp}, which show the virtual water of type *k* per unit of imports in the sector *i*, and import $\mathbf{I}_i = (I_i)$, the embodied water in imports will be $\sum_i \lambda_{ki}^{imp} I_i$.

Finally, to integrate the imported water with the water used directly in the production process we can follow two ways. The first is addying directly the directly imported water to water production and water consumption in households, which will lead us to an expresion of the virtual water of type *k* as follows:

$$\sum_i \lambda_{ki}^{dom} y_i + \sum_i d_{ki}^{Hous} y_i + \sum_i \lambda_{ki}^{imp} I_i ;$$

where λ_{ki}^{dom} is the vertically integrated coefficient, d_{ki}^{Hous} the coefficient of Households direct consumption of type *k* per unit of expenditure in *i*.

The other way consists of distributing the imported water through the production process, getting its vertically integrated contribution to the final demand. With that purpose we must find unit coefficients of imported water of type *k* for all the sectors, which will be $\mathbf{w}_{ki}^{imp} = \left(\lambda_{ki}^{imp} I_i\right) / Y_i$, and with them we express the virtual water of type *k* in the following way: $\sum_i \overline{\mathbf{w}}(\mathbf{I} - \mathbf{A})^{-1}\mathbf{y} + \sum_i d_i^{Hous} y_i$, with $\overline{\mathbf{w}} = (w_{ki}^{dom}) + (w_{ki}^{imp})$; where with w_{ki}^{dom} we indicate the ratio of direct productive use in the sector *i*.

The first way will be shown in Table 8 in the third and fourth columns, while the second method is presented in fifth and sixth columns.

[14] In particular, for our estimation we depart from the SAMEA made for 1999 by Mainar, A. & Sánchez Chóliz (2005).

4.2 Data for water

We consider important to remember that in this section the accounted water is *blue water*, not the total of natural water. We do not take into account in any way *green water* because of the enormous difficulty of determining its amount introduced and interpreting the results if its boundaries are not clearly defined, and this is very difficult. So we take the consumption used and distributed water on the one hand, and the strict Physical Consumtion on the other[15], which are firstly achieved for Aragon, according to Flores & Chóliz Sanchez (2007). What we take into consideration is the cultivation method for production, as we believe that there might be serious mistakes otherwise[16].

The estimated water consumption for each crop is computed by multiplying the water consumption of the crop (m3/ha), by the surface (hectares) of land on which is situated such cultivation, as derived from Allen (1998). The data, collected for each region of the province were taken from Martínez, Faci & Bercero (1998) and ASY respectively. The net water needs per hectare of each crop can be seen at Table 6. And those water needs multiplied by the number of hectares give us the total Net Consumption (NC) for each crop, shown in Table 7.

Table 7

On the other hand, from the cited work of Flores & Chóliz Sanchez (2007), we regionalize the value of direct consumption (or real use) of the Agriculture of the SAMEA Aragon to Huesca, which equals 1,355,069, Dm ³. Thus, by dividing the Total Net consumption obtained, which are equal to 874,015 Dm³ (see Table 7), we obtain an efficiency of 0.645 that allows us to give the consumption of that table.

In the DSAMEAH02, which is the result of adding environmental data to the DSAMH02, we also collect the values of real use or consumption, and Physical Consumption (PC = Consumption-Returns), but broken down by crops and Animal Husbandry classifications. For this reason we share out the total Agricultural aggregated value according to the Net Consumption attained in Table 7[17]. For its part, the proportions used to divide up the total Animal Husbandry aggregated value comes from the estimations made by the Ebro Hydrographic Confederation (CHE *in Spanish*) of the average allocations -by animal class- and the "ASY". With these proportions, as reflected in Table 5, we give out the data of Animal Husbandry consumption.

Table 5

[15] The direct data and estimates used are derived mostly from data provided by the National Statistics Institute. To be precise, the important statistical sources are: "Satellite Water Accounts for Spain and Aragon" (Series 1997-2001 and 2000-2004), which include the supply, wastewater treatment, returns, etc. We are left with: "Consumption of water used directly and water distributed" (ie the amount of water used, and that received by supply) and "Physical Consumption of water (the water received minus the water returned, which we call PC).

[16] In addition, the direct consumption of products rainfed is taken as 0. So we limit the scope of our estimates, but its accuracy and expand the possibilities for political or social action.

[17] With the exception of the consumption of water of Olives (Almazara), where much less is taken. This is because the production that reflects both the MAPA and the ASY of Aragon is, compared to the area used, unreasonably low (probably due to the mismatch of production for the food industry).

4. RESULTS

4.1 Basic data of the Water Accounts and values of the SAMH02

Without resorting to Leontief models and using the information contained in the DSAMEAH02, we can see some results that may be of interest. If we take the figure of population in the province of Huesca, 211,286 in the first of January 2003, and the figure of domestic water consumption (of households), which is 12,442 Dm^3 according to Table 8, we get that water consumption by person / day is 161.33 liters.

It has already been explained that the imported water was $\sum_i \lambda_i^{imp} I_i$, which gives for the PC associated to imports of Huesca a value of 218,819 Dm^3, in the second column of Table 8. If we compare it with the total Physical Consumption of Huesca, 1,228,878 Dm^3, it means the 17.81% of the PC of Huesca. Of the imported Physical Consumption, 49% comes from Agricultural products, 33% from the Agri-food industry, 9% from Animal Husbandry, and 4% from Chemical products, covering the rest of the sectors the 5% remaining. The imported consumption are of 512,479 Dm^3, compared to the total, 2,038,389 Dm^3, represent the 25.14 %.

The water Physical Consumption of exports using the technology and consumption of Huesca is of 727,890 Dm^3, so the province of Huesca is clearly exporting water. Of this export of water, 25.8 % is transferred through the final products of the agricultural activities, 56 % through Agri-food industry products, 12 % correspons to Animal Husbandry, while only around 1% are the sectors of Paper and printing, Metal products and machinery, and Chemical products, being almost irrelevant other sectors that export on the whole less than 4% of virtual water.

As it can be seen in Table 8, the interior consumption of water is 1,525,910 Dm^3 and the total is 2,038,389 Dm^3. By blocks of activities, the largest water consumption corresponds to, as it is well known, by the agrarian and food activities, with 1,390,458 Dm^3. They are far away followed by the blocks of Chemical, rubber and plastics, with 75,466 Dm^3, Energy and extractive industries, with 33,391Dm^3, and Services, with 11,676 Dm^3.

Leaving behind the blocks and analyzing the accounts, it can be observed that the largest consumption corresponds to the activity of Agriculture, forestry and aquaculture, with 1,355,069 Dm^3, Chemical products, 66,160 Dm^3, Animal husbandry, 33,921 Dm^3, and Energetic products, 31,223 Dm^3, Households, 12,442 Dm^3, and Public services, 6,297 Dm^3, are the following ones, already with much less relevance. Significantly, the direct consumption of households is only 0.92 % of the consumption of Agriculture, forestry and aquaculture, or what is equivalent, 0.82% of the interior consumption.

Table 8

The Table 8, allows to compare origin with destination, in order to see that the Agriculture is the activity that uses directly more water, 66% with respect to the total consumption, but only 29% with respect to the vertically integrated value of water use. If we look at the interior consumption, the percentages are 89% and 38% respectively. Agriculture is followed very closely by Food products, beverages and tobacco, 567,879 Dm^3, by the account of the Rest of Spain (RS), 364,719 Dm^3, of the European Union (EU), 136,785, Hotels and restaurants, 118,438 Dm^3, and by Animal husbandry, 86,784 Dm^3.

The case of Animal husbandry may surprise, the vertically integrated consumption is higher than the direct one, nearly three times higher, but this rise is much lower than that of Food products, beverages and tobacco and that of Hotels and restaurants. The reason is that Animal husbandry uses many inputs obained from the Agriculture, but its destination is only partly the sale of the products to the final consumer. Its sales to the Agri-food industry are more than six times its purchases of Agricultural products, so that the water used directly in agriculture and incorporated into livestock products, finally ends up mostly in manufactured or semi-processed food products.

Finally, the fifth and sixth columns of Table 8 let us also see the total vertically integrated consumption, that is to say, incorporating also in the productive process the water, which we have estimated, necessary to produce the imports of inputs or products. Thus, we can see that if the internal direct use of water for Animal husbandry was 33,921 Dm^3, and the interior vertically integrated 86,784 Dm^3, when one takes into account the imported water, the value in water of its final production grows strongly, reaching 128,377 Dm^3, which is 48% more, a percentage of total value corresponding to water used abroad.

In the Table 9 and Table 10 we exhibit the Interior and Total unit. namely the direct water requirements per monetary unit of corresponding final demand. The activity that requires higher quantity of water per monetary unit of final demand (for consumption or for export) is Agriculture. In particular, it reveals a consumption of 2.593 Dm^3 of water per thousand euros (third column), or 1.809 of Physical Consumption (fourth column). Another way to give these figures is by their inverses, by € of final demand per m^3, as shown in columns fifth and sixth. So in Agriculture, each 0.386 € requires a m^3 of water.

Table 9
Table 10

4.3 Vertically integrated values and virtual water of the production in DSAMH02

The previous results showed the relevance of Agriculture and Animal husbandry as a whole, since they are aggregated accounts. Nevertheless, using the DSAMH02 it can be seen the same information but for crops and livestock products. Consequently, we can get the amount of productive water production that goes to each product (corn, wheat,...) or for each group of Livestock, which is undoubtedly very important for any Agri-food policy production that goes to each product (corn, wheat,...) for each group of Livestock, which is undoubtedly very important for any food policy. The parallel information to Table 8, Table 9 and Table 10 is, in a partial breakdown by agricultural groups of the DSAMH02, in Table 11, Table 12 and Table 13. We use here this partial breakdown by simplicity. The figures for all groups of DSAMH02 are available upon request.

Looking to direct uses of agricultural products, we distinguish in Table 11 that the main users are Grain cereals (623,526 Dm^3, which includes the corn and where it should be remembered that we are talking about blue water and irrigation), followed by Other Forage plants including alfalfa (470,313 Dm^3) and Fruits (174,999 Dm^3). These three crops account for 46.01%, 34.71% and 12.91% respectively of the total direct use, of 1,355,069 Dm3, the three together account for 93.64% of the direct use. If instead of direct consumption of Agriculture we look at the total interior consumption, which is

1,525,910 Dm^3, the percentages go to 40.86%, 30.82% and 11.47%, being together the 83.15%. It is clarifying the fact that fruit collect more than half of direct use in the final demand, explained by the high domestic consumption and export of them.

Table 11

Within the 49% of water consumed via agricultural import, see the previous section, almost 50% is caused by imports of Cereals (27%) and Fruit (22%), due almost completely (about 90%) to the import of corn and citrus respectively. Of the 9% of Animal husbandry import, almost 70% is explained by imports of Bovine. As regards the 48.9% of agricultural exported virtual water, 87% is due to the export of Forage plants (46.02%) and Fruits (40.66%).

In the Table 12 it can be perceived the water values obtained with this grouping in large agricultural groups (cereals, fruits,...) of the products of the DSAMH02. Note that the dry land classification does not have a null value even though we only take into account blue water, this happens because their cultivation require other inputs besides the rainwater and the procurement of these inputs (machinery, transport,…) requires certain amounts of water, which are those now appearing. The figures are also a weak indicator of economic profitability of water. In particular, if we look at the demand covered by m^3 of water, we see that what occupies the first place are the Tubers, followed by Fruit, Vegetables, Olives, grapes and other plant products, Grain cereals, Other forage plants, while the last places are occupied by Pulses and Herbaceous oily plants.

Table 12

In general, as seen in the third and fourth columns, cereals (rice especially with a coefficient much higher than the others) and Forage plants, are cultivations in Huesca with a large volume of water per € of final value. Put another way, with 1 m^3 of water used, it can only be obtained 0.119 Euros of final value in the case of Cereals, and 0.128 Euro with Forage (see columns fifth and sixth). Startling figures we obtained for Herbaceous oily plants, 18.168 m^3 of water use/€, and 10.885 m^3/€ of vertically integrated Physical consumption, because this group of products offer very low production numbers for the amount of hectares in which it is spread (of irrigation in the data of the MAPA), which distorts the statistic. Also the 4.632 m^3 / € and 2.696 m^3 / € for Wool and Other animal products, have a similar explanation, and they are not significant. Its low weight in the global economy leads to an undistingished influence on the rest of the data.

Table 13 shows the total partially disaggregated water values, which, as it considers water imports, returns higher numbers of vertically integrated total consuption (m^3/ €), and obviously lower in its inverse, the net output by unit of vertically integrated Total consumption (€ / m^3).

Table 13

5. CONCLUSIONS

The work is inspired by the discussion of the profitability of agrarian uses in Aragon and the use of irrigation techniques. Farmers obtain higher yields through irrigation, which use water in origin, but also a fundamental reason of this use is nutrition, a key destination. We can reduce the use of water by importing food, but this does not eliminate the need of water to obtain them elsewhere, and of income to pay for them. Therefore, in the paper we looked also at the imported water, which already represents between 20% and 25% of the total water contained in our final production. In any case, we have seen that the overall balance of Huesca, from the standpoint of water trade, puts Huesca as a clearly water exporter province.

We analyze the structure of Huesca and find estimates of the uses of water and embodied water, starting from the SAM of Aragon for 1999 (SAMA99) of Flores & Sánchez Chóliz (2007), which we readjust for Huesca applying the GRAS method. Agricultural activities are diverse and have very different water needs in volume and intensity. This led us to heavily unbundle the SAMH02 in the agrarian sectors, with the resulting disaggregated table DSAMH02, that is, as far as we know, the first disaggregated SAM in Spain at this level.

Looking to the destinations of water, it was shown the known fact that Animal husbandry and the Food Sector require large amounts of virtual water due to their purchases of Agricultural products. More innovatively, we note that agricultural products, except for Fruit consumption have a "virtual water" consumption quite lower than that of direct water, specifically around 40%. Thus, if the water consumption of the agricultural activity was 66% compared to the total direct consumption, the virtual water is 29% under this heading. By contrast, in the Animal husbandry sector we find virtual water consumption more than twice the direct, especially that of poultry. The agri-food sector consumes virtual water in almost 400 times its direct consumption, in fact, for the purchase of agricultural products, agri-food gets more than 40% of the water directly used by the Agriculture sector.

On the other hand, we got that crops that contain more water for € of final value are Herbaceous oily plants, Forage and Grain cereals. Alternativley, with 1 m3 of water used, it is obtained less than one euro of final value for most agricultural products but Tubers and Vegetables. In addition, as a result of a macroeconomic analysis, from the regional accounting and the flow balance of water from Aragon, combined with estimates of water needs at regional scale, it was detected an average efficiency level of Agriculture of 0.645.

Finally, the revelation of the significant amount of water, although it has been extracted or used in origin in Agriculture, goes ultimately to consumers -local or foreign- leads us to think about future analysis. This fact that every day seems more established and assumed, guide us even to think about what would happen if any new proposal for payments for water was supported on these criteria. More immediately, to complete the study, mores clues can be provided about the destination of water in processed products, disaggregating the DSAM02 in one more sector; the Agri-food sector. Currently, there are relevant data available to do it (except costs according to purchases from industrial sectors,...), but only for Aragon.

6. BIBLIOGRAPHY

Aguilera-Klink, F., (1993). El problema de la planificación hidrológica: una perspectiva diferente. **Revista de Economía Aplicada** 2 (1), 209–216.

Allan, J.A., 1993. Fortunately there are substitutes for water otherwise our hydro-political futures would be imposible. ODA, **Priorities for Water Resources Allocation and Management. ODA**, London, pp. 13–26.

Allan, J.A., 1994. Overall perspectives on countries and regions. In: Rogers, P., Lydon, P. (Eds.), Water in the Arab World: Perspectives and Prognoses. **Harvard University Press**, Cambridge, Massachusetts, pp. 65–100.

Allen, R. (1998). **Crop evapotranspiration: guidelines for computing crop water requirements**. Rome: FAO.

Ayres, R. U. Kneese, A.V. (1969). Production, consumption and externalities, **American Economic Review LLX** (1969) (7), pp. 282–297.

Bielsa Callau, J (1999). Gestión integrada del agua en el territorio desde una perspectiva económica. Zaragoza: Consejo de Protección de la Naturaleza de Aragón, D.L.

Castro, J.M., Morillas A., and Melchor E. (1996). Análisis de los efectos de la estructura de demanda sobre crecimiento y medio ambiente en Andalucía, **Revista de Estudios Regionales 46** (1996), pp. 47–68.

Chapagain, A.K. and Hoekstra, A.Y. (2004) Water footprints of nations', Value of **Water Research Report Series** No. 16, UNESCO-IHE, Delft, the Netherlands.

Daly, H.E. (1968). On economics as life science, **The Journal of Political Economy 76** (1968) (3), pp. 392–406.

Dietzenbacher, E. & Velázquez, E. (2006). "Virtual water and water trade in Andalusia. A study by means of an input-output model," **Working Papers 06.06, Pablo de Olavide** University, Economic Departament.

Duarte, R. (1999). **Estructura productiva y contaminación hídrica en el valle del Ebro. Un análisis input-output**. Ph.D. Dissertation. Universidad de Zaragoza.

Flores & Mainar (2005). Análisis de la economía aragonesa: Multiplicadores Contables y su descomposición. I Spanish Conference on Input-Output. Oviedo, Spain.

Flores, M. & Sánchez Chóliz, J. (2007). Contabilidad medioambiental y social en Aragón. Working paper presented in the 5th Conference of Aragonese Economics.

Forsund, F.R. (1985). Input–output models, national economic models, and the environment. In: A.V. En Kneese and J.L. Sweeney, Editors, **Handbook of Natural Resource and Energy Economics**, Elsevier, Amsterdam (1985), pp. 325–344.

Isard, W. (1969). Some notes on the linkage of ecologic and economic systems, **Papers Regional Science 22** (1969), pp. 85–96.

Hawdon and Pearson (1995). Input–output simulations of energy, environment, economy interactions in the UK, **Energy Economics 17** (1995) (1), pp. 73–86.

Hoekstra, A., Chapagain, A.K. (2007) Water footprints of nations: water use by people as a function of their consumption pattern, *Water Resources Management* 21(1): 35-48.

Hoekstra, A.Y. and Hung, P.Q. (2002) Virtual water trade: a quantification of virtual water flows between nations in relation to international crop trade. **Value of Water Research Report Series** No.11, IHE Delft.

Junius, T. & Oosterhaven, J. (2003), "The Solution of Updating or Regionalizing a Matrix with both Positive and Negative Entries", **Economic Systems Research**, 15, pp. 87-96.

Leontief, W. (1970). Environmental repercussions and the economic structure: an input–output approach, **Review of Economics and Statistics 52** (1970) (3), pp. 262–271.

Leontief, W. and Ford, D. (1971). Air pollution and the economic structure: empirical results of input–output computations, 5th International Input–Output Conference, Geneve (1971).

Lofting, E.M.; Mcgauhey. P.H. (1968). "Economic valuation of water. An input-output analysis of California water requirements". **Contribution** nº116. Water Resources Center.

Mainar, A. & Sánchez Chóliz, J. (2005). **Análisis de la Estructura Económica de Huesca**. Observatorio Socioeconómico de la provincia de Huesca.

Martínez, A., Faci, J. M & Bercero, A. (1998). **Evapotranspiración y necesidades de riego de los principales cultivos en las comarcas de Aragón.** Institución "Fernando el Católico".

Naredo, J. M. (2006), **Raíces económicas del deterioro ecológico y social**, Madrid: Siglo XXI.

Pajuelo, A. (1980). Equilibrio general vs. Análisis parcial en el análisis I–O económico ambienal: una aplicación al análisis de la contaminación atmosférica en España, **Revista del Instituto de Estudios Económicos 3** (1980), pp. 3–57.

Proops, J.L.R. (1988). Energy intensities, input–output analysis and economic development. In: M. Ciaschini, Editor, **Input–output Analysis, Current Developments**, Chapman and Hall, New York (1988), pp. 201–215.

Proops, J.L.R., Faber, M., Wagenhals, G. (1993). Reducing CO_2 Emissions. A Comparative Input–Output Study For Germany and the U.K., **Springer-Verlag**.

Sánchez-Chóliz, J., Bielsa, J., Arrojo, P. (1992): "Water values for Aragon", **Environmental and Land Issues**. Wissenschaftsverlag vank Kiel KG. Ed. Albisu, L.M. and Romero, C. EAAE, CIHEAM.

Sánchez-Choliz, J., Bielsa, J., Duarte, R. (1994): "On water supply and demand in a river basin: applications to the Ebro valley". Universidad de Zaragoza.

Stone, R. (1972). The evaluation of pollution: balancing gains and losses, **Minerva X** (1972) (3), pp. 412–425.

Saénz de Miera, G. 1998. **Modelo input-output para el análisis de las relaciones entre la economía y el agua. Aplicación al caso de Andalucía**. Ph. D. Dissertation. Universidad Autónoma de Madrid.

Velázquez Alonso, E. (2003). Modelo Input-Output de Agua. Análisis de las relaciones intersectoriales de agua en Andalucía. **Economic Working Papers at Centro de Estudios Andaluces** E2003/01, Centro de Estudios Andaluces.

Velázquez Alonso, E. (2007). Water trade in Andalusia. Virtual water: An alternative way to manage water use, **Ecological Economics** Volume 63, Issue 1, 15 June 2007, Pages 201-208.

Victor, P.A. (1972). **Pollution: Economy and Environment**, Allen and Unwin, London (1972).

7. ANNEX

Table 1. Accounts of the SAMEA of the economy of Huesca 2002

1. Actividades Productivas

AP1A Agriculture, selviculture and aquaculture
AP1B Animal husbandry
AP2 Energetic Products
AP3 Water
AP4 Metallic - Mineral Products
AP5 Non-metallic - Mineral Prod.
AP6 Chemical Products
AP7 Machinery & equipment
AP8 Machinery & equipment
AP9 Food Procuts, Beverages & Tobacco
AP10 Textile Products, leather and footwear
AP11 Paper, Publishing & Printing
AP12 Wood & Cork
AP13 Rubber & other Plastic Prod.
AP14 Construction & Engineering
AP15 Other manufactures- recycling and recovery
AP16 Commercial Services
AP17 Hotels & Restaurantes
AP18 Transport & Communications
AP19 Credit & Insurance
AP20 Real estate & renting activities
AP21 Private Education
AP22 Private Health activities
AP23 Other sales-oriented services
AP24 Domestic service
AP25 State Education
AP26 Public Health
AP27 Other Public Services

2. Productive Factors

L Labour
K Capital

3. Institutions

HOG Households e ISFLSH
SOC Societies

4. Public sector

Public administrations

5. Savings - Investment

A-I Account de Capital

6. Foreign sector

RS Rest of Spain
EU European union
RW Rest of the world

7. Accounts of Water

CONS Consumption of water directly taken and distributed water
PC Water Physical Consumption

Table 2: Connections between the MAPA and the Tax System codes.

		TAX SYSTEM.	
C12 COD	DEFINITION C12 COD	CÓD	DEFINITION COMBINED NOMENCLATURE TAX SYS.
6010	Apple tree	0808 10 20	Golden Delicious variety
		0808 10 50	Granny Smith variety
		0808 10 90	The others
		0813 30	Apples
6020	Apple tree for cider	0808 10 10	Apples for cider, loose, from 16th of sept. to 15th of dec.
6030	Pear tree	0808 20 10	Pears in bulk, loose, from 1st of august to 31st of dec.
		0808 20 50	The others
6040	Quince	0808 20 90	Quince
6200	Cherry & Sour cherry	0809 20	Cherries {-Sour cherries (Prunus cerasus) – The others}
6210	Plum	0809 40 05	plums
		0813 20	plums
		2008 99 45	plums
6220	Apricot tree	0809 10	Apricots (*damascos, chabacanos*)
		0812 90 10	Apricots (*damascos, chabacanos*)
		0813 10	Apricots (*damascos, chabacanos*)
6230	Peach tree	0809 30	Peaches
...	...	...	...

Table 3. SAMH02. (The values are shown in Thousand of Euros):

Thousand of Euros	Agriculture	Animal husbandry	Energetic Products	Water	Metallic - Mineral Products	Non-metallic - Mineral Prod.	Chemical Products	Machinery & equipment	Transport equipment	Food P., Beverages & Tobacco	Textile Products	Paper, Publishing & Printing	Wood & Cork	Rubber & other Plastic Prod.	Construction & Engineering	Oth. manuf. Including recycling	Commercial Services	Hotels & Restaurantes	Transport & Communications
Agriculture	24473,9	20276,4	84,7	4,7	0,4	0,0	10,4	0,6	0,0	283066,4	397,2	4946,9	3937,3	0,0	3423,4	0,0	65,7	6836,8	0,1
Animal husbandry	2322,0	1923,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	163955,7	117,9	0,0	0,0	0,0	0,0	0,0	1731,6	733,9	0,0
Energetic Products	6422,1	5371,2	29405,7	369,5	510,6	5643,3	12328,2	6081,5	224,4	7802,0	546,8	1633,3	799,7	1193,0	6701,8	6,0	10821,3	7452,8	11867,6
Water	2460,9	20,7	7,0	2,5	15,3	12,7	57,2	46,6	1,2	77,8	5,0	1,1	0,1	6,3	57,8	0,1	110,0	313,8	36,3
Metallic - Mineral Products	0,0	0,0	407,7	0,0	574,0	6449,4	388,0	1374,8	0,0	27,1	0,7	0,1	0,0	0,5	6596,5	0,0	7,8	0,0	0,0
Non-metallic - Mineral Prod.	0,0	0,0	72,7	0,0	78,2	22580,2	7,4	2265,6	521,6	4550,0	1,4	0,0	73,9	471,8	138806,1	0,0	1102,0	1671,1	387,0
Chemical Products	57888,7	48416,4	1817,8	301,9	1250,5	8609,6	299535,9	43774,7	3721,2	38854,2	7465,6	14184,2	3622,3	50985,1	27581,5	43,1	8504,6	3441,3	2559,6
Machinery & equipment	9099,9	7610,9	4394,1	224,9	1234,5	10896,2	14765,3	301098,7	16971,1	6858,6	1222,8	1542,8	1478,4	12044,1	112280,9	456,5	11953,8	1587,4	4017,7
Transport equipment	2,7	2,2	25,0	9,5	7,7	71,9	0,0	25,5	4414,2	1,0	1,9	0,6	0,1	478,7	0,0	5,1	2005,5	0,7	1052,0
Food P., Beverages & Tobacco	103424,9	86501,5	0,0	0,0	0,0	0,0	1508,5	0,1	0,0	182279,1	3511,8	636,7	0,0	0,0	0,0	0,0	86,1	161170,4	0,0
Textile Products	0,0	0,0	127,2	13,1	7,5	11,9	832,9	49,5	755,7	66,3	25119,3	124,5	11,2	5992,0	1001,0	36,0	1546,3	810,6	134,3
Paper, Publishing & Printing	27,1	22,7	457,4	43,6	120,6	871,0	239,1	1199,5	10,4	7272,8	473,2	13125,4	708,7	655,4	382,8	0,0	3013,7	712,8	924,6
Wood & Cork	0,0	0,0	42,1	0,0	51,4	421,4	987,0	1486,3	26,2	891,6	126,8	164,2	6899,0	4540,2	10424,4	0,0	641,5	0,2	263,9
Rubber & other Plastic Prod.	1587,1	1327,4	17,7	28,1	111,2	853,0	7548,4	16081,7	6556,3	10050,6	2228,3	100,5	214,8	12069,1	15318,9	0,9	3513,8	681,2	533,3
Construction & Engineering	9122,6	7629,9	13304,3	673,9	545,6	3455,1	6070,4	7979,2	80,8	2208,9	500,2	1416,1	176,3	913,4	474753,7	0,0	31947,2	6989,9	24016,0
Oth. manuf. Including recycling	0,0	0,0	4,7	0,0	0,0	152,8	0,0	564,8	0,0	0,0	0,0	435,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Commercial Services	16993,0	1410,5	2319,8	142,1	918,8	6640,0	6723,1	21733,0	835,1	30993,6	3631,1	10218,0	3357,1	6716,9	65117,7	185,5	33489,2	15794,0	19086,7
Hotels & Restaurantes	357,8	299,3	557,2	35,7	36,5	570,6	2120,8	4227,1	258,9	2266,1	229,2	241,3	184,0	895,7	10154,4	5,7	4242,7	2621,1	2066,5
Transport & Communications	6341,8	5304,1	3775,7	239,6	2131,0	11150,4	23691,2	27559,1	1129,8	43739,2	1860,4	4868,6	2053,1	5694,7	24025,1	20,7	47843,4	4516,8	30918,8
Credit & Insurance	1687,7	1411,6	747,8	88,4	43,5	957,0	1775,5	2122,6	31,9	3676,8	703,2	288,8	213,9	499,7	7714,4	1,8	14845,8	4710,4	3919,4
Real estate & renting activities	57,1	47,8	49,1	19,2	180,2	619,5	1058,6	2588,4	41,5	1356,4	334,0	207,3	66,0	652,8	893,5	7,9	15647,9	10581,1	959,5
Private Education	6,3	5,3	53,1	6,3	3,6	86,5	263,3	289,5	24,2	250,6	28,1	28,6	14,2	80,1	73,8	0,7	202,6	70,7	108,3
Private Health activities	984,6	823,5	120,4	15,1	23,8	227,2	410,1	809,8	42,1	1202,7	85,0	87,2	75,6	196,8	1473,6	1,3	2079,4	752,7	550,2
Other sales-oriented services	2106,8	1762,0	4258,2	414,2	427,9	7721,4	23524,3	36254,9	6331,7	43693,2	3557,1	6120,9	1112,2	6932,7	43311,1	39,1	51900,7	4438,2	13158,7
Domestic service	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
State Education	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Public Health	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Public Services	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Labour	7624,9	6377,2	17491,0	924,3	2289,6	32325,0	65301,9	148601,5	8733,3	87269,8	21944,8	13309,5	8208,5	28468,9	247042,7	121,4	102853,7	65971,2	84645,2
Capital	137253,1	114794,4	60955,0	1272,8	2652,2	23777,6	42728,8	81031,2	7089,6	77969,7	10493,9	17038,5	4251,6	15629,3	184522,1	9,3	320509,8	237899,3	119812,2
Societies	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Public Administration	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Savings / Investments	-2146,7	-1053,2	-432,0	249,0	573,1	4095,5	14926,4	4180,1	669,8	-12399,7	509,9	734,7	300,9	744,5	20968,7	0,1	9908,1	14123,6	14366,9
Households	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Rest of Spain	119323,0	56046,2	68167,2	0,0	4514,5	78823,9	395812,5	305465,8	5168,4	362613,0	51731,7	28062,2	14325,3	47692,5	408,5	954,2	73353,7	11722,9	55014,4
European Union	69513,5	48333,3	4392,9	0,0	201,4	4276,7	141150,9	95085,2	8271,7	55424,4	5717,9	11021,2	2581,7	11930,0	0,0	0,0	3071,3	355,3	3543,6
Rest of the World	237,2	116,2	1285,4	0,0	1626,3	1251,4	41301,6	27822,5	2420,3	16217,5	1673,1	3224,9	755,4	3490,8	0,0	0,0	188,7	37,4	294,8
TOTAL (Sum)	**577172,1**	**414781,4**	**213909,0**	**5078,4**	**20129,9**	**232551,5**	**1105067,9**	**1139799,7**	**74331,4**	**1422235,4**	**144218,3**	**133763,4**	**55421,3**	**218974,7**	**1403034,4**	**1895,4**	**757188,1**	**565997,5**	**394237,6**

Thousand of Euros	Credit & Insurance	Real estate & renting activities	Private Education	Private Health activities	Other sales-oriented services	Domestic service	State Education	Public Health	Public Services	Labour	Capital	Societies	Public Administration	Savings / Investments	Households	Rest of Spain	European Union	Rest of the World	**TOTAL (Sum)**
Agriculture	2,2	142,7	6,3	89,4	0,0	0,0	31,5	297,9	2915,0	0,0	0,0	35005,1	0,0	0,0	1397,5	150745,2	34130,6	4883,7	**577172,1**
Animal husbandry	0,0	0,0	0,8	10,7	478,1	0,0	2,7	8,7	957,6	0,0	0,0	3204,4	0,0	0,0	3630,9	204855,5	30120,8	726,3	**414781,4**
Energetic Products	1090,5	405,8	360,0	931,3	4898,5	0,0	548,4	1590,9	3640,7	0,0	0,0	45256,5	0,0	0,0	674,4	39088,5	180,9	61,7	**213909,0**
Water	6,5	10,1	10,1	40,3	121,4	0,0	18,6	72,5	157,9	0,0	0,0	1254,5	0,0	0,0	0,0	0,0	50,2	104,0	**5078,4**
Metallic - Mineral Products	0,6	0,0	0,0	0,0	47,8	0,0	0,0	0,0	0,0	0,0	0,0	19,7	0,0	0,0	49,6	3586,3	481,1	118,1	**20129,9**
Non-metallic - Mineral Prod.	1,2	0,0	5,7	41,1	87,6	0,0	17,8	469,7	197,0	0,0	0,0	1830,9	0,0	0,0	0,0	56749,0	419,5	143,1	**232551,5**
Chemical Products	101,6	455,4	494,5	11078,3	17448,0	0,0	406,2	36835,0	1443,5	0,0	0,0	62934,5	0,0	112572,5	989,1	126190,2	83182,3	28378,7	**1105067,9**
Machinery & equipment	1013,1	233,6	219,1	3451,6	5291,8	0,0	366,3	12532,0	4925,3	0,0	0,0	27627,3	0,0	593,6	63338,6	328176,8	128464,4	43827,3	**1139799,7**
Transport equipment	0,0	1,7	0,1	0,1	16,7	0,0	27,6	3,1	1347,1	0,0	0,0	9298,3	0,0	32,9	3186,2	34189,8	13513,1	4610,2	**74331,4**
Food P., Beverages & Tobacco	0,0	0,0	295,5	1099,6	0,0	0,0	330,4	3398,7	2843,7	0,0	0,0	265331,1	0,0	0,0	986,5	325662,2	211136,7	72032,1	**1422235,4**
Textile Products	0,6	4,8	22,8	252,5	905,4	0,0	49,8	600,6	1245,9	0,0	0,0	62361,7	0,0	0,0	532,8	36895,5	3509,3	1197,3	**144218,3**
Paper, Publishing & Printing	730,2	227,5	532,7	278,7	7517,3	0,0	448,2	718,7	4609,2	0,0	0,0	13459,2	0,0	0,0	469,2	60596,2	10375,6	3539,8	**133763,4**
Wood & Cork	0,6	0,1	0,0	0,0	345,0	0,0	0,0	0,0	23,5	0,0	0,0	805,8	0,0	0,0	0,0	26728,7	411,2	140,3	**55421,3**
Rubber & other Plastic Prod.	312,9	38,7	112,4	68,5	2101,8	0,0	360,6	562,2	1586,5	0,0	0,0	34255,1	0,0	0,0	9059,6	79589,4	9025,6	3079,2	**218974,7**
Construction & Engineering	7913,0	83801,4	1409,6	1770,9	14270,3	0,0	2309,3	4137,4	14819,5	0,0	0,0	42050,0	0,0	0,0	638006,4	414,6	249,9	98,5	**1403034,4**
Oth. manuf. Including recycling	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,7	402,1	291,5	40,4	**1895,4**
Commercial Services	531,9	126,5	382,0	1032,4	5691,1	0,0	195,4	1649,2	9575,9	0,0	0,0	312179,7	0,0	23399,0	6401,5	114153,4	29470,5	6094,2	**757188,1**
Hotels & Restaurantes	1701,1	131,0	1666,0	2145,6	7840,8	0,0	1285,1	1197,8	8331,5	0,0	0,0	501199,0	0,0	958,3	0,0	0,0	5860,7	2309,9	**565997,5**
Transport & Communications	4555,7	1779,3	601,2	967,2	15809,1	0,0	1315,0	1728,1	13329,6	0,0	0,0	74953,2	0,0	3380,8	1263,8	20213,3	6577,7	900,2	**394237,6**
Credit & Insurance	141010,2	3078,4	126,8	291,4	6784,2	0,0	9,2	238,9	1769,9	0,0	0,0	41455,0	0,0	0,0	0,0	0,0	2066,9	661,0	**242932,0**
Real estate & renting activities	3036,6	1466,1	458,3	736,2	10902,9	0,0	16,0	532,8	1592,4	0,0	0,0	210256,4	0,0	0,0	22141,1	10213,1	3939,3	1552,6	**302211,6**
Private Education	12,6	9,0	40,0	28,1	122,0	0,0	56,0	125,9	506,4	0,0	0,0	14079,7	0,0	14378,2	0,0	0,0	546,4	215,4	**31715,5**
Private Health activities	79,2	33,4	32,6	524,4	536,7	0,0	22,3	5657,2	747,1	0,0	0,0	47421,6	0,0	16576,0	0,0	0,0	927,3	365,5	**82884,4**
Other sales-oriented services	11130,5	6789,7	1469,5	2953,6	89704,4	0,0	2420,6	14267,4	28950,4	0,0	0,0	88096,5	0,0	5757,1	32533,9	30984,1	6374,9	901,1	**579398,9**
Domestic service	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	15977,6	0,0	0,0	0,0	0,0	422,0	166,3	**16565,9**
State Education	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2218,8	0,0	78958,2	0,0	0,0	108,3	42,7	**81328,0**
Public Health	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	9477,4	0,0	222539,4	0,0	0,0	261,6	103,1	**232381,6**
Public Services	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3676,0	0,0	445646,7	0,0	0,0	91,2	36,0	**449450,0**
Labour	60809,2	8277,8	19044,0	26163,8	152127,1	16565,9	62682,3	127831,9	278672,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	**1701679,0**
Capital	-10,3	170374,2	3238,8	25444,3	115332,2	0,0	6584,2	9605,6	50053,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	**1840313,9**
Societies	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1701679,0	986316,2	0,0	198299,6	576805,9	0,0	0,0	6960,9	3583,4	**3473645,0**
Public Administration	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	737483,5	107059,7	148710,6	119779,8	0,0	0,0	43556,2	22422,8	**1179012,5**
Savings / Investments	5109,9	16724,9	1186,6	3484,6	7797,1	0,0	1824,5	8319,5	15207,8	0,0	116513,8	1218915,0	238908,0	0,0	30672,1	0,0	119234,7	50317,2	**1904535,6**
Households	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	203427,6	471976,7	196809,1	0,0	0,0	0,0	0,0	**872213,4**
Rest of Spain	2679,6	8099,4	0,0	0,0	72676,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	-113220,9	0,0	0,0	0,0	**1649434,0**
European Union	1015,1	0,0	0,0	0,0	39585,7	0,0	0,0	0,0	0,0	0,0	0,0	13422,2	87600,5	62722,1	82724,9	0,0	0,0	0,0	**751941,2**
Rest of the World	97,9	0,0	0,0	0,0	959,7	0,0	0,0	0,0	0,0	0,0	0,0	5135,5	33517,2	23625,9	87372,7	0,0	0,0	0,0	**252652,2**
TOTAL (Sum)	**242932,0**	**302212,0**	**31715,5**	**82884,4**	**579398,9**	**16565,9**	**81328,0**	**232381,6**	**449450,0**	**1701679,0**	**1840313,5**	**3473645,0**	**1179012,5**	**1904535,6**	**872213,4**	**1649434,0**	**751941,2**	**252652,2**	**24524081,9**

Table 4: Accounts in which are disaggregated Agriculture and Animal husbandry.

	Type	Group	MAPA Code	Products
Agriculture	Irrigated land	Cereals (Grain)	1.010	Soft Wheat
			1.020	Hard Wheat
			1.040	Barley
			1.050	Oats
			1.070	Corn (Grain)
			1.080	Rice
				OTHER
		Legumes (Grain)	1.540	Tufted vetch, Beans (various)
			1.550	Peas
				OTHER
		Potato	2.030	Potato (medium season; Harvest 15-VI to 30 IX)
		Herbaceous oily plants	2.520	Sunflower
			2.540	Rape and Brassica rapa
				OTHER
		Vegetables	3.300	Tomato
				OTHER
		Seeds	4.400	Seeds hortícolas (MAPA data of vegetables and flowers)
		Forage plants	4.710	Alfalfa
			4.800	Otras forage plants
		Non-citrus fruits	6.010	Apple tree
			6.030	Pear tree
			6.200	Cherry
			6.210	Plum
			6.220	Apricot tree
			6.230	Melocotonero
			6.420	Almond tree
				OTHER
		CITRUS		CITRUS
		Olive, products and subproducts	7.220	Olive (of Almazara mainly)
			7420-7430	Vitis for quality and table wine and other
		OTHER products		OTHER products
	Unirrigated land			Unirrigated land
Animal husbandry		Livestock	101	Equine
			102	Bovine
			103	Porcine
			104	Ovine & Caprine
			105	Poultry
			106	Other animals
		Other livestock products	83..	Milk and other dairy products, Eggs from poultry, natural honey
			8.350	Wool
			8.390	Other animal products (sold manure, eggs different from hen)

Table 5: Calculations made to share out the water consumptions of animal husbandry.

nº sacrifices	classification	Consumption (l/day)	Dm³ of all animals/day	Dm³ a year	%
82,880	bovines	100	8.29	3,025.12	0.49
376,728	ovines	4	1.51	550.02	0.09
24,350	caprines	4	0.10	35,55	0.01
508,494	porcines	14	7.12	2,598.40	0.42
99,000	poultry	0.18	0.02	6.50	0.00
			TOTAL	6,215..60	1

Source: Agrarian Statistical Yearbook of Aragon and average usages (l/day) of the CHE.

Table 6: Net Hydric Necessities for the different cultivations (m^3/ha)

Cultivation	Est	Jacetania	Est	Sobrarbe	Est	Ribagorza	Est	Hoya de Huesca	Est	Somontano	Est	Monegros	Est	Litera	Est	Bajo Cinca	**Huesca ***
Wheat		665		825		1330		1890		2140		2420		2330		2610	2175,7
Barley (tardy+season)		477,5		850		1150		1570		1520		2050		1970		2230	1807,5
Sorgho	H	4270	Som	4190	Som & L	4400		4270		4190		4950		4610		5380	4661,2
Corn	C & H	4897,5	C & H	4897,5	Som & L	5170		4940		5040		5520		5300		5760	5353,3
Rice		-		-		-		7840	H & M	8145		8450	M	8450	M	8450	8235,3
Pea	C	1335		-		-	C	1335	H	1335	H & A	1372,5	H & A	1372,5	H & A	1372,5	1371,4
Green bean		-		2590	Sob	2590	C	3015	H	3015	H	3015	H	3015	H	3015	2996
Sunflower		2610		2645	Sob	2645		4370		4260		4850		4830		5060	4667,1
Oth. Herbaceous Oily Plants	G	2610	J	2610		2645		4370		4260		4850		4830		5060	4787,5
Potato (medium+tardy)		1972,5		2640		5215	C	4455	R & C	-	R sur & C sur	6197,5	R sur & C sur	0	R & Cal	0	4613,4
Alfalfa		3040		3290		4220		5440		5530		6610		6390		7190	6237,6
Forage tufted vetch		325		325		510		1150	H	1150	Sor (M)	2735	Sor (M)	2735	Sor (M)	2735	1817
Onion	Sob & C	4420		3130	Sob & L	4355	C	5710	R & M	5057,5		5760		5580	L & M	5670	5742,7
Cabbage		-		50	Sob	50		-		-		0		0		0	
Cauliflower	Sob & C	582,5		80	Sob & L	950	C	1085	R & M	1640		2330		1820		2075	
Pepper	Sob & C	3455		2370	Sob & L	3345	C	4540	R & M	3927,5		4510		4320		4415	4525,3
Tomato	Sob & C	4245		3440	Sob	3440		-		-	C	5050	C	5050	C	5050	5050
Apple tree		7010		-	J	7010	L	6045	L	6045	L & BC	6890		6045		7735	6900,9
Pear Tree	L	5305	L	5305		-	L	5305	L	5305	L & BC	6155		5305		7005	6313,8
Peach and nectarine	-	-	L	5305	L	5305	L	5305	L	5305	L & BC	6155		5305		7005	6657,2
Cherry		1920		-	L	4120	J & L	3020	L	4120	L & BC	4120		4120		4960	4705,7
Plum	L	5305		-		-	L	5305	L	-	L & BC	0		5305		7005	6023,9
Other frutits, Sweet Fruit	C, M & L	4116,7	C, M & L	4116,7	C, M & L	4116,7	C	4510	C, M & L	4116,7		3900		3940	L	3940	3937
Almond Tree	BA	5300	BA	5300	BA	5300	BA	5300	BA	5300	BA	5300	BA	5300	BA	5300	5300
Vitis		-	Cas&Z	4730		-	Cas&Z	4730	Cas&Z	4730	Cas&Z	4730	Cas&Z	4730	Cas&Z	4730	4727,6
Olive		-	D	3430	D	3430	D	3430	D	3430	D	3430	D	3430	D	3430	3430
Other Woodiy-Ligneous		-		-		-	L	5305		-	L & BC	6155		5305		7005	

Source: Own elaboration from Martínez, A. et al. (1998).

The previous water requirements have been assigned with the following criteria:

- When available data is entered; in green, there are shown the requirements calculated as an average of the north and south zones of the region itself.
- To the left of some requirements, it is stated that they have been estimated (Est) as an approximation, nased on the data from another source, product, or other border counties (or the one/s which we think show better the facts of the area within the available data). The codes shown correspond to the following legend:

A: Almunia; BA: Low Aragon; BC: Low Cinca; Cal: Calatayud; Cas & Z: Caspe and Zaragoza; C: Cinco Villas; D: Department of Soil and Irrigation CIS-DGA H: Hoya Huesca; J: Jacetania; L: The Litera; M: Monegros, R: Ribagorza; Sob: Sobrarbe; Som: Somontano; Sor: Averge sorghum as SIA-DGA (M); G: The requirements of Sunflower (to be used for "other oilseeds").

* Finally, the water requirements of each product of Huesca are assessed as the ratio between the Net Consumption of the cultivation and its surface (in hectares).

Table 7: Surface, NC & CONS (water taken from the reservoir, 0,645 efficiency) needed.

	Jacetania			Sobrarbe			Ribagorza			Hoya de Huesca		
	Hes	NC	CONS	Hes	NC	CONS	Hes	NC	CONS	Hes	NC	CONS
Wheat	312,1	207,5	321,8	115	94,9	147,1	84	111,7	173,2	3854	7284,1	11293
Barley	369	176,2	273,2	32	27,2	42,2	284	326,6	506,4	9182	14416	22350
Other cereals (oats,…)	2	8,54	13,2	26	109	168,9	15	66	102,3	202	862,54	1337,3
Corn	14	68,57	106,3	3	14,7	22,8	8	41,36	64,1	10474	51742	80220
Rice	0	0	0,0	0	0	0,0	0	0	0,0	2740	21482	33305
Proteaginous	3	4,005	6,2	0	0	0,0	0	0	0,0	13	17,355	26,9
Legumes (Grain)	1	1,335	2	2	5,18	8	7	18,13	28	49	65,415	101
Sunflower	22	57,42	89,0	36	95,2	147,6	47	124,3	192,7	2088	9124,6	14146
Other Herbaceous Oily Plants	1	2,61	4,0	1	2,61	4,0	2	5,29	8,2	69	301,53	467,5
Tuber	0	0	0,0	0	0	0,0	0	0	0,0	50	222,75	345,4
Alfalfa	137	416,5	645,7	76	250	387,7	21	88,62	137,4	11923	64861	100560
Other Forage (tufted vetch,…)	554	180,1	279,1	581	189	292,8	462	235,6	365,3	1257	1445,6	2241,2
Vegetables	21	0	0,0	9	0	0,0	20	0	0,0	197	274,55	425,7
Total Herbaceous	**1436,1**	**1121**	**1738**	**881**	**788**	**1221**	**950**	**1018**	**1577**	**42098**	**172181**	**266948**
Apple Tree	10	70,1	108,7	0	0	0,0	1	7,01	10,9	136	822,12	1274,6
Pear Tree	4	21,22	32,9	4	21,2	32,9	0	0	0,0	54	286,47	444,1
Peach and Nectarine	0	0	0,0	6	31,8	49,3	1	5,305	8,2	77	408,49	633,3
Cherry	2	3,84	6,0	0	0	0,0	2	8,24	12,8	20	60,4	93,6
Plum	1	5,305	8,2	2	0	0,0	0	0	0,0	5	26,525	41,1
Other fruitts Sweet Fruits	0	0	0,0	0	0	0,0	0	0	0,0	0	0	0,0
Almond Tree	1	5,3	8,2	0	0	0,0	3	15,9	24,7	169	895,7	1388,7
Vitis	0	0	0,0	1	4,73	7,3	1	0	0,0	47	222,31	344,7
Olive	0	0	0,0	5	17,2	26,6	13	44,59	69,1	548	1879,6	2914,2
Other Woody	0	0	0,0	0	0	0,0	0	0	0,0	0	0	0,0
Total Woody	**19**	**105,8**	**164,0**	**18**	**74,9**	**116,2**	**21**	**81,05**	**125,7**	**1056**	**4601,7**	**7134,4**
Herbaceous + Woody		**1227**	**1902**		**863**	**1337**		**1099**	**1703**		**176782**	**274082**

	Somontano			Monegros			La Litera			Bajo Cinca			Huesca (total)		
	Hes	NC	CONS	Hes	NC	CONS	Hes	NC	CONS	Hes	NC	CONS	Hes	NC	CONS
Wheat	723	1547	2398,5	1259	3046,78	4723,7	3403	7929	12293	2284	5961,2	9242,2	12034,1	26182,18	40592,8
Barley	3246	4934	7649,7	3528	7232,4	11213,1	8398	16544	25649	3791	8453,9	13106	28830	52110,3	80791,7
Other cereals	69	289,1	448,2	310	1534,5	2379,1	544	2507,8	3888,1	93	500,34	775,7	1261	5877,82	9113,0
Corn	3501	17645	27356	16714	92261,3	143041	8122	43047	66740	7572	43615	67620	46408	248434,93	385172,9
Rice	54	439,8	681,9	1965	16604,3	25743,3	1780	15041	23319	1322	11171	17319	7861	64738,1	100369,8
Proteaginous	0	0	0,0	423	580,568	900,1	1	1,3725	2,1	131	179,8	278,8	571	783,1005	1214,1
Legum (Grain)	21	28,035	43	62	82,77	128	24	32,04	50	194	258,99	402	360	492	763
Sunflower	814	3468	5376,8	1351	6552,35	10158,7	2519	12167	18863	1291	6532,5	10128	8168	38121,37	59103,3
Oth. Oily Plants	0	0	0,0	195	945,75	1466,3	62	299,46	464,3	83	419,98	651,1	413	1977,23	3065,5
Tuber	0	0	0,0	5	30,9875	48,0	0	0	0,0	0	0	0,0	55	253,7375	393,4
Alfalfa	1841	10181	15784	11876	78500,4	121706	15186	97039	150449	5021	36101	55970	46081	287437,52	445642,5
Other Forage	280	322	499,2	1125	3076,88	4770,4	1752	4791,7	7429,0	742	2029,4	3146,4	6753	12270,28	19023,8
Vegetables	38	114	176,7	1761	1309,86	2030,8	57	195,6	303,3	93	373,88	579,7	2196	2267,89	3516,1
Total Herbac.	**10587**	**39003**	**60470**	**40574**	**211863**	**328471**	**41848**	**199634**	**309512**	**22617**	**115752**	**179461**	**160991**	**741533**	**1149671,0**
Apple Tree	41	247,8	384,2	55	378,95	587,5	1310	7919	12277	1525	11796	18288	3078	21240,98	32932,0
Pear Tree	121	641,9	995,2	42	258,51	400,8	1480	7851,4	12172	2437	17071	26466	4142	26151,7	40545,5
Peach-Nectar.	39	206,9	320,8	98	603,19	935,2	1654	8774,5	13604	7050	49385	76566	8925	59415,185	92117,2
Cherry	11	45,32	70,3	8	32,96	51,1	53	218,36	338,5	325	1612	2499,2	421	1981,12	3071,5
Plum	0	0	0,0	0	0	0,0	126	668,43	1036,3	109	763,55	1183,8	243	1463,81	2269,5
O. Sweet Fruits	2	8,233	12,8	13	50,7	78,6	10	39,4	61,1	31	122,14	189,4	56	220,473	341,8
Almond Tree	51	270,3	419,1	103	545,9	846,4	199	1054,7	1635,2	133	704,9	1092,9	659	3492,7	5415,1
Vitis	1516	7171	11117	13	61,49	95,3	71	335,83	520,7	306	1447,4	2244,0	1955	9242,76	14330,0
Olive	206	706,6	1095,5	314	1077,02	1669,8	622	2133,5	3307,8	879	3015	4674,4	2587	8873,51	13757,5
Other Woody	0	0	0,0	2	12,31	19,1	8	42,44	65,8	74	518,37	803,7	84	573,12	888,6
Total Woody	**1987**	**9298**	**14415**	**648**	**3021,03**	**4683,8**	**5533**	**29037**	**45018**	**12869**	**86436**	**134010**	**22150**	**132655,48**	**205668,7**
Herb.+Woody		**48301**	**74885**		**214884**	**333155**		**228672**	**354532**		**202187**	**313470**	**183142**	**873427**	**1355069,2**

Source: Own elaboration from the Agrarian Yearbook of Aragon 2002 y Martínez, A. et al. (1998).

Table 8: Total Valuation of the Water Accounts of the SAMH02 (Dm^3).

Sectors	Interior Direct Consumpt.	Interior Direct Physical Consumpt.	Vertically Integrated Interior Consumpt.	Vertically Integrated Interior Phy. Consumpt.	Vertically Integrated Total Consumt.	Vertically Integrated Total Phy. Consumpt.
Agriculture	1,355,069	948,468	582,773	406,589	688,628	455,747
Animal husbandry	33,921	6,715	86,784	49,449	128,377	69,808
Energetic Products	31,223	1,745	15,196	1,322	24,983	2,064
Water	1,839	849	562	256	591	262
Metallic - Mineral Products	100	93	109	59	287	97
Non-metallic - Mineral Prod.	230	113	1,058	446	2,645	735
Chemical Products	66,160	36,268	27,301	14,644	43,031	18,202
Machinery & equipment	1,058	501	7,517	3,737	19,990	6,501
Transport equipment	47	35	1,370	693	2,749	1,025
Food P., Beverages & Tobacco	1,468	1,034	567,879	389,214	795,049	495,078
Textile Products	36	33	4,226	2,687	10,348	4,956
Paper, Publishing & Printing	752	96	11,932	7,639	16,987	9,386
Wood & Cork	89	87	6,447	4,402	8,530	5,274
Rubber & other Plastic Prod.	9,307	3,492	10,063	4,549	14,675	5,787
Construction & Engineering	494	272	1,320	764	2,043	954
Oth. manuf. Including recycling	16	8	14	7	31	10
Commercial Services	743	312	8,668	4,304	13,880	5,591
Hotels & Restaurantes	2,404	1,008	118,438	79,600	163,360	99,797
Transport & Communications	242	101	1,848	773	3,209	1,046
Credit & Insurance	63	27	677	355	1,034	451
Real estate & renting activities	88	37	4,284	2,511	6,392	3,088
Private Education	71	30	485	288	685	358
Private Health activities	304	128	2,116	1,211	3,057	1,496
Other sales-oriented services	777	326	2,392	1,272	3,970	1,698
Domestic service	0	0	0	0	0	0
State Education	126	53	36	20	50	25
Public Health	544	228	376	216	554	268
Public Services	6,297	5,500	188	132	234	149
Labour	0	0	0	0	0	0
Capital	0	0	0	0	0	0
Societies	0	0	3,783	2,261	5,641	2,787
Public Administration	0	0	38,796	24,151	54,503	28,718
Savings / Investments	0	0	6,831	4,011	10,435	5,022
Total without Foreign s.& Hous	**1.513.468**	**1.007.559**	**1.513.468**	**1.007.559**		
Rest of Spain	364,719	153,424	364,719	153,424	0	0
European Union	136,789	61,421	136,789	61,421	0	0
Rest of the World	10,971	3,974	10,971	3,974	0	0
Total Foreign Sector	**512,479**	**218,819**				
Households	12,442	2,500	12,442	2,500	12,442	2,500
TOTAL (Sum)	**2,038,389**	**1,228,878**			**2,038,389**	**1,228,878**

Source: Own elaboration.

* The interior values correspond to the estimates that do not integrate the imported water, being the totals the result of integrating it as input.

Table 9: Interior unitary coefficients of water from the SAMH02

Sectors	*Direct Consumpt. (m^3/ €)*	*Direct Physical Consumpt. (m^3/ €)*	*Vertically Integrated Interior Consumpt. (m^3/ €)*	*Vertically Integrated Interior Physical Consumpt. (m^3/ €)*	*Net prod. by unit of. Vertically Integrated Interior Consumpt. (€/m^3)*	*Net prod. by unit of. Vertically Integrated Interior Physical Consumpt (€/m^3)*
Agriculture	2.348	1.643	2.593	1.809	0.386	0.553
Animal husbandry	0.082	0.016	0.363	0.207	2.753	4.831
Energetic Products	0.146	0.008	0.180	0.016	5.567	64.003
Water	0.362	0.167	0.399	0.182	2.509	5.497
Metallic - Mineral Products	0.005	0.005	0.026	0.014	38.534	71.832
Non-metallic - Mineral Prod.	0.001	0.000	0.018	0.008	55.914	132.685
Chemical Products	0.060	0.033	0.091	0.049	11.014	20.533
Machinery & equipment	0.001	0.000	0.014	0.007	70.250	141.331
Transport equipment	0.001	0.000	0.022	0.011	44.972	88.936
Food P., Beverages & Tobacco	0.001	0.001	0.650	0.445	1.539	2.246
Textile Products	0.000	0.000	0.041	0.026	24.600	38.692
Paper, Publishing & Printing	0.006	0.001	0.136	0.087	7.373	11.515
Wood & Cork	0.002	0.002	0.230	0.157	4.357	6.380
Manuf. of rubber & oth. Plastic Prod.	0.043	0.016	0.080	0.036	12.517	27.686
Construction & Engineering	0.000	0.000	0.031	0.018	32.425	56.067
Oth. manuf. Including recycling	0.008	0.004	0.019	0.009	53.683	108.099
Commercial Services	0.001	0.000	0.019	0.009	53.288	107.330
Hotels & Restaurantes	0.004	0.002	0.233	0.156	4.301	6.399
Transport & Communications	0.001	0.000	0.018	0.008	55.558	132.864
Credit & Insurance	0.000	0.000	0.015	0.008	65.259	124.486
Real estate & renting activities	0.000	0.000	0.019	0.011	52.747	89.973
Private Education	0.002	0.001	0.033	0.019	30.605	51.622
Private Health activities	0.004	0.002	0.043	0.025	23.021	40.235
Other sales-oriented services	0.001	0.001	0.019	0.010	52.826	99.367
Domestic service	0.000	0.000	0.000	0.000	0.000	0.000
State Education	0.002	0.001	0.015	0.009	66.086	116.350
Public Health	0.002	0.001	0.038	0.022	26.182	45.620
Public Services	0.014	0.012	0.049	0.035	20.218	28.759
Labour	0.000	0.000	0.000	0.000	-	-
Capital	0.000	0.000	0.011	0.006	94.967	157.790
Societies	0.000	0.000	0.022	0.013	45.741	76.531
Public Administration	0.000	0.000	0.028	0.017	35.788	57.492
Savings / Investments	0.000	0.000	0.034	0.020	29.780	50.712

Source: Own elaboration.

Table 10: Total unitary coefficients of water from the SAMH02

Sectors	*Direct Consumpt. (m^3/ €)*	*Direct Physical Consumpt. (m^3/ €)*	*Vertically Integrated Total Consumpt. (m^3/ €)*	*Vertically Integrated Total Physical Consumpt. (m^3/ €)*	*Net prod. by unit of. Vertically Integrated Total Consumpt. (€/m^3)*	*Net prod. by unit of. Vertically Integrated Total Physical Consumpt (€/m^3)*
Agriculture	2.348	1.643	3.064	2.028	0.326	0.493
Animal husbandry	0.082	0.016	0.537	0.292	1.861	3.422
Energetic Products	0.146	0.008	0.295	0.024	3.386	40.979
Water	0.362	0.167	0.419	0.186	2.384	5.378
Metallic - Mineral Products	0.005	0.005	0.068	0.023	14.655	43.280
Non-metallic - Mineral Prod.	0.001	0.000	0.045	0.012	22.364	80.438
Chemical Products	0.060	0.033	0.143	0.061	6.988	16.519
Machinery & equipment	0.001	0.000	0.038	0.012	26.417	81.233
Transport equipment	0.001	0.000	0.045	0.017	22.416	60.131
Food P., Beverages & Tobacco	0.001	0.001	0.909	0.566	1.100	1.766
Textile Products	0.000	0.000	0.100	0.048	10.046	20.978
Paper, Publishing & Printing	0.006	0.001	0.193	0.107	5.179	9.372
Wood & Cork	0.002	0.002	0.304	0.188	3.292	5.325
Manuf. of rubber & oth. Plastic Prod.	0.043	0.016	0.117	0.046	8.583	21.766
Construction & Engineering	0.000	0.000	0.048	0.022	20.957	44.890
Oth. manuf. Including recycling	0.008	0.004	0.042	0.014	23.809	70.885
Commercial Services	0.001	0.000	0.030	0.012	33.278	82.614
Hotels & Restaurantes	0.004	0.002	0.321	0.196	3.118	5.104
Transport & Communications	0.001	0.000	0.031	0.010	31.988	98.175
Credit & Insurance	0.000	0.000	0.023	0.010	42.725	97.996
Real estate & renting activities	0.000	0.000	0.028	0.014	35.352	73.175
Private Education	0.002	0.001	0.046	0.024	21.681	41.495
Private Health activities	0.004	0.002	0.063	0.031	15.934	32.569
Other sales-oriented services	0.001	0.001	0.031	0.013	31.825	74.418
Domestic service	0.000	0.000	0.000	0.000	-	-
State Education	0.002	0.001	0.021	0.011	47.125	94.484
Public Health	0.002	0.001	0.056	0.027	17.773	36.756
Public Services	0.014	0.012	0.062	0.039	16.247	25.534
Labour	0.000	0.000	0.000	0.000	-	-
Capital	0.000	0.000	0.016	0.008	64.310	128.809
Societies	0.000	0.000	0.033	0.016	30.674	62.092
Public Administration	0.000	0.000	0.039	0.021	25.475	48.348
Savings / Investments	0.000	0.000	0.051	0.025	19.495	40.507

Source: Own elaboration.

Table 11: Valorations in Water (Dm^3). Agrarian Sector disaggregated.

Classifications- Sectors	Interior Direct Consumpt.	Interior Direct Physical Consumpt.	Vertically Integrated Interior Consumpt.	Vertically Integrated Interior Phy. Consumpt.	Vertically Integrated Total Consumt.	Vertically Integrated Total Phy. Consumpt.
Cereals (Grain)	623,103	436,431	86,996	60,859	96,061	65,112
Proteaginous –Legumes (Grain)	2,919	1,400	1,637	1,143	1,850	1,242
Tuber	398	279	365	250	601	358
Oilseed - Herbaceous oily plants	62,881	44,043	4,744	3,318	4,758	3,324
Vegetables	4,328	3,031	4,540	3,156	5,145	3,428
Forage Plants	469,994	329,191	187,437	130,986	188,837	131,543
Fruits	174,881	122,489	91,680	63,603	119,295	76,281
Olive, grapes & Other Veg Prod.	16,566	11,603	8,669	5,990	10,211	6,705
Unirrigated Land	0	0	13,528	9,068	73,559	37,144
Equine	1,979	392	8,224	4,577	22,982	8,147
Bovine	14,158	2,803	22,561	10,980	39,971	20,618
Porcine	12,161	2,408	44,975	27,689	53,822	33,121
Ovine & Capra	2,741	543	5,303	3,066	6,552	3,607
Poultry	30	6	8,487	5,851	10,099	6,579
Other animals	341	68	26	14	33	17
Dairy products; Eggs; Honey	2,446	484	26,175	17,221	31,584	19,845
Wool	11	2	10	7	11	7
O.Animal Products.	54	11	35	24	39	26
Energetic Products	31,223	1,745	15,317	1,407	25,101	2,148
Water	1,839	849	566	259	595	265
Metallic - Mineral Products	100	93	115	63	293	101
Non-metallic - Mineral Prod.	230	113	1,123	491	2,708	781
Chemical Products	66,160	36,268	27,559	14,825	43,283	18,383
Machinery & equipment	1,058	501	8,026	4,094	20,440	6,858
Transport equipment	47	35	1,448	747	2,825	1,079
Food P., Beverages & Tobacco	1,468	1,034	674,511	464,113	899,868	570,168
Textile Products	36	33	4,848	3,123	10,964	5,394
Paper, Publishing & Printing	752	96	13,761	8,921	18,861	10,693
Wood & Cork	89	87	7,543	5,170	9,660	6,031
Rubber & other Plastic Prod.	9,307	3,492	10,317	4,728	14,931	5,954
Construction & Engineering	494	272	1,492	884	2,212	1,064
Oth. manuf. Including recycling	16	8	14	7	31	11
Commercial Services	743	312	9,761	5,072	14,911	6,344
Hotels & Restaurantes	2,404	1,008	151,073	102,493	195,886	122,953
Transport & Communications	242	101	2,020	894	3,376	1,165
Credit & Insurance	63	27	777	425	1,133	521
Real estate & renting activities	88	37	5,052	3,050	7,153	3,626
Private Education	71	30	575	351	775	422
Private Health activities	304	128	2,455	1,449	3,400	1,737
Other sales-oriented services	777	326	2,681	1,474	4,252	1,900
Domestic service	0	0	0	0	0	0
State Education	126	53	42	25	56	29
Public Health	544	228	419	246	595	297
Public Services	6,297	5,500	227	159	269	174
Labour	0	0	0	0	0	0
Capital	0	0	0	0	0	0
Societies	0	0	4,316	2,635	6,141	3,150
Public Administration	0	0	44,244	27,967	59,468	32,342
Savings / Investments	0	0	7,794	4,688	11,349	5,685
Total without Foreign s.&Hous	**1,513,468**	**1,007,559**	**1,513,468**	**1,007,559**		
Total Agriculture	**1,355,069**	**948,468**	**399,597**	**278,373**	**500,318**	**325,137**
Total Animal husbandry	**33,921**	**6,715**	**115,795**	**69,428**	**165,092**	**91,968**
Rest of Spain	364,719	153,424	364,719	153,424		
European Union	136,789	61,421	136,789	61,421		
Rest of the World	10,971	3,974	10,971	3,974		
Households	12,442	2,500	12,442	2,500	12,442	2,500
Total Foreign s. & Households	**524,921**	**221,319**				
TOTAL (Sum)	**2,038,389**	**1,228,878**			**2,038,389**	**1,228,878**

Source: Own elaboration

Table 12: Interior unitary coefficients of water, with the agrarian dissaggregation (Dm^3):

Sectors	*Direct Consumpt. (m^3/ €)*	*Direct Physical Consumpt. (m^3/ €)*	*Vertically Integrated Interior Consumpt. (m^3/ €)*	*Vertically Integrated Interior Physical Consumpt. (m^3/ €)*	*Net prod. by unit of. Vertically Integrated Interior Consumpt. (€/m^3)*	*Net prod. by unit of. Vertically Integrated Interior Physical Consumpt (€/m^3)*
Cereals (Grain)	7.705	5.393	8.409	5.883	0.119	0.170
Proteaginous –Legumes (Grain)	3.853	2.697	4.080	2.849	0.245	0.351
Tuber	0.388	0.271	0.464	0.319	2.156	3.140
Oilseed – Herbaceous oily plants	17.172	12.019	18.113	12.669	0.055	0.079
Vegetables	1.541	1.079	1.650	1.147	0.606	0.872
Forage Plants	7.015	4.910	7.794	5.447	0.128	0.184
Fruits	0.927	0.649	1.060	0.735	0.943	1.360
Olive, grapes & Other Veg Prod.	0.498	0.348	1.045	0.722	0.957	1.385
Unirrigated Land	0.000	0.000	0.148	0.099	6.756	10.080
Equine	0.585	0.116	0.340	0.189	2.942	5.286
Bovine	0.116	0.023	0.330	0.161	3.031	6.228
Porcine	0.014	0.003	0.453	0.279	2.210	3.590
Ovine & Capra	0.086	0.017	0.425	0.246	2.355	4.073
Poultry	0.001	0.000	0.783	0.540	1.277	1.852
Other animals	0.082	0.016	0.346	0.193	2.888	5.188
Dairy products; Eggs; Honey	0.082	0.016	1.113	0.732	0.899	1.366
Wool	0.082	0.016	4.180	2.879	0.239	0.347
O.Animal Products.	0.082	0.016	2.614	1.777	0.383	0.563
Energetic Products	0.146	0.008	0.181	0.017	5.523	60.135
Water	0.362	0.167	0.401	0.184	2.491	5.438
Metallic - Mineral Products	0.005	0.005	0.027	0.015	36.624	67.248
Non-metallic - Mineral Prod.	0.001	0.000	0.019	0.008	52.668	120.340
Chemical Products	0.060	0.033	0.092	0.049	10.911	20.283
Machinery & equipment	0.001	0.000	0.015	0.008	65.796	129.007
Transport equipment	0.001	0.000	0.024	0.012	42.550	82.426
Food P., Beverages & Tobacco	0.001	0.001	0.772	0.531	1.296	1.884
Textile Products	0.000	0.000	0.047	0.030	21.445	33.285
Paper, Publishing & Printing	0.006	0.001	0.156	0.101	6.393	9.861
Wood & Cork	0.002	0.002	0.269	0.184	3.723	5.432
Manuf. of rubber & oth. Plastics	0.043	0.016	0.082	0.038	12.207	26.640
Construction & Engineering	0.000	0.000	0.035	0.021	28.703	48.453
Oth. manuf. Including recycling	0.008	0.004	0.020	0.010	51.227	101.236
Commercial Services	0.001	0.000	0.021	0.011	47.320	91.063
Hotels & Restaurantes	0.004	0.002	0.297	0.201	3.372	4.970
Transport & Communications	0.001	0.000	0.020	0.009	50.812	114.869
Credit & Insurance	0.000	0.000	0.018	0.010	56.895	104.028
Real estate & renting activities	0.000	0.000	0.022	0.013	44.723	74.083
Private Education	0.002	0.001	0.039	0.024	25.804	42.309
Private Health activities	0.004	0.002	0.050	0.030	19.841	33.630
Other sales-oriented services	0.001	0.001	0.021	0.012	47.139	85.711
Domestic service	0.000	0.000	0.000	0.000	-	-
State Education	0.002	0.001	0.018	0.010	56.691	96.591
Public Health	0.002	0.001	0.043	0.025	23.466	39.971
Public Services	0.014	0.012	0.060	0.042	16.755	23.853
Labour	0.000	0.000	0.000	0.000	-	-
Capital	0.000	0.000	0.012	0.007	83.251	135.552
Societies	0.000	0.000	0.025	0.015	40.096	65.673
Public Administration	0.000	0.000	0.032	0.020	31.382	49.647
Savings / Investments	0.000	0.000	0.038	0.023	26.101	43.396

Source: Own elaboration

Table 13: Total unitary coefficients of water, with the agrarian dissaggregation (Dm^3):

Sectors	*Direct Consumpt. (m^3/ €)*	*Direct Physical Consumpt. (m^3/ €)*	*Vertically Integrated Total Consumpt. (m^3/ €)*	*Vertically Integrated Total Physical Consumpt. (m^3/ €)*	*Net prod. by unit of. Vertically Integrated Total Consumpt. (€/m^3)*	*Net prod. by unit of. Vertically Integrated Total Physical Consumpt (€/m^3)*
Cereals (Grain)	7.705	5,393	9.286	6.294	0.108	0.159
Proteaginous –Legumes (Grain)	3.853	2,697	4.611	3.095	0.217	0.323
Tuber	0.388	0,271	0.765	0.456	1.308	2.193
Oilseed – Herbaceous oily Plants	17.172	12,019	18.168	12.690	0.055	0.079
Vegetables	1.541	1,079	1.870	1.246	0.535	0.803
Forage Plants	7.015	4,910	7.853	5.470	0.127	0.183
Fruits	0.927	0,649	1.380	0.882	0.725	1.134
Olive, grapes & Other Veg Prod.	0.498	0,348	1.231	0.808	0.812	1.237
Unirrigated Land	0.000	0,000	0.805	0.406	1.243	2.461
Equine	0.585	0,116	0.950	0.337	1.053	2.969
Bovine	0.116	0,023	0.584	0.301	1.711	3.317
Porcine	0.014	0,003	0.542	0.333	1.847	3.001
Ovine & Capra	0.086	0,017	0.525	0.289	1.906	3.462
Poultry	0.001	0,000	0.932	0.607	1.073	1.647
Other animals	0.082	0,016	0.439	0.233	2.278	4.300
Dairy products; Eggs; Honey	0.082	0,016	1.343	0.844	0.745	1.185
Wool	0.082	0,016	4.632	3.089	0.216	0.324
O.Animal Products.	0.082	0,016	2.956	1.939	0.338	0.516
Energetic Products	0.146	0,008	0.297	0.025	3.370	39.375
Water	0.362	0,167	0.422	0.188	2.369	5.323
Metallic - Mineral Products	0.005	0,005	0.070	0.024	14.377	41.586
Non-metallic - Mineral Prod.	0.001	0,000	0.046	0.013	21.837	75.757
Chemical Products	0.060	0,033	0.144	0.061	6.947	16.357
Machinery & equipment	0.001	0,000	0.039	0.013	25.770	77.008
Transport equipment	0.001	0,000	0.046	0.018	21.807	57.090
Food P., Beverages & Tobacco	0.001	0,001	1.030	0.652	0.971	1.533
Textile Products	0.000	0,000	0.105	0.052	9.482	19.273
Paper, Publishing & Printing	0.006	0,001	0.214	0.122	4.663	8.227
Wood & Cork	0.002	0,002	0.344	0.216	2.907	4.636
Manuf. of rubber & oth. Plastics	0.043	0,016	0.119	0.047	8.436	21.109
Construction & Engineering	0.000	0,000	0.052	0.025	19.357	39.895
Oth. manuf. Including recycling	0.008	0,004	0.043	0.015	23.323	67.874
Commercial Services	0.001	0,000	0.032	0.014	30.977	72.805
Hotels & Restaurantes	0.004	0,002	0.386	0.242	2.594	4.139
Transport & Communications	0.001	0,000	0.033	0.011	30.404	88.102
Credit & Insurance	0.000	0,000	0.026	0.012	38.991	84.818
Real estate & renting activities	0.000	0,000	0.032	0.016	31.591	62.320
Private Education	0.002	0,001	0.052	0.028	19.147	35.201
Private Health activities	0.004	0,002	0.070	0.036	14.330	28.051
Other sales-oriented services	0.001	0,001	0.034	0.015	29.714	66.511
Domestic service	0.000	0,000	0.000	0.000	-	-
State Education	0.002	0,001	0.024	0.012	42.278	81.170
Public Health	0.002	0,001	0.060	0.030	16.547	33.102
Public Services	0.014	0,012	0.071	0.046	14.158	21.825
Labour	0.000	0,000	0.000	0.000	-	-
Capital	0.000	0,000	0.017	0.009	59.049	114.034
Societies	0.000	0,000	0.035	0.018	28.176	54.937
Public Administration	0.000	0,000	0.043	0.023	23.343	42.931
Savings / Investments	0.000	0,000	0.056	0.028	17.924	35.784

Source: Own elaboration

Table 14. DSAMH02:

	Soft Wheat	Hard Wheat	Barley	Oats	Corn (Grain)	Rice	OTHER	Beans	Peas	Tufted vetch	Potato med. seas	Sunflower	Rape and Brassica rapa	OTHER	Tomato	OTHER	Seeds hortícolas	Alfalfa	O. forage plants	Apple tree	Pear tree	Cherry	Plum	Apricot tree	Melocotonero	Almond tree	OTHER	CITRUS	Olive	Grape	Other p. vegetales	Secano	Equine	Bovine	Porcine	Ovine & Caprine	Poultry	Other animals	Milk; Eggs-poultry; honey;	Wool	O. animal prod.
Soft wheat	930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	60	170	13	59	0	132	3	7
Hard wheat	0	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	38	3	13	0	29	1	2
Barley	0	0	1023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	215	476	37	167	0	369	7	20
Oats	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corn (Grain)	0	0	0	0	3398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	254	715	56	250	1	555	11	30
Rice	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14	39	3	14	0	30	1	2
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	13	1	5	0	10	0	1
Tufted vetch, Beans (various)	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
Peas	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	3	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Potato medium season	0	0	0	0	0	0	0	0	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	14	1	5	0	11	0	1
Sunflower	0	0	0	0	0	0	0	0	0	0	0	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rape and Brassica rapa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tomato	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seeds hortícolas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alfalfa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5472	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	978	2751	213	963	2	2133	43	114
O. forage plants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apple tree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pear tree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherry y guindo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apricot tree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melocotonero	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	503	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Almond tree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
CITRUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0
Grape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204	0	0	0	0	0	0	0	0	0	0
Other p. vegetales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Secano	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12324	36	1237	3480	270	1219	3	2699	54	145
Equine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Bovine	12	1	14	0	61	0	0	0	0	0	0	1	0	0	0	0	0	63	0	0	1	0	0	0	3	0	0	0	0	68	0	262	0	402	0	0	0	0	0	0
Porcine	31	4	37	0	162	0	0	0	0	0	1	3	0	0	0	0	0	167	0	1	3	0	0	0	7	0	0	0	0	180	0	698	0	0	1071	0	0	0	0	0	0
Ovine y Caprine	6	1	7	0	32	0	0	0	0	0	0	1	0	0	0	0	0	33	0	0	1	0	0	0	1	0	0	0	0	35	0	137	0	0	0	211	0	0	0	0	0
Poultry	3	0	4	0	17	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	1	0	0	0	0	19	0	75	0	0	0	0	114	0	0	0	0
Other animals	1	0	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	8	0	29	0	0	0	0	0	45	0	0	0
Milk; Eggs from poultry; Natural honey;	2	0	2	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	12	0	46	0	0	0	0	0	0	0	0	0
Wool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
O animals . products	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	78

Represents this part of the Table	

Thousands of euros	Soft Wheat	Hard Wheat	Barley	Oats	Corn (Grain)	Rice	OTHER	Beans	Peas	Tufted vetch	Potato med. season	Sunflower	Rape and Brassica rapa	OTHER	Tomato	OTHER	Seeds horticolas	Alfalfa	O. forage plants	Apple tree	Pear tree	Cherry	Plum	Apricot tree	Melocotonero	Almond tree	OTHER	CITRUS	Olive	Grape	Other p. vegetales	Secano	Equine	Bovine	Porcine	Ovine y Caprine	Poultry	Other animals	Milk; Eggs-poultry; honey;	Wool	O. animal prod.
Products energéticos	40	26	135	3	40	40	0	1	7	0	17	79	0	4	7	19	28	1058	215	477	723	46	1	14	507	2	990	0	5	145	155	1639	426	561	3081	577	334	77	312	0	3
Agua	14	11	46	2	12	25	0	0	3	0	6	29	0	3	6	15	9	491	164	157	228	15	1	5	154	1	478	0	1	39	125	419	2	2	12	2	1	0	1	0	0
Metallic - Mineral Products	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-metallic - Mineral Prod.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Products	63	233	1060	2	280	417	0	7	67	0	154	697	1	43	85	212	273	8521	2428	6117	8787	606	14	197	6010	28	9544	0	51	919	131	10942	3837	5058	27772	5201	3009	692	2816	2	30
Machinery & equipment	58	43	194	3	52	68	0	1	13	0	29	127	0	6	12	31	37	1599	358	649	998	63	2	20	715	3	1648	0	7	147	146	2074	603	795	4366	818	473	109	443	0	5
Machinery & equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0
Food prod., beverages & tobacco	1503	1036	5381	4	1083	3420	0	0	0	8	9	0	19	0	7	0	241	7131	2769	0	8021	2513	367	130	7259	1	7328	0	71	22478	237	32411	6854	9037	49618	9292	5375	1237	5031	3	54
Textile Products, leather and footwear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper, Publishing & Printing	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	23	0	2	2	13	2	1	0	1	0	0
Wood & cork	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubber & other Plastic Prod.	17	13	60	3	15	26	0	0	4	0	9	41	0	3	3	11	5	139	54	127	191	13	0	4	142	1	143	0	1	46	167	350	105	139	761	143	82	19	77	0	1
Construction & Engineering	61	35	190	3	56	47	0	1	9	0	23	110	0	4	8	21	42	1505	243	731	1099	70	2	23	762	3	1218	0	1	355	159	2343	605	797	4377	820	474	109	444	0	5
Oth. manuf.- recycling and recovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Services	105	84	373	3	93	207	0	4	21	0	48	238	0	28	56	129	79	4227	1449	380	777	21	7	4	639	1	3786	0	6	293	143	3791	112	147	809	152	88	20	82	0	1
Hotels & Restaurantes	2	1	6	2	2	3	0	0	0	0	1	4	0	0	1	1	1	68	23	6	13	0	0	0	10	0	36	0	0	5	110	61	24	31	172	32	19	4	17	0	0
Transport & Communications	29	23	105	2	26	58	0	1	6	0	14	67	0	8	38	21	22	1184	406	107	218	6	2	1	179	0	2565	0	2	82	107	1062	420	554	3042	570	330	76	308	0	3
Credit & Insurance	9	7	33	2	8	18	0	0	2	0	4	21	0	3	6	28	7	377	129	34	69	2	1	0	57	0	374	0	1	26	129	338	112	147	810	152	88	20	82	0	1
Real state & renting act.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	1	0	0	0	0	0	14	0	0	0	33	3	4	5	27	5	3	1	3	0	0
Private Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	1	0	0	0	0	0
Private Health activities	7	5	23	3	6	13	0	0	1	0	3	15	0	2	0	1	5	262	90	24	48	1	0	0	40	0	28	0	0	18	153	235	65	86	472	88	51	12	48	0	1
Other sales-oriented services	14	11	51	3	13	28	96	1	3	0	7	32	0	4	1	2	11	574	197	52	105	3	1	0	87	0	100	0	1	40	157	514	140	184	1011	189	109	25	102	0	1
Servicio Doméstico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Health	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Labour	18	5	41	2	11	6	0	0	1	0	8	32	0	0	1	2	33	353	27	1645	2250	174	1	58	1524	8	217	0	12	191	100	904	505	666	3658	685	396	91	371	0	4
Capital	990	525	2965	3	800	749	0	13	135	0	387	1724	1	69	136	282	465	22608	3131	12615	18815	1291	19	417	13603	59	14777	0	120	5253	162	35138	9096	11993	65846	12331	7133	1641	6676	4	72
Societies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public administrations.	-16	-12	-51	3	-14	-19	0	0	-3	0	-7	-31	0	-2	-3	-9	-9	-456	-104	-150	-226	-14	-1	-4	-160	-1	-452	0	-1	-40	160	-523	-83	-110	-604	-113	-65	-15	-61	0	-1
Savings / Investment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Households	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPAIN	2882	355	40	20	20367	30	548	69	49	0	129	0	0	57	0	209	37	26	0	345	27	0	0	0	0	0	159	41437	0	3	0	52533	683	38541	12592	8	323	0	3855	0	44
European union	2003	247	28	14	24493	21	695	48	34	0	90	0	0	39	0	145	26	18	0	240	19	0	0	0	0	0	111	3	0	2	0	41239	589	33237	10859	7	279	0	3324	0	38
Rest of the world	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	148	16	100	0	0	0	0	0	0	0
TOTAL (Suma)	**8794**	**2727**	**11771**	**78**	**51030**	**5187**	**1339**	**150**	**360**	**8**	**1027**	**3369**	**21**	**274**	**369**	**1127**	**1316**	**55461**	**11584**	**23579**	**42343**	**4812**	**419**	**869**	**32044**	**109**	**43071**	**41440**	**288**	**30527**	**2483**	**199200**	**24200**	**105161**	**197469**	**31770**	**21314**	**4169**	**29906**	**130**	**661**

Represents this part of the Table	

Thousands of euros	Energetic products	Water	Metallic - Mineral Products	Non-metallic - Mineral Prod.	Chemical Products	Machinery & equipment	Machinery & equipment	Food prod., beverages & tobacco	Textile P leather & footwear	Paper, Publishing & Printing	Wood & cork	Rubber & other Plastic Prod.	Construction & Engineering	recycling &recovery	Commercial Services	Hotels & Restaurantes	Transport & Communications	Credit & Insurance	Real state & renting act.	Private Education	Private Health activities	Other sales-oriented services	Servicio Doméstico	State Education	Public Health	Public Services	Labour	Capital	Societies	Public administrations.	Savings / Investment	Households	SPAIN	European union	Rest of the world	**TOTAL (Sum)**
Soft wheat	0,0	0,1	0,0	0,0	0,0	0,0	0,0	5830,5	8,2	101,9	81,1	0,0	1,6	0,0	3,1	320,8	0,0	0,1	6,7	0,3	4,2	0,0	0,0	0,4	3,4	33,4	0,0	0,0	0,0	0,0	0,6	991,0	24,6	5,6	0,0	**8794,0**
Hard wheat	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1313,3	1,8	23,0	18,3	0,0	0,2	0,0	0,7	72,3	0,0	0,0	1,5	0,1	0,9	0,0	0,0	0,1	0,8	7,5	0,0	0,0	0,0	0,0	0,1	239,0	717,0	162,3	0,0	**2726,6**
Barley	0,0	0,1	0,0	0,0	0,0	0,0	0,0	7210,5	10,1	126,0	100,3	0,0	1,8	0,0	3,8	396,7	0,0	0,1	8,3	0,4	5,2	0,0	0,0	0,4	4,2	41,4	0,0	0,0	0,0	0,0	0,7	1329,0	173,9	39,4	0,0	**11771,1**
Oats	0,0	0,0	0,0	0,0	0,0	0,0	0,0	44,6	0,1	0,8	0,6	0,0	0,0	0,0	0,0	2,5	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,3	0,0	0,0	0,0	0,0	0,0	8,0	15,5	3,5	0,0	**78,3**
Corn (Grain)	1,0	0,6	0,1	0,0	0,4	0,1	0,0	37012,3	51,9	646,8	514,8	0,0	12,5	0,0	19,6	2036,6	0,0	0,7	42,5	1,9	26,6	0,0	0,0	2,3	21,7	212,3	0,0	0,0	0,0	0,0	5,1	5102,0	33,3	7,5	0,0	**51030,0**
Rice	0,0	0,1	0,0	0,0	0,0	0,0	0,0	3245,9	4,6	56,7	45,1	0,0	0,8	0,0	1,7	178,6	0,0	0,1	3,7	0,2	2,3	0,0	0,0	0,2	1,9	18,6	0,0	0,0	0,0	0,0	0,3	549,0	770,2	174,4	0,0	**5186,8**
OTHER	22,3	0,0	0,0	0,0	2,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	907,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	370,6	0,0	0,0	0,0	0,0	**1338,8**
Tufted vetch, Beans (various)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	32,9	0,0	0,6	0,5	0,0	0,0	0,0	0,0	2,9	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,4	0,0	0,0	0,0	0,0	0,0	106,0	0,0	0,0	0,0	**150,1**
Peas	0,0	0,0	0,0	0,0	0,0	0,0	0,0	49,3	0,1	0,9	0,7	0,0	0,0	0,0	0,0	4,3	0,0	0,0	0,1	0,0	0,1	0,0	0,0	0,0	0,1	0,6	0,0	0,0	0,0	0,0	0,0	196,0	75,6	17,1	0,0	**359,6**
OTHER	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,0	3,6	0,8	0,0	**8,0**
Potato medium season	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	1,0	104,7	0,0	0,0	2,2	0,1	1,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	786,0	0,0	0,0	0,0	**1026,7**
Sunflower	0,1	0,0	0,0	0,0	0,1	0,0	0,0	2806,0	3,9	49,0	39,0	0,0	2,7	0,0	2,3	243,4	0,0	0,1	5,1	0,2	3,2	0,0	0,0	0,3	3,3	32,0	0,0	0,0	0,0	0,0	1,1	0,0	0,0	0,0	0,0	**3369,0**
Rape and Brassica rapa	0,0	0,0	0,0	0,0	0,0	0,0	0,0	5,1	0,0	0,1	0,1	0,0	0,0	0,0	0,0	0,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	15,0	0,0	0,0	0,0	**21,2**
OTHER	0,0	0,0	0,0	0,0	0,0	0,0	0,0	20,4	0,0	0,4	0,3	0,0	0,0	0,0	0,0	1,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,2	0,0	0,0	0,0	0,0	0,0	106,0	114,9	26,0	0,0	**274,2**
Tomato	0,0	0,0	0,0	0,0	0,0	0,0	0,0	5,3	0,0	0,1	0,1	0,0	0,0	0,0	0,0	0,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	358,0	0,0	0,0	0,0	**369,4**
OTHER	0,0	0,0	0,0	0,0	0,0	0,0	0,0	23,5	0,0	0,4	0,3	0,0	0,0	0,0	0,0	0,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,4	0,0	0,0	0,0	0,0	0,0	911,0	149,6	33,9	0,0	**1126,5**
Seeds hortícolas	0,0	0,0	0,0	0,0	0,0	0,0	0,0	13,4	0,0	0,2	0,2	0,0	0,0	0,0	0,0	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,2	0,0	0,0	0,0	0,0	0,0	150,0	936,5	212,0	0,0	**1316,0**
Alfalfa	0,0	0,5	0,0	0,0	0,0	0,1	0,0	28343,1	39,8	495,3	394,2	0,0	5,4	0,0	1,3	138,0	0,0	0,0	2,9	0,1	1,8	0,0	0,0	8,4	80,0	782,5	0,0	0,0	0,0	0,0	2,2	0,0	10165,6	2301,6	0,0	**55461,1**
O. forage plants	0,0	0,0	0,0	0,0	0,0	0,0	0,0	1,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,0	9440,9	2137,5	0,0	**11583,6**
Apple tree	0,2	0,2	0,0	0,0	0,0	0,0	0,0	13518,2	19,0	236,2	188,0	0,0	7,8	0,0	4,0	415,6	0,0	0,1	8,7	0,4	5,4	0,0	0,0	0,1	1,1	11,0	0,0	0,0	0,0	0,0	3,2	473,0	6958,9	1575,6	129,3	**23579,0**
Pear tree	0,1	0,2	0,0	0,0	0,0	0,0	0,0	12482,4	17,5	218,1	173,6	0,0	3,8	0,0	3,7	383,8	0,0	0,1	8,0	0,4	5,0	0,0	0,0	0,1	1,0	10,1	0,0	0,0	0,0	0,0	1,5	514,0	22901,5	5185,2	258,0	**42342,7**
Cherry y guindo	0,1	0,1	0,0	0,0	0,0	0,0	0,0	4372,6	6,1	76,4	60,8	0,0	3,9	0,0	1,3	134,4	0,0	0,0	2,8	0,1	1,8	0,0	0,0	0,0	0,4	3,6	0,0	0,0	0,0	0,0	1,6	142,0	0,0	0,0	0,0	**4812,0**
Plum	0,0	0,0	0,0	0,0	0,0	0,0	0,0	112,8	0,2	2,0	1,6	0,0	0,0	0,0	0,0	0,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	30,0	212,6	48,1	10,5	**418,6**
Apricot tree	0,0	0,0	0,0	0,0	0,0	0,0	0,0	183,2	0,3	3,2	2,5	0,0	0,0	0,0	0,0	0,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	53,0	510,4	115,6	0,0	**868,7**
Melocotonero	0,6	0,5	0,0	0,0	0,1	0,1	0,0	28445,9	39,9	497,1	395,7	0,0	25,0	0,0	8,4	874,6	0,0	0,3	18,3	0,8	11,4	0,0	0,0	0,2	2,4	23,1	0,0	0,0	0,0	0,0	10,2	926,0	211,7	47,9	0,0	**32043,6**
Almond tree	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	104,0	0,0	0,0	0,0	**108,9**
OTHER	0,0	0,0	0,0	0,0	0,0	0,0	0,0	9,4	0,0	0,2	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	8,0	34233,8	7750,9	1062,7	**43070,8**
CITRUS	55,6	0,6	0,1	0,0	6,6	0,1	0,0	34060,3	47,8	595,2	473,8	0,0	2262,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	923,7	2781,0	143,4	32,5	56,8	**41440,3**
Olive	0,0	0,0	0,0	0,0	0,0	0,0	0,0	261,4	0,4	4,6	3,6	0,0	0,0	0,0	0,0	2,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,5	5,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	**288,2**
Grape	4,5	0,4	0,0	0,0	0,6	0,0	0,0	21661,2	30,4	378,6	301,3	0,0	183,6	0,0	4,9	507,2	0,0	0,2	10,6	0,5	6,6	0,0	0,0	13,1	123,5	1208,9	0,0	0,0	0,0	0,0	74,9	2598,0	2620,7	593,4	0,0	**30526,6**
Other p. vegetales	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2483,3	**2483,3**
Secano	0,0	1,4	0,1	0,0	0,0	0,2	0,0	81997,5	115,1	1433,0	1140,5	0,0	3,5	0,0	9,7	1013,8	0,0	0,3	21,2	0,9	13,3	0,0	0,0	5,6	53,5	523,4	0,0	0,0	0,0	0,0	1,4	16527,0	60330,9	13659,7	883,0	**199200,5**
Equine	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,1	21092,2	3101,3	0,0	**24200,5**
Bovine	0,0	0,0	0,0	0,0	0,0	0,0	0,0	34282,7	24,7	0,0	0,0	0,0	0,0	0,0	362,1	153,4	0,0	0,0	0,0	0,2	2,2	100,0	0,0	0,6	1,8	200,2	0,0	0,0	0,0	0,0	759,2	670,0	59036,2	8680,3	0,0	**105160,7**
Porcine	0,0	0,0	0,0	0,0	0,0	0,0	0,0	91432,4	65,8	0,0	0,0	0,0	0,0	0,0	965,7	409,2	0,0	0,0	0,0	0,5	5,9	266,6	0,0	1,5	4,9	534,0	0,0	0,0	0,0	0,0	2024,9	1787,0	85092,8	12511,6	0,0	**197468,6**
Ovine y Caprine	0,0	0,0	0,0	0,0	0,0	0,0	0,0	17975,1	12,9	0,0	0,0	0,0	0,0	0,0	189,8	80,5	0,0	0,0	0,0	0,1	1,2	52,4	0,0	0,3	1,0	105,0	0,0	0,0	0,0	0,0	398,1	351,3	10581,5	1555,8	0,0	**31770,1**
Poultry	0,0	0,0	0,0	0,0	0,0	0,0	0,0	9768,9	7,0	0,0	0,0	0,0	0,0	0,0	103,2	43,7	0,0	0,0	0,0	0,1	0,6	28,5	0,0	0,2	0,5	57,1	0,0	0,0	0,0	0,0	216,3	190,9	8898,5	1308,4	437,6	**21314,3**
Other animals	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3817,4	2,7	0,0	0,0	0,0	0,0	0,0	40,3	17,1	0,0	0,0	0,0	0,0	0,2	11,1	0,0	0,1	0,2	22,3	0,0	0,0	0,0	0,0	84,5	74,6	0,0	0,0	0,0	**4169,4**
Milk; Eggs from poultry; Natural honey;	0,0	0,0	0,0	0,0	0,0	0,0	0,0	6018,1	4,3	0,0	0,0	0,0	0,0	0,0	63,6	26,9	0,0	0,0	0,0	0,0	0,4	17,5	0,0	0,1	0,3	35,1	0,0	0,0	0,0	0,0	133,3	117,6	20154,3	2963,4	286,0	**29906,2**
Wool	0,0	0,0	0,0	0,0	0,0	0,0	0,0	120,6	0,1	0,0	0,0	0,0	0,0	0,0	1,3	0,5	0,0	0,0	0,0	0,0	0,0	0,4	0,0	0,0	0,0	0,7	0,0	0,0	0,0	0,0	2,7	2,4	0,0	0,0	0,0	**130,3**
O animals . products	0,0	0,0	0,0	0,0	0,0	0,0	0,0	537,1	0,4	0,0	0,0	0,0	0,0	0,0	5,7	2,4	0,0	0,0	0,0	0,0	0,0	1,6	0,0	0,0	0,0	3,1	0,0	0,0	0,0	0,0	11,9	10,5	0,0	0,0	2,7	**661,4**

	Represents this part of the Table

Thousands of euros	Energetic products	Water	Metallic - Mineral Prod.	Non-metallic - Mineral Prod.	Chemical Products	Machinery & equipment	Machinery & equipment	Food p., beverages & tobacco	Textile Prod.leather and footwear	Paper, Publishing & Printing	Wood & cork	Rubber & other Plastic Prod.	Construction & Engineering	recycling & recovery	Commercial Services	Hotels & Restaurantes	Transport & Communications	Credit & Insurance	Real state & renting act.	Private Education	Private Health activities	Other sales-oriented services	Servicio Doméstico	State Education	Public Health	Public Services	Labour	Capital	Societies	Public administrations.	Savings / Investment	Households	SPAIN	European union	Rest of the world	TOTAL (Suma)
Energetic products	29406	369	511	5643	12328	6081	224	7802	547	1633	800	1193	6702	6	10821	7453	11868	1091	406	360	931	4898	0	548	1591	3641	0	0	0	0	674	45256	39089	181	62	**213909**
Water	7	2	15	13	57	47	1	78	5	1	0	6	58	0	110	314	36	7	10	10	40	121	0	19	72	158	0	0	0	0	0	1255	0	50	104	**5078**
Metallic - Mineral Products	408	0	574	6449	388	1375	0	27	1	0	0	0	6596	0	8	0	0	1	0	0	0	48	0	0	0	0	0	0	0	0	50	20	3586	481	118	**20130**
Non-metallic - Mineral Prod.	73	0	78	22580	7	2266	522	4550	1	0	74	472	138806	0	1102	1671	387	1	0	6	41	88	0	18	470	197	0	0	0	0	0	1831	56749	419	143	**232552**
Chemical Products	1818	302	1250	8610	299536	43775	3721	38854	7466	14184	3622	50985	27582	43	8505	3441	2560	102	455	495	11078	17448	0	406	36835	1444	0	0	0	112572	989	62934	126190	83182	28379	**1105068**
Machinery & equipment	4394	225	1235	10896	14765	301099	16971	6859	1223	1543	1478	12044	112281	457	11954	1587	4018	1013	234	219	3452	5292	0	366	12532	4925	0	0	0	594	63339	27627	328177	128464	43827	**1139800**
Machinery & equipment	25	10	8	72	0	26	4414	1	2	1	0	479	0	5	2006	1	1052	0	2	0	0	17	0	28	3	1347	0	0	0	33	3186	9298	34190	13513	4610	**74331**
Food prod., beverages & tobacco	0	0	0	0	1508	0	0	182279	3512	637	0	0	0	0	86	161170	0	0	0	296	1100	0	0	330	3399	2844	0	0	0	0	987	265331	325662	211137	72032	**1422236**
Textile Products, leather and footwear	127	13	8	12	833	50	756	66	25119	124	11	5992	1001	36	1546	811	134	1	5	23	252	905	0	50	601	1246	0	0	0	0	533	62362	36896	3509	1197	**144218**
Paper, Publishing & Printing	457	44	121	871	239	1199	10	7273	473	13125	709	655	383	0	3014	713	925	730	228	533	279	7517	0	448	719	4609	0	0	0	0	469	13459	60596	10376	3540	**133763**
Wood & cork	42	0	51	421	987	1486	26	892	127	164	6899	4540	10424	0	641	0	264	1	0	0	0	345	0	0	0	23	0	0	0	0	0	806	26729	411	140	**55421**
Rubber & other Plastic Prod.	18	28	111	853	7548	16082	6556	10051	2228	101	215	12069	15319	1	3514	681	533	313	39	112	69	2102	0	361	562	1586	0	0	0	0	9060	34255	79589	9026	3079	**218975**
Construction & Engineering	13304	674	546	3455	6070	7979	81	2209	500	1416	176	913	474754	0	31947	6990	24016	7913	83801	1410	1771	14270	0	2309	4137	14820	0	0	0	0	638006	42050	415	250	98	**1403034**
Oth. manuf.- recycling and recovery	5	0	0	153	0	565	0	0	0	435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	402	291	40	**1895**
Commercial Services	2320	142	919	6640	6723	21733	835	30994	3631	10218	3357	6717	65118	186	33489	15794	19087	532	127	382	1032	5691	0	195	1649	9576	0	0	0	23399	6402	312180	114153	29470	6094	**757188**
Hotels & Restaurantes	557	36	37	571	2121	4227	259	2266	229	241	184	896	10154	6	4243	2621	2067	1701	131	1666	2146	7841	0	1285	1198	8332	0	0	0	958	0	501199	0	5861	2310	**565997**
Transport & Communications	3776	240	2131	11150	23691	27559	1130	43739	1860	4869	2053	5695	24025	21	47843	4517	30919	4556	1779	601	967	15809	0	1315	1728	13330	0	0	0	3381	1264	74953	20213	6578	900	**394238**
Credit & Insurance	748	88	43	957	1776	2123	32	3677	703	289	214	500	7714	2	14846	4710	3919	141010	3078	127	291	6784	0	9	239	1770	0	0	0	0	0	41455	0	2067	661	**242932**
Real state & renting act.	49	19	180	619	1059	2588	41	1356	334	207	66	653	894	8	15648	10581	959	3037	1466	458	736	10903	0	16	533	1592	0	0	0	0	22141	210256	10213	3939	1553	**302212**
Private Education	53	6	4	86	263	289	24	251	28	29	14	80	74	1	203	71	108	13	9	40	28	122	0	56	126	506	0	0	0	14378	0	14080	0	546	215	**31716**
Private Health activities	120	15	24	227	410	810	42	1203	85	87	76	197	1474	1	2079	753	550	79	33	33	524	537	0	22	5657	747	0	0	0	16576	0	47422	0	927	365	**82884**
Other sales-oriented services	4258	414	428	7721	23524	36255	6332	43693	3557	6121	1112	6933	43311	39	51901	4438	13159	11130	6790	1470	2954	89704	0	2421	14267	28950	0	0	0	5757	32534	88097	30984	6375	901	**579399**
Servicio Doméstico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15978	0	422	166	**16566**
State Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78958	0	2219	0	108	43	**81328**
Public Health	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	222539	0	9477	0	262	103	**232382**
Public Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	445647	0	3676	0	91	36	**449450**
Labour	17491	924	2290	32325	65302	148602	8733	87270	21945	13310	8208	28469	247043	121	102854	65971	84645	60809	8278	19044	26164	152127	16566	62682	127832	278673	0	0	0	0	0	0	0	0	0	**1701679**
Capital	60955	1273	2652	23778	42729	81031	7090	77970	10494	17038	4252	15629	184522	9	320510	237899	119812	-10	170374	3239	25444	115332	0	6584	9606	50054	0	0	0	0	0	0	0	0	0	**1840314**
Societies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	737483	148711	119780	0	107060	0	43556	22423	**1179013**
Public administrations.	-432	249	573	4095	14926	4180	670	-12400	510	735	301	744	20969	0	9908	14124	14367	5110	16725	1187	3485	7797	0	1825	8319	15208	0	116514	238908	0	30672	1218915	0	119235	50317	**1904536**
Savings / Investment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	471977	196809	0	203428	0	0	0	**872213**
Households	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1701679	986316	198300	576806	0	0	0	6961	3583	**3473645**
SPAIN	68167	0	4514	78824	395812	305466	5168	362613	51732	28062	14325	47692	409	954	73354	11723	55014	2680	8099	0	0	72676	0	0	0	0	0	0	0	0	-113221	0	0	0	0	**1649434**
European union	4393	0	201	4277	141151	95085	8272	55424	5718	11021	2582	11930	0	0	3071	355	3544	1015	0	0	0	39586	0	0	0	0	0	0	0	87600	62722	82725	13422	0	0	0	**751941**
Rest of the world	1285	0	1626	1251	41302	27822	2420	16217	1673	3225	755	3491	0	0	189	37	295	98	0	0	0	960	0	0	0	0	0	0	0	33517	23626	87373	5136	0	0	0	**252652**
TOTAL (Suma)	**213909**	**5078**	**20130**	**232551**	**1105068**	**1139800**	**74331**	**1422235**	**144218**	**133763**	**55421**	**218975**	**1403034**	**1895**	**757188**	**565997**	**394238**	**242932**	**302212**	**31716**	**82884**	**579399**	**16566**	**81328**	**232382**	**449450**	**1701679**	**1840314**	**1179013**	**1904536**	**872214**	**3473646**	**1649434**	**751941**	**252652**	**24524085**

	Represents this part of the Table