STATISTICS OF THE NON-PROFIT SECTOR IN ARAGON. YEAR 2000

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Abstract. The non-profit sector in Aragon is a pioneer statistic operation of the Government of Aragon. The study was designed as a census with the objective of identifying and knowing the characteristics of the non-profit sector's entities in Aragon. In this paper the main characteristics and results of the study are shown.

Keywords: Non-profit sector, Social Statistics. Sampling

AMS classification: 62P25, 62D05.

§1. Introduction

The non-profit sector in Aragon is a pioneer statistic operation of the Government of Aragon which has been developed since June 2001 until September 2002. The study was designed as a census with the objective of identifying and knowing the characteristics of the non-profit sector's entities in Aragón.

Although the study was designed to identify the different characteristics in the sector (human resources and economic impact), difficulties in the identification of the entities which compose the sector, their volatility, lack of answer due to different causes, mainly in the political and religious organizations, and the fact of being the first operation of this kind to be carried out in Aragon, made that finally there were two main objectives:

1) To determinate the number of entities which compose the non-profit sector in Aragón

2) To describe the profile of each group that compose the non-profit sector and some of the characteristics, mainly the economic ones.

In this paper we show the main characteristics and results of the study. Complete results can be seen in [1].

The objective of the study has been surrounded by the controversy in order to determinate the limits of the concept of the "non-profit sector" "third sector", "civil society", "social economy", etc.

In this study we decided to use a previous study of the Johns Hopkins University [3] and consider the units to study as those entities with non-profit objectives which are registered in Aragon and with continuity in time, excluding the entities created just to satisfy a demand or to carry out a single activity. With these first premises, the units to study are those that constitute

an organizational unit for the production of goods, services or activities with some autonomy in the decisions, mainly in the use of their resources. Moreover, the professional cooperatives and neighbors associations were excluded.

The diversity of types of entities to consider and the lack of any regulation about them forced us to work with databases from different sources of information, public and private. Using these databases, a new joint database was created which included all the information of the entities/individuals that would be the object of the study. After a depuration work, eliminating duplicities or detecting non existing organizations, the first number of entities identified was 13265. The study started with these entities.

§2. Measurement system and information collection

The study was planned as a census and the selected system to collect the data was the postal survey. The information obtained after several trials was the following:

- 2992 entities filled the forms
- 3282 entities did not exist or had no activity (they were out of the study).
- 6969 entities with no information at all.

Moreover, there was 22 big entities which did not answer. These entities have not been included in the sampling procedure described below. From these entitites, the only data included in the study have been their main activity. By "big entities" we mean those that are considered very outstanding, because their size or public influence.

A first classification was made in two groups that we called "Unknown" and "Known". In the first group the 6969 entities were included and the rest of the entities were included in the second one. The results according to the source that provided the information appear in Figure 1 of the Annex.

Due to these facts, a first objective was identified; the determination of the real volume of entities that are active in Aragon. Once we knew the real size of the population, we would measure the characteristics of main interest of this study. Therefore a second phase was planned in order to obtain information about the "unknown" entities, by means of a sampling procedure in this group.

2.1. Sampling procedure

An stratified sampling with equal probabilities and no reposition within twelve strata was carried out on the unknown entities. The strata were defined according to the sources of information which had provided data on the entities. The samples in the different strata have been selected using proportional allocation to the stratum size (see [4] and [2]).

The final sample consist on 712 entities: 10,2% of the total. The strata have been defined through the information sources since it exists a clear relation between the detected non existing entities, the initial answer and the level of updating of the source that provides the data. The strata are heterogenous between themselves. One of the main differences between the strata is the frequency and the reliability of the data revision carried out by the information sources.

2.2. Estimators

The total of each variable is computed as the sum of two components: the total of the variable in the "known group" and the estimation of the total of the variable in the "unknown group". Thus every variable will be composed by the data obtained in the first phase of data collection and the results of the estimator obtained in the sample.

Estimation of the size of the population

The estimator used for the "unknown" group is the usual one of the stratified sampling with selection of the sample with equal probabilities and without reposition, within its strata.

Let

Y = existing entities in Aragón=$Y_C + Y_D$

Y_C = entities belonging to the group "known activity".

Y_D = entities belonging to the group "unknown activity".

The estimator of the population size is:

$$Y = Y_C + \widehat{Y_D} = Y_C + \sum_{h=1}^{H} \frac{N_h}{n_h} y_h$$

with

- $H = 12$, the number of strata
- N_H, number of entities of the group unknown of the source H
- n_H, number of entities of the group unknown in the sample of the source H
- Y_H, number of entities with activity in the sample of the source H

The result obtained is a total of 7.934 entities.

Error in the estimation of the population size

The sampling relative error in the estimation of the population size is computed as the ratio between the standard deviation of the estimated total of the existing entities and the obtained estimation.

$$\epsilon(\widehat{Y}) = \frac{\sqrt{V(\widehat{Y})}}{Y} 100$$

where

$$\sqrt{V(\widehat{Y})} = \sqrt{V(Y_C + \widehat{Y_D})} = \sqrt{V(\widehat{Y_D})} = \sqrt{\sum_{h=1}^{H} N_h^2 (1 - f_h) \frac{p_h q_h}{n_h - 1}}$$

- $f_h = \frac{n_h}{N_h}$ (sampling fraction in the stratum h)
- P_h is the proportion of existing entities in the sample of the stratum h.
- $q_h = 1 - P_h$

The sampling relative error in the estimation of the number of entities is 1,4%.

Estimation of the total

Let X be the total of the population of the characteristic under study. The estimation is again the sum of the total of the characteristic of the "known" entities and the estimation of the total of the characteristic of the unknown entities.

As the existing entities within each stratum are an estimation, we can obtain a similar formula, keeping the value of the elevation factors by source of information:

$$\widehat{X} = X_C + \widehat{X_D} = X_C + \sum_{h=1}^{H} \frac{\widehat{Y_h}}{y_h} x_h = X_C + \sum_{h=1}^{H} \frac{N_h}{n_h} x_h$$

where
- $H = 12$, number of strata (initial information sources)
- $\widehat{Y_h} = \frac{N_h}{n_h} y_h$, the estimated number of entities with activity in the stratum H
- y_h, number of entities with activity in the sample in stratum H
- x_h, total of the characteristic of the unknown in the sample of the stratum H

In these conditions, the estimation of the maximum error of the estimation of the proportion of any variable is 2,67%.

§3. Main Results

>From this study, we estimate that there are 7934 entities in the non profit sector in Aragón (see figure 2 in Annex).

Two thirds of this organizations have leisure, culture or sport as main activity.

The creation of these entities reflects in some sense the social changes and that is why half of these entities were created since 1991. The youngest entities have as main activities development, housing and international cooperation. The oldest ones are religious, political, professional and social agents. A classification of these entities according to its main activity and year of creation is shown in figure 3 of the Annex.

Apart of the volume of associates that contribute to the financial support of the organization, the number of volunteers and active collaborators that contribute with their work to support the organizations is 85156 people (this amount does not exclude the possibility of multiple collaborations of the same person). Up to 50% of them dedicate four or more hours per week to this activity (see figure 4 in Annex).

Moreover, the 12% of the entities have payed personal and the paid employment of the non-profit sector in Aragón means the 2% of the total working population in the 2000 year. This is 9829 people. However, only 50% of the paid employment in this sector has long life contracts (see figure 5 in annex), below the regional mean that is close to the two thirds of the the total of contracts in Aragon.

The employees in the non-profit sector in Aragon work an average of 23 hours per week. This fact reflects the high weight of part-time work in this sector.

The most professionalized entities are political associations, professionals and social agents and also the philanthropic and volunteers platforms. In these entities we have found that almost 90% of the time worked is paid work. The less professionalized activities are culture and leisure where only the 9% worked time is paid.

In the non-profit sector there are entities with quite a different range of size and kind. Moreover, we must say that 90% of the entities did not declare any kind of incomes and that

there are high concentration of incomes in a small number of entities: the 0.1% of the total number of entities gather the 50% of the total incomes of the non-profit sector Aragon.

In relation to the expenses, 32% are focused on the payment to the employees and the 68% is dedicated to other expenses.

The non-profit sector generates the 2.4% of the GDP of Aragon.

The study has also been done according to the new administrative division ("comarcas") of the Autonomous Community Aragón (Figure 6 in Annex). In this case, the behavior in these different areas is quite different for many of the important variables. In the rural areas, there is a high density of entities. These are very small and not very professionalized and are oriented towards the culture and leisure and have a small volume of incomes.

In the urban contexts the density of these entities is smaller. There is a high diversity of sizes and they are more professionalized. The activities and the objectives of these entities include several fields; moreover, the volume of incomes in these entities is higher than in the entities in the rural areas.

Acknowledgements

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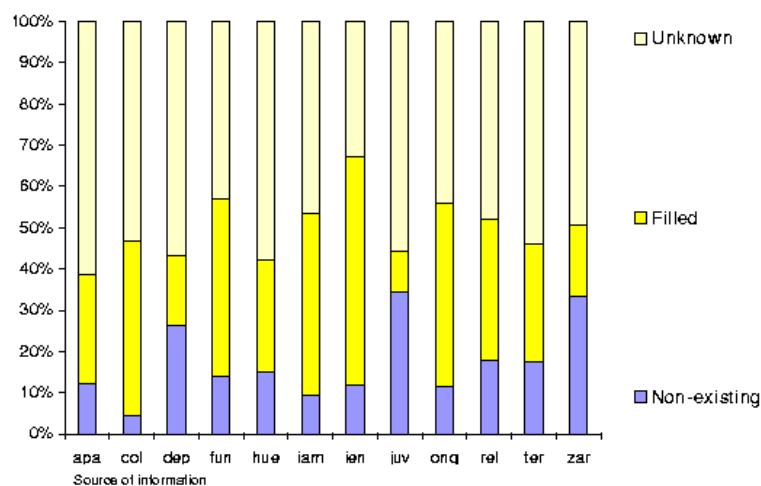`emendiara@aragob.es`

ANNEX

Figure 1

Figure 2
Number of entities of the non-profit sector according to their main
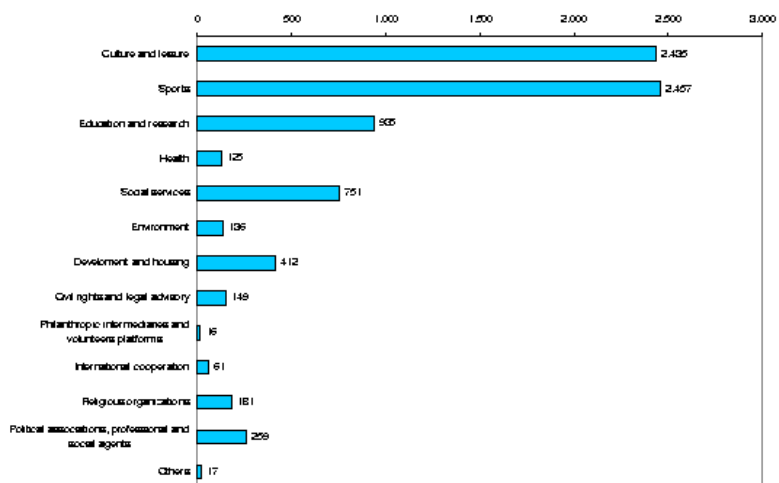activity. Year 2000

Figure 3
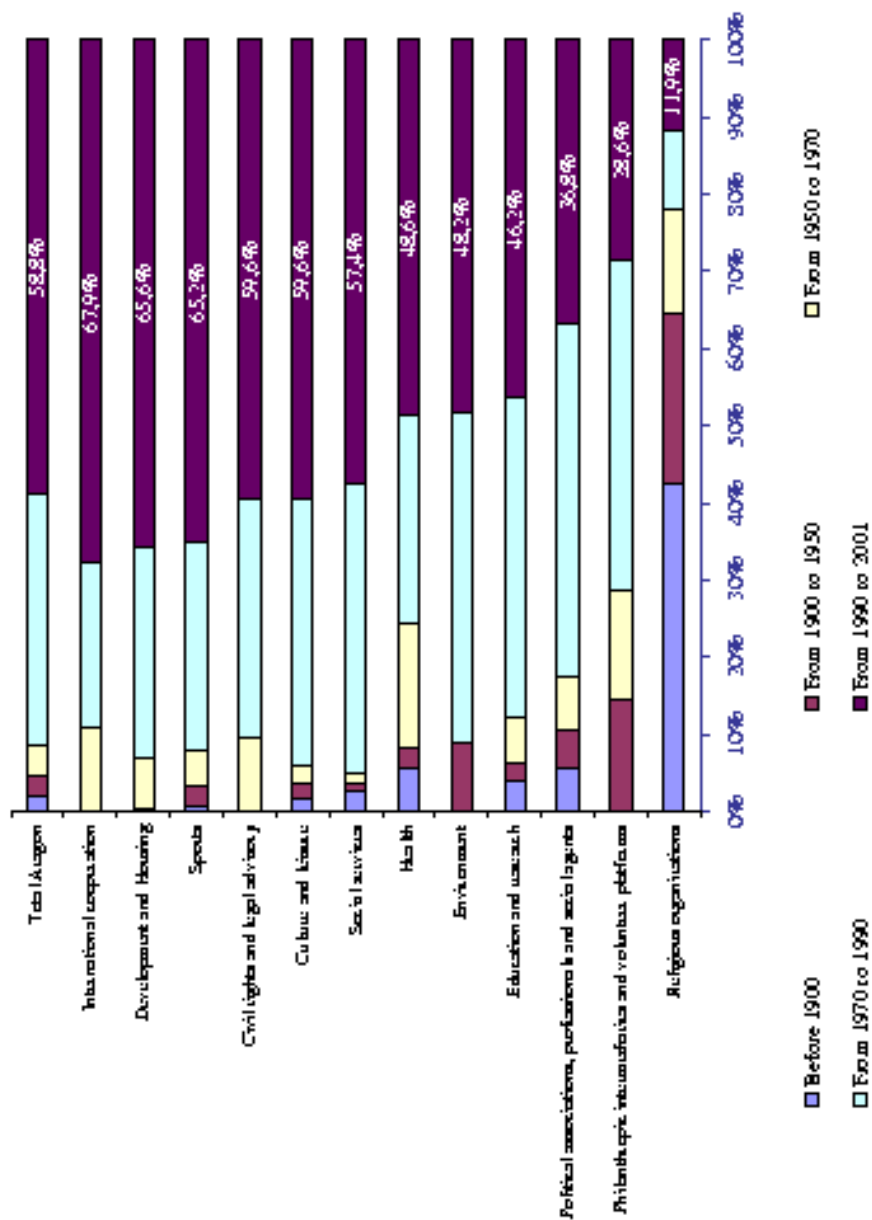Entities according to their year of creation. Aragon. Year 2000.

Figure 4

Main activity	Volunteers		
	That spend more than 4 hours per week	That spend less than 4 hours per week	TOTAL
Culture and leisure	12.969	15.088	28.057
Sports	9.420	9.264	18.684
Education and research	3.613	4.298	7.911
Health	754	1.395	2.149
Social services	8.153	4.783	12.936
Environment	463	583	1.046
Development and housing	1.899	2.512	4.411
Civil rights and legal advisory	1.378	827	2.206
Philanthropic intermediaries and volunteers platforms	195	234	429
International cooperation	636	1.617	2.253
Religious organizations	1.795	582	2.377
Political associations, professionals and social agents	810	1.501	2.311
Others	368	19	387
Total Aragón	42.453	42.703	85.156

Figure 5

Main activity	Paid personnel	
	TOTAL	% permanent contracts
Culture and leisure	769	9,5
Sports	731	37,6
Education and research	2.731	57,5
Health	267	79,4
Social services	3.310	49,4
Environment	28	28,6
Development and housing	321	5,9
Civil rights and legal advisory	72	9,8
Philanthropic intermediaries and volunteers platforms	348	69,0
International cooperation	41	51,2
Religious organizations	109	45,1
Political associations, professionals and social agents	1.103	68,4
Total Aragón	9.829	49,5