SERVICE MANCOMMUNITIES: AN EXAMPLE OF TERRITORIAL VERTEBRATION IN GUIPUZCOA. A DESCRIPTION OF DOMESTIC WASTE IN THE TERRITORY

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Service mancommunities are supramunicipal groups with clear and relatively concise objectives, which in the majority of cases restrict themselves to providing a particular service. In order to determine the service, the mancommunities rely on the local competencies of the different municipalities that they contain. As it is usually the case, economies of scale prevail in this sector also, and therefore it is much more beneficial to manage the service in the context of the mancommunity than individually.

For these entities possessing this type of competency means developing their own administrative capabilities, which are regulated by boards or government bodies. These bodies are generally governed by political representatives from the different city halls, as well as technical staff who take care of the administration and management of the different types of urban solid waste.

Taking into account this administrative reality and the development of supramunicipal entities which have their own competencies, and management and technical bodies, it is true to say that mancommunities are responsible for the vertebration of the territory because not only do they deal with the collection and treatment of waste, but they count with services located all over the territory (street containers, transfer stations, warehouses and stock areas for urban furnishings and mobile stations, dumps, and other types of installations). In addition, they manage the funds destined to these types of activities, which tend to be substantial annual amounts that come from the different municipal budgets and other complementary sources, such as provincial ones in the case of Guipuzcoa.

In the last four years, the province of Guipuzcoa has seen great activitiy in the waste treatment sector. On the one hand, the Provincial Council of Guipuzcoa, even though it has no competency in this sector, promoted the execution of a comprehensive plan for waste treatment that opted for an overall quite controversial method, which is incineration. The public outcry was so great that alternative methods were carried out by private individuals

(Del Val, 2003) or by social, technical or environmental groups (Lozano *et al*, 2004). In any case, traditional methods of waste treatment in dumps yield low waste selection, and low quantities of waste are devoted to reuse, recycling or are separated for compost, and they are also collected in large quantities, etc. All of which are methods that should be changed radically given the different regulations that have emerged and apply to this sector at different political and administrative levels.

In view of having to adapt to the new legal requirements and taking into account that the waste, as well as the energy, consumer usage, etc. is one the fundamental pillars of environmental sustainability, it is necessary to know with as much certainty as possible the different types of waste generated, their quantity, and the amounts that each of the mancommunities handle within the provincial territory. These concepts as well as a description of each of the characteristics of the different waste treatment mancommunties in Guipuzcoa will be the basic objectives of this article.

For each of the mancommunities different databases were consulted to gather data regarding the population that they serve, the integrated municipalities within them, the activities and budgets of each, etc.

After studying the main characteristics of each mancommunity, we focused on the study of the types of waste that they manage. The methodology followed to collect data was extremely complex and took the entire year of 2004 to complete. During this time, between 2 to 10 containers were monitored per population area. Depending on the number of inhabitants, 1 or 2 containers were studied for areas with a population below 100 inhabitants, 3 for those between 100 and 500 inhabitants, 4 for those between 500 and 1000 inhabitants, 5 for those between 1000 and 4000 inhabitants, 6 for those between 4000 and 8000, 7 for those with a population between 8000 and 16000, 8 for those counting with 16000 and 32000 inhabitants, 9 for those with a number between 32000 and 40000, and finally, 10 for those with a population over the last range. The special case was that of Donostia-San Sebastian where containers from all neighbourhoods were studied in order to have a more complete typology.

A wide range sampling was completed after taking 16 different measures. The measures were taken in different months and at special times. For example, to take into account the possibility of population fluctuations during different seasons, especially during the summer months, monitoring was reinforced by taking a measurement at the beginning and end of the month of August in addition to the conventional measurement. Another special measurement was taken at the end of December, in order to analyse data taken during Christmas which is a heavy usage period, and another was taken during Easter.

The data was taken on different days, chosen by chance during the different months, but usually at the end of the evening which is when the population tends to dump the rubbish at the containers. It was a systematic although random survey of a significant amount of rubbish bags which were classified in different collections and were weighed with a hand scale.

In addition to this data collection, different people were interviewed in all of the population areas studied in the province. To complement these interviews, DELPHI surveys were also carried out. In these questionnaires, the main focus was on the quantity and different types of waste generated, as well as on the percentages of selective collections, all of which were closed items in the survey. However, there were several open items at the end of the sur-

vey where citizens could write their own thoughts and suggestions. The number of surveys amounts to around 3500. Obviously, these questionnaires provide great information which complements the data that was directly collected from the containers and rubbish bags.

For domestic waste there were samples taken from the general containers, but also from each of the different containers devoted to selective collection:

- Green: Collection of empty glass.
- Yellow: Collection of plastic and metal bottles and cans.
- Blue: Collection of paper and cardboard.

In this way, in addition to presenting a comprehensive study regarding the contents of an average rubbish bag (remaining portion), we also describe the different typologies regarding collective selection.

The results were as follows:

Heterogeneity in relation to the quantity of services that each of the mancommunities provides makes it very difficult to conduct an optimization analysis for economic or bugetary improvements.

In terms of absolute ranking regarding generation and treatment of domestic waste, the mancommunity at the very top is San Marcos, which serves pratically half of the population in Guipuzcoa, followed by Txingudi, Sasieta, Urola-Kosta, Deba-Barrena, Tolosaldea, Deba-Goiena and finally, Urola-Erdia.

When examining the different types of domestic waste, there are no noticeable differences from one mancommunity to another. The only variable worth mentioning regarding this matter is the difference between rural or uban waste.

In Guipuzcoa, the different percentages of the larger portions of domestic waste (collected in the waste or non-selective container) fluctuate as follows: organic waste 42.10%, paper and cardboard 22.99%, light bottles or cans of plastic or metal 14.82%, glass 8.50%, miscelaneous 5.20%, bulky items 2.60%, complex (bricks) 1.70%, innert matter1.40% and finally, ferrous metals other than bottles and cans 0.50%.

With regard to selective collection in Guipuzcoa, the percentages of materials collected can be divided as follows: paper and cardboard 47.50%, glass 33%, plastic and metal bottles and cans 10.50%, wood 4%, batteries 2.20%, electrical goods 1.44%, clothing 1.16% and scrap metal 0.2%.

The number of selective collections for domestic waste in Guipuzcoa for the year 2004 was 18%. A certain number, between 5 and 8%, should be taken from this general percentage of selective waste because it is rejected or considered innapropriate by some mancommunities. If we take this into account, the percentage of waste that is trully measurable fluctuates between 12 and 15%.

All this means that, at that time, in the province between 85 and 88% of the domestic waste was processed in the dump.

In general, the larger the mancommunity (in relation to the population that it serves), the larger the amount of waste generated. There are three mancommunities which generate more waste than they should given their population: San Marcos, Urola-Kosta and Urola-Erdia.

There is a seasonal phenomenon which explains the increase in waste generation because of an increase in the population. This effect is more noticeable in mancommunities with relevant tourist spots, Urola-Kosta at a large scale and San Marcos and Txingudi at a lower scale.

At the top of the ranking scale in regards to domestic waste per day and inhabitant is Urola-Kosta with 1,650 gr, followed by San Marcos with 1,420 gr, Urola-Erdia with 1,270, Txingudi 1,180 gr, Sasieta 1,030 gr, with the remaining all under the kilogramme; Tolosaldea 910 gr, Deba-Goiena 880 gr and Deba-Barrena 800 gr.

In Guipuzcoa, the average domestic waste generated per citizen is around 1.143 gr/day.