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## ILLEGAL PARCELLING IN CORDOBA (SPAIN): THE RESULT OF ILLEGAL URBAN PLANNING OR HIDDEN CITY DEVELOPMENT?

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### Abstract

Illegal parcellings are a unique case within urban sprawl processes. They are characterised by originating against urban planning and by a lack of basic infrastructure. It is a phenomenon that has not been studied in much depth, and its typological aspect has been the least discussed element. This article analyses the illegal parcellings in the municipality of Cordoba, Spain, where their area has reached 4,606.88 hectares—this, compared to the slightly more than 2,800 hectares occupied by the consolidated city, gives an idea of the significance of the process. The main objective is therefore to present its territorial scope and, secondly, to propose a methodology for its typological classification. Research shows that this issue is important for a correct assessment of the phenomenon and that it must be addressed appropriately by the relevant administrations.

**Keywords:** urban sprawl, illegal housing developments, suburbanisation, informal city

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## ILEGALNA STANOVANJSKA GRADNJA V CÓRDOBI (ŠPANIJA): REZULTAT ILEGALNEGA URBANISTIČNEGA NAČRTOVANJA ALI RAZVOJ SKRITEGA MESTA?

### Izvleček

Ilegalna stanovanjska gradnja je edinstven primer znotraj procesov nenačrnega širjenja urbanih območij. Zanj sta značilna nastanek v nasprotju z urbanističnim načrtovanjem in pomanjkanje osnovne infrastrukture. Ta pojav doslej ni bil proučen zelo poglobljeno, njegov tipološki vidik pa je bil tisti element, o katerem se je najmanj razpravljalo. Prispevek analizira ilegalno stanovanjsko gradnjo v občini Córdoba, Španija, kjer je površina tovrstne gradnje dosegla 4606,88 ha. Če to primerjamo z 2800 ha, kolikor jih zaseda konsolidirano mesto, dobimo predstavo o pomenu tega procesa. Glavni namen prispevka je potemtakem predstaviti teritorialni obseg obravnavanega pojava ter predlagati metodologijo za njegovo tipološko klasifikacijo. Raziskave kažejo, da je to vprašanje pomembno za pravilno oceno pojava in da mora biti ustrezno naslovljeno s strani relevantnih administracij.

**Keywords:** nenačrtno širjenje urbanih območij, ilegalna stanovanjska gradnja, suburbanizacija, neformalno mesto

## 1 INTRODUCTION: ILLEGAL URBANISATION IN SPAIN

The gradual improvement of the country's economic situation from the 1950s brought about significant changes in the shaping of the main cities of Spain. The demand for labour in urban areas, together with the progressive rural mechanisation, caused a considerable population outflow from rural areas to the city, which brought about a strong growth of its built space. One of the consequences of this process was a significant increase in demand for housing—a demand that cities would find difficult to meet, leading, among other things, to the development of new slums and shanties. To alleviate this situation, the dictatorship's government<sup>11</sup> undertook an ambitious plan for the mass construction of housing from the mid-fifties to well into the seventies (Capel Sáez, 1981, p. 53).

Almost in parallel, towards the 1950s and throughout the 1960s, a phenomenon began to develop: second home developments in rural areas. This phenomenon, although not new, would become more widespread and intense in certain areas of the

1 The dictatorship period extended from the 1936 coup d'état to the first elections of the new democratic period in 1978, after the death of the dictator in 1975.

country (Ortega Valcárcel, 1975). The consolidation of the process and its extension as a product aimed at satisfying the demand of the upper classes for housing for leisure purposes would be well researched from early on, providing a good theoretical corpus for its study (for example Canto Fresno, 1983; Ortega Valcárcel, 1975; Valenzuela Rubio, 1976; 1986).

### 1.1 Basic features and territorial scope of illegal parcellings

As a response to the phenomenon mentioned above (Ezquiaga Domínguez, 1983, p. 60), from the 1970s onwards, we will see what for Nel-lo i Colóm (2011, p. 95) is “one of the most burdensome mortgages of all, in the field of land management, which the Francoist period passed on to future generations”. The author refers to what were called *illegal housing developments* in Catalonia, and which in other spatial contexts would be commonly known as illegal parcellings (Betrán Abadía & Franco Hernández, 1994; Ezquiaga Domínguez, 1983; García-Bellido, 1986; López-Casado, 2019). It is a process by which rustic land is divided into a series of plots of varying sizes, ranging from 500 to 3,000 m<sup>2</sup>; its main purpose is, at least in its inception and initial phases, to be an area for weekend leisure and a second home for the middle and working classes; and all this is done against urban planning. These are semi-urban settlements whose main characteristics are, along with the above, their lack of basic infrastructure—drinking water supply, electricity supply and sanitation—as well as the lack of public facilities; this is compounded by their peripheral location, generally disconnected from the consolidated city at distances that can reach tens of kilometres.

Despite the importance and extent of their development during the 1970s and 1980s, there is no official census of illegal parcellings covering the entire country. However, there is data from some of the regions where the phenomenon became more relevant. For Catalonia, only data from the Metropolitan Area of Barcelona is available, and it points to the existence of 360 illegal housing developments covering approximately 15,000 ha (Herce Vallejo, 1975). This process is still unresolved to this day, with between 1,800 and 2,300 developments of this type, affecting some 300,000 families and more than 50,000 ha (EFE, 2013; Síndic de Greuges, 2013). In particular, in the Community of Madrid, the administration counted 117 illegal housing developments covering just over 7,500 ha, of which there were around 5,000 homes (Comunidad de Madrid, 1984). In the Aragon region, 213 of these types of settlement were identified, with a transformed area of 1,854.73 ha and almost 8,500 plots (Betrán Abadía, Franco Hernández, 1994, p. 14). Finally, in Andalusia, work carried out towards the end of the 1980s revealed 857, occupying an area of just over 24,000 ha and almost 30,000 buildings (Dirección General de Urbanismo, 1992, p. 29 and the following pages). In short, in these four regions of the country alone, it is estimated that, at that time, there would be some 1,550 illegal parcellings, occupying almost 50,000 ha and an indeterminate number of buildings constructed outside of urban planning.

## 1.2 Types of illegal parcellings

Compared to other aspects of the phenomenon to which scholars have paid more attention (for example, Burriel de Orueta, 2018; 2019; Campesino Fernández, Jiménez Barrado, 2018; Górgolas Martín, 2018; 2019; Jiménez Barrado, 2018), the study of the typological aspect has been more limited. For García de Jalón Lastra, Sainz Guerra, Ezquiaga Domínguez, and Moya González (1986), these issues are analysed from different perspectives (territorial and urbanistic effects, characteristics of the buildings, etc.), which provides a vision and general characterisation of the process although—we must stress—without going so far as to define a typological classification. However, the authors propose an approach based on the road structure of the countryside, as well as the distribution and shape of the plots (*ibid.*, p. 92 and the following pages). Considering these parameters leads to two types: type 1, those “which are strongly influenced by the previous agricultural parcelling and can be classified according to its type” (p. 92); and type 2, those “which have a structure that is little influenced by or independent of it and can therefore be classified from a geometric point of view” (p. 94). In addition, within each of these, a series of subtypes is established, and these are differentiated on the basis of the morphological aspects of the road and/or the lot of rural land, or its relationship with the public road network. Along with the previous one, the authors also establish a grouping of the parcellings based on their location in relation to the municipality.

In particular, in their study in Palma de Mallorca, Pie i Ninot and Navarro (1988, p. 60 and the following pages) propose the following classification: *Marginal housing developments*, characterised by their predominant use as primary residences; *rustic properties*, those that “due to their small size or the irregularity of the original property, do not manage to take on a degree of geometric rationality parallel to that of the most intense developments”; *geometric layouts*, those that “from a morphological point of view, [are] the most mature”; and *opening of the road*, which are due to the “failed parcellings ... that stopped at the beginning, when they had only begun to open a road”. As can be deduced, the characterisation has been established exclusively from morphological aspects: basically, those associated with the shape of the road layout. As an additional aspect, some data are provided on the state and the way in which the main urban services are provided (water and electricity supply).

Finally, the work of Sancho Martí (1989) for the city of Zaragoza does not establish a typological classification as such; it describes the illegal parcellings based on a series of features (degree of urbanisation, quality of construction, location mode, etc.). The author’s proposal is such that the same parcelling can be assigned to several types at the same time, which may make it difficult to characterise. However, the author proposes a grouping based on the same criteria used in the first work mentioned; that is, the relationship of the illegal parcellings with “the hull or population centre, the accesses and the territory” (*ibid.*, p. 156 and following). Finally, the author, like other works (Valladolid and Palma de Mallorca), also proposes a “morphological

classification [based on] the road and land structure” (ibid., p. 158). The final result is a proposal that is very similar to the one used by the other authors discussed above. This methodology leads to the establishment of a total of 16 subtypes of settlements according to their design and plot morphology.

## 2 AREA STUDIED

Located in the central northern area of Andalusia, the municipality of Cordoba has a land area of 1,254.91 km<sup>2</sup>, the largest in the region and the fourth largest in the country. The map in Figure 1 shows its characterisation based on the geographical areas considered in this paper. Table 1 shows their relationship with the three large geographic domains that characterise the physical and landscape structure of the municipality. Essentially, and from north to south, this is divided into the Sierra, which integrates the geographical area of Piedemonte (see Table 1); Vega, with the Guadalquivir river as its backbone; and, finally, occupying a large sector of the southern end, the Campiña.

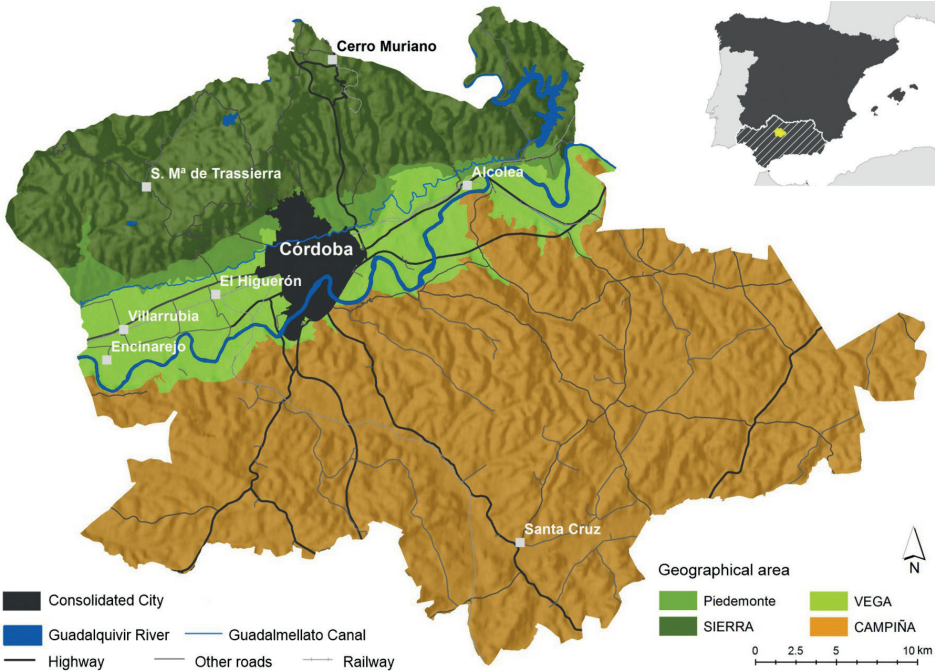
*Table 1: Relationship between the large geographic domains in the municipality and the geographical areas considered in this work.*

Geographic domain	Area (ha)	Geographical area	Area (ha)	%/TM
SIERRA	27,443.27	Sierra	27,443.27	21.87%
	4,539.66	Piedemonte	4,539.66	3.62%
VEGA	17,533.87	Vega	17,533.87	13.97%
CAMPIÑA	75,974.32	Campiña	75,974.32	60.54%
Total	125,491.11	-	125,491.11	100.00%

The mountain sector, with an area of 27,443.26 ha—21.87% of the municipality—(see Table 1), occupies the entire northern sector of the municipality. It is characterised by a terrain with slopes that can be very steep, especially the area in contact with the valley; here the backdrop of the last foothills of the Sierra Morena can be seen in relation to the location of the city and some of its main heritage sites (the caliphal city of Medina Azahara, Las Ermitas, etc.). This situation contrasts with the interior of the area, where it is possible to find pseudo-valleys that facilitated the development of urbanisation processes alien to its traditional forestry and hunting purposes.

In the area of contact between the Sierra and the Valle is the Piedemonte, a narrow strip of land with unique characteristics that justify its individualisation (see Figure 1 and Table 1). Despite being the smallest area, as it barely represents more than 3% of the municipal territory, it has important territorial relevance. In fact, its scarce surface area contrasts with its high landscape value, given its mid-slope position between the plains of the Valle and the steep slopes of the last foothills of the Sierra.

Figure 1: Basic features of the municipality of Cordoba.



The geographical area of the Vega covers 17,533.87 hectares—almost 14% of the municipality—making it the third most important area. From the topographic point of view, its main characteristic is the predominance of a flat relief; with a maximum difference in level of approximately 50 metres. These favourable topographical conditions, together with the proximity to the river and the fertility of its soils, have made it a privileged place for human settlement since ancient times. Furthermore, the role that the Guadalquivir river and its floodplain have traditionally played as a communication corridor makes this area one of the most interesting regions from a territorial and geographical point of view.

Finally, located in the southernmost sector of the municipality, and occupying almost two thirds of it—75,974.32 ha, 60.54% of the total—we find the geographical area of the Campiña. It is a territory that maintains its traditional agricultural purpose, having been excluded from the urban dynamics that have characterised other sectors of the municipality.

### 3 METHODOLOGY FOR THE QUANTIFICATION AND CLASSIFICATION OF ILLEGAL PARCELLINGS

The lack of a typology of illegal parcellings in the municipality of Cordoba, beyond that which, generically and without clear methodological support, distinguishes those located in the Sierra from those in the Valle, paves the way for a more adequate understanding of the phenomenon. The methodology followed in the study consisted of two main phases, which led to a third one: 1) Compilation and analysis of documents, 2) Fieldwork and 3) Creation of a territorial information system. The interconnection of these phases with the procedures and techniques carried out gives rise to the methodological scheme designed for the development of the work and the attainment of the objectives set. In this way, the compilation and analysis of the different documents on illegal parcellings that provide data on the phenomenon in the municipality of Cordoba—basically the general municipal plans (Ayuntamiento de Córdoba, 1984; 2001)—as well as those prepared by the regional government (Dirección General de Urbanismo, 1992; Dirección General de Ordenación del Territorio y Urbanismo, 2004), together with some scientific work (López-Casado, Moreno Moreno, 2012; López-Casado, Mulero Mendigorri, 2015; López-Casado, 2019), have allowed a first approach to the different dimensions of the process. The result of this first phase allows, on the one hand, to load all the information collected in the territorial information system; and on the other hand, to design and organise the initial stage of the fieldwork.

The initial phase has made it possible, on the one hand, to assess the advisability of establishing a basic differentiation of parcellings at the municipal level. There is also the need to identify, within the Sierra, those plots that are developed in the Piedemonte geographical area; and, in the Valle, those that are developed in the Vega as opposed to the only one in the Campiña. Similarly, this first phase of the fieldwork confirmed the opportunity to carry out a second detailed stage, focused on other aspects that allow to qualify the phenomenon. This consisted of a tour of the interior of all the illegal settlements identified<sup>22</sup> in the first stages of the work, in order to gain full knowledge of different aspects which will be analysed later. All this information has been incorporated into a database which, connected through a geographical information system, has given rise to the Territorial Information System of the Illegal Parcellings of Cordoba. The application of the previously established criteria has led to the establishment of the typology at a detailed level.

<sup>22</sup> In total, more than 180 settlements of different types were visited over 20 days between December 2015 and January 2017; this involved almost 100 hours of actual work and about 1,100 km.

## 4.1 Approach at the municipal level

The first typological approach proposed has been at the municipal level. The characteristics of the parcellings located in each of the geographical areas have sufficiently contrasting features to propose an initial classification based on them. The issues considered to make this approach are related, firstly, to the origin as well as the subsequent development and current dynamics of the settlements; secondly, to their basic morphological aspects, mainly the surface area of the parcelling or the characteristics of the interior road. They also have to do with issues related to their use, both with respect to the form of use of the dwellings, and the presence of those other than the residential ones (see Table 2).

Table 2: Summary of the characteristics of the illegal parcellings in Cordoba at the municipal level.

	Geographical Area	Sierra	Piedemonte	Vega
	Nº Parcellings	39	11	90
Origin (period)	Initial	X	X	
	Modern		X	X
Dynamics	Stopped	X	X	
	In progress		X	X
Dimension	Small			X
	Medium		X	
	Big	X		
Road	Irregular	X		
	Regular		X	X
Usage	First Home		X	X
	Second Home	X	X	
	Others			X

Since this is an effort to provide an overall view of the phenomenon, the assignment of criteria to each area is necessarily of a general nature; in other words, Table 2 allows a summarised reading of the general features of the illegal parcellings located in each area. In this sense, the main differences between those located in the Sierra and those in the Vega can be seen. Thus, if the former correspond to the beginning of the process and, moreover, are associated with a state of stagnation, both regarding the appearance of parcellings and the construction of new buildings, those of the Vega, on the contrary, should be linked to a more modern stage where there is still important dynamism. On the other hand, there is also a significant contrast in the use of housing, with a greater focus on second homes in the mountains, compared to the trend towards consolidation of primary residences in the Vega. The description of each of these types is as follows:



### **A) Sierra's parcellings**

Their differential characteristics with respect to the others are related, above all, to the greater surface area, a larger size of the interior plot and, as a result, a lower building density. The other important feature that differentiates them is the road layout, which is more winding and narrower in order to adapt to the rugged topography. They also have an acceptable level of conservation of the native vegetation and, as a result of the combination of all these aspects, a moderate impact on the landscape (see Figure 2). To all this it is necessary to add worse accessibility conditions, which, generally, results in them being used as second homes. The coexistence of complementary uses within the plots (small orchards, livestock farms, etc.) is rare and, where it exists, they are usually of rural nature.

*Figure 2: General view of an illegal parcelling in the Sierra.*



### **B) Piedemonte's parcellings**

These are located on the narrow strip of land that makes up the contact area between the last foothills of the Sierra and the Valle. Its good accessibility conditions, similar to those of the Vega, together with its elevated position above the valley and its gentle topography, result in a type of parcelling with intermediate characteristics between those described above and those of the Vega. These are medium-sized settlements, with a medium-sized interior plot, and more or less regular road layouts depending on the steepness of the terrain. The predominant use is as residential first- and second-home developments, and its impact on the landscape is also moderate, thanks to the relatively good conservation of the native vegetation.

### C) Vega's parcellings

Their main characteristics are, in contrast to the previous ones, their smaller surface area, smaller plot size and therefore greater building density, a regular road layout—generally orthogonal, with frequent use of cul-de-sacs—coexistence of uses (residential with first and second homes, industrial, commercial, etc.) and, as a result, severe impact on the landscape (see Figure 3). For the most part, these are much more modern processes than those in the Sierra, as most of them took place after the 1990s. Their good conditions of accessibility and the proximity to the work centres—not so much in distance as in time—mean that there is a growing trend towards the consolidation of first home developments.

Figure 3: General view of an illegal parcelling in the Vega.



## 3.2 Scale of detail: Qualification of the phenomenon for the establishment of subtypes

To complement the more generic typological classification discussed in the previous section, we propose the selection of five basic criteria with which to elaborate on the characterisation of the plot phenomenon at a detailed scale. The five elements considered are:

- A) Planning situation
- B) Degree and quality of urbanisation
- C) Type and quality of the building
- D) Accessibility
- E) Area of the parcelling

### **A) Planning situation**

It seeks to identify the planning situation of each illegal parcelling according to its classification and categorisation in urban planning. In this sense, along with the classification of the land—urban, developable or non-developable—the way in which the municipal plan foresees its development or use is added.

### **B) Degree of urbanisation**

It measures the level in terms of the provision of basic infrastructure and its state of conservation based on four possible situations (very low, low, medium, high). Similarly, the type of road is considered in terms of its width and level of finishes (natural soil, compacted gravel or asphalt), or the internal organisation of the road itself.

### **C) Quality of the building**

It establishes a gradation based on various aspects such as the quality of the materials used in construction, but also the number of floors and dimensions. In addition, the level and state of the development of the plot itself or the existence of complementary facilities (swimming pool, paddle tennis court, garage, etc.) are considered. The established gradation is: low, medium and high.

### **D) Accessibility**

It measures the greater or lesser ease of access to the interior of the illegal parcelling from the public road network. The range set is: bad, normal and good.

### **E) Area of the parcelling**

The surface area of illegal parcellings is one of the parameters that best characterises the phenomenon, both in terms of its location patterns and its impact on the territory. The following intervals have been used for classification:

- Small: Surface area less than 10 ha
- Medium: Surface area between 10 and 75 ha
- Large: Surface area between 75 and 200 ha
- Very large: Surface area over 200 ha

The assignment of these criteria to each of the illegal parcellings analysed has led to establishing two main types: The first, Type 1 or *Urban-dominant*; and the second, Type 2 or *Rustic Component*, whose basic features are described below. Similarly, different subtypes have been differentiated within these types (see Table 3).

Table 3: Summary of the characteristics established for the types and subtypes of illegal parcelling.

Type	Sub-type	Planning situation	Urbanisation degree	Building quality	Accessibility	Area
<b>Type 1</b> Urban	1.1	Urban	High	High	Good	Medium/ large
	1.2	Urban/ developed	Medium	High/ medium	Good/ normal	Large/ medium
<b>Type 2</b> Rustic	2.1	Non devel./ recognizable	Medium	High/ medium	Good	Big/ very large
	2.2	Non devel./ special protec.	Low	Medium	Normal	Medium/ small
	2.3	Non devel./ special protec.	Very low	Medium/ low	Bad	Medium/ small

### Urban-dominant (type 1):

It includes those older illegal parcellings that have generally acquired the category of urban or developable land. The above has resulted in settlements with a medium or high degree of urbanisation which, combined with the existence of high-quality buildings and a good level of accessibility, gives the settlement a prominent urban image. We have established two subtypes within this type, which, in summary, set out a basic differentiation based on the degree of development they have achieved since the beginning of the plotting process up to the present time.

### Rustic component (type 2):

Their main common feature is their planning situation, as they are all classified as non-developable land, although under different categories and levels of protection. These are the parcellings that best represent the phenomenon itself, as they are the ones where the main features and characteristics of residential development outside urban planning can be observed more clearly. The diversity of situations and casuistry among this large group has led to the establishment of three subtypes, which make it possible to distinguish a greater or lesser level of urbanisation, building quality or the degree of difficulty in accessing the settlement. These general characteristics mean that the parcellings grouped under this type project an external image with a markedly rural character, hence the term used for its designation.

## 4 RESULTS

The combination of documentary analysis and intensive fieldwork has made it possible to highlight the importance of the phenomenon of illegal parcelling in the municipality. A process that, as was pointed out at the beginning, is not exclusive to Cordoba—what is extraordinary is the extent it has reached in its more than sixty years of history. The reasons for this are varied and complex, and they are outside the scope of this paper. However, the large size of the municipal area, together with the pre-existence of the districts (see Figure 1), could have contributed to the fact that certain metropolitan dynamics (Cuenca Muñoz, Gómez de Hita, Mulero Mendigorri, 2013) with which these processes are associated, have helped to spread the phenomenon.

Of the 188 areas initially identified, only 121 have ultimately been considered in subsequent analyses. The two methodological criteria established for the selection are: to choose only those with predominant residential use and, secondly, to have an area larger than 2 ha. Thus, these 121 illegal parcellings represent 4,606.88 ha, which, compared to the slightly more than 2,800 ha occupied by the consolidated city, gives an idea of the importance that the phenomenon has gained in recent decades (see Table 4). In other words, urban settlements developed outside urban planning already account for just over 1.5 times the size of the main city centre. Furthermore, the data also reveal how this type of process has resulted in the sealing off of almost 10% of the land in the Vega due to urbanisation—land which, as indicated, has an extraordinary agrological capacity and territorial importance. In the Sierra, it has reached 8.86%, affecting soils of high environmental, forestry and landscape value.

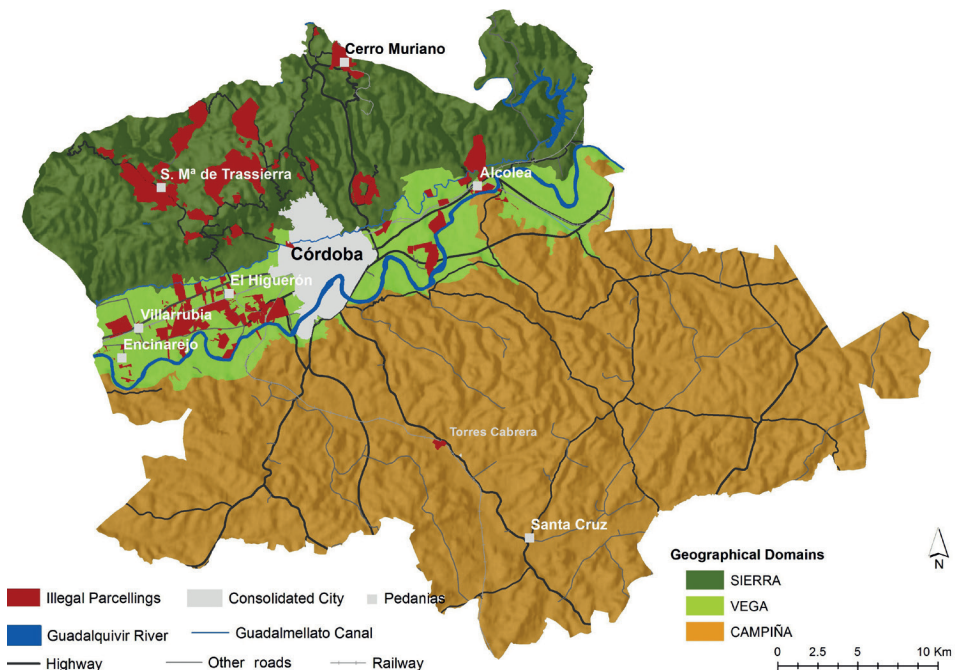
Table 4: Relative weights of illegal parcellings over the large geographic domains.

Domains	(A) Area total (ha)	Consolidated city	Illegal parcellings		
			Num.	(B) Area (ha)	(B/A)
Sierra	32,281.29	642.21	50	2,859.97	8.86%
Vega	17,522.53	2,200.32	70	1,714.87	9.79%
Campiña	75,680.08	14.66	1	32.04	0.04%
Totals	125,483.90	2,857.19	121	4,606.88	4.13%

However, the phenomenon has not affected the three major geographic domains equally (see Figure 4). On the contrary, there is a very contrasting situation; from a virtually symbolic presence in the Campiña, to the almost complete filling of the western sector of the Vega. In the Sierra, the situation is also very different between what happens in its large central sector, where most of the parcellings are concentrated; and what happens in the eastern extreme points, with a more limited effect; as well as the western extreme points, which have remained free of the process. Along with other issues that will be discussed below, one of the results of the fieldwork has been to

consider the need to identify different geographical areas within the three large geographic domains (see Table 1 and Figure 1). This is due to the fact that the phenomenon of land ownership presents considerable differences in each region, giving rise to different typologies. Thus, within the Sierra, the Piedemonte has been singled out; and in the Vega, the eastern and western sectors have been distinguished, although the latter distinction has been omitted in subsequent analyses to simplify the analysis of the process.

Figure 4: Distribution of the illegal parcellings and their relationship with the large geographic domains.



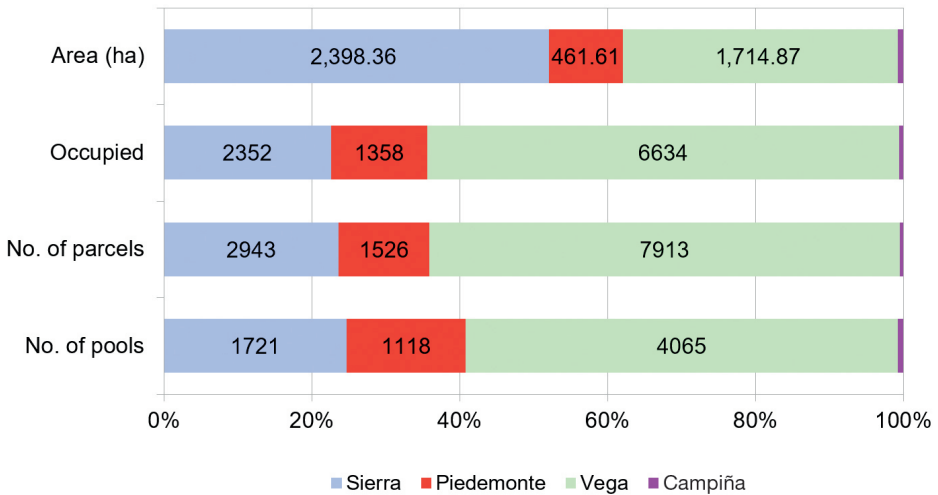
The data highlights the contrast between the two main geographical areas concerned (see Table 5 and Figure 5). Although, as has already been pointed out, the Sierra is the most affected area in terms of surface area, in other aspects such as the number of plots, pools or the degree of occupancy, the Vega would be the area with the greatest incidence. In fact, of the almost 8,000 existing plots, 6,664 would be occupied by buildings, along with just over 4,000 swimming pools, almost tripling the figures for the Sierra. However, in addition, the combination of a greater overall surface area of the parcellings in the latter area, together with a smaller number of plots, means that the dimensions of the plots are greater which, to a certain extent, minimises their impact on the landscape (see Figure 3). On the other hand, the soils of

the Vega, with around 700 ha less transformed surface area, have almost 5,000 more plots, which means much smaller plot sizes and therefore greater density and hence, as already indicated, a greater impact on the landscape and territory (see Figure 4).

Table 5: Main results by geographical area.

Geographical area	Area (ha)	No. of parcels	Occupied	No. of pools
Sierra	2,398.36	2,943	2,352	1,721
Piedemonte	461.61	1,526	1,358	1,118
Vega	1,714.87	7,913	6,634	4,065
Campiña	32.04	61	59	52
Totals	4,606.88	12,443	10,403	6,956

Figure 5: Distribution of the illegal parcellings and their relationship with the geographical areas.



In relation to the typological aspect, the research has allowed to progress in understanding the process and to overcome the classic and generic division between parcellings in the Sierra and in the Valle. In contrast to the above, the application of the proposed methodology has resulted in the definition of two major types as well as the subdivision into different subtypes (see Table 6).

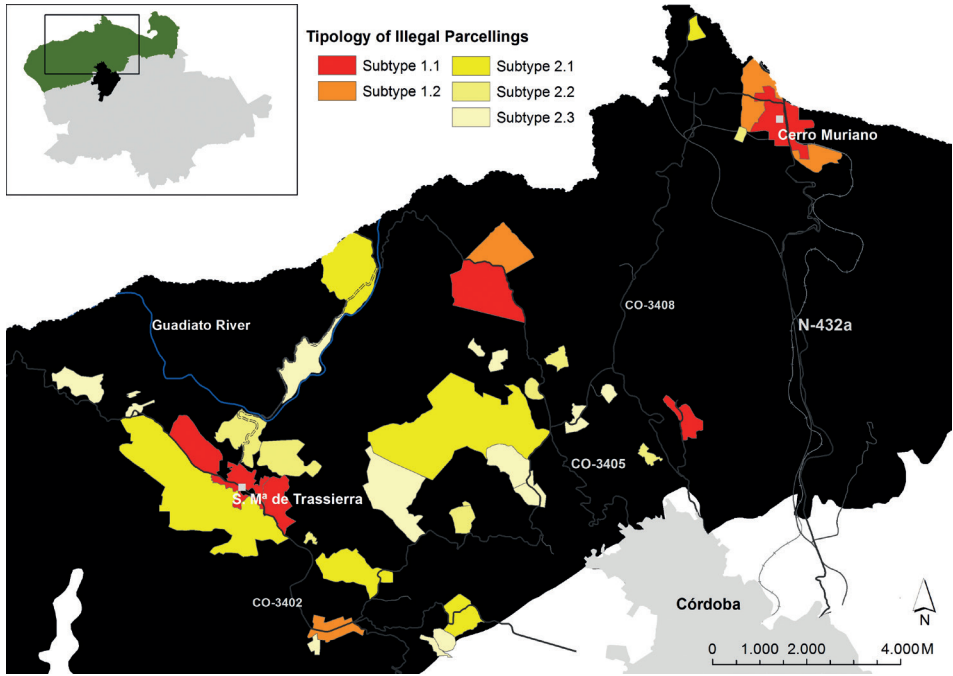
Table 6: Distribution of types and subtypes of parcellings by geographical area.

Geographical area	Type 1		Type 2			Totals
	1.1	1.2	2.1	2.2	2.3	
Sierra	6	4	6	9	14	39
Piedemonte	3	7	0	1	0	11
Vega	6	27	10	9	18	70
Campiña	0	0	0	1	0	1
Totals	15	38	16	20	32	121
	53		68			
	121					

The distribution of the types and subtypes shows great heterogeneity in the different geographical areas, which highlights the internal complexity of the process. In this sense, all types and subtypes are present in the Sierra to a greater or lesser extent, as is the case in the Vega. On the other hand, the Piedemonte lands are practically only covered by the subtypes 1.1 and 1.2, with the presence of 2.2. The geographical distribution of these typologies also gives an idea of the heterogeneity of the process (Figure 6). In this way, it is evident how the different subtypes are distributed throughout the central sector of the Sierra without any specific pattern beyond their proximity to the road network, something that shows the relationship between the development of the phenomenon and accessibility. Moreover, there is also a certain relationship between the traditional urban centres of Cerro Muriano and Santa María de Trassierra with the subtype 1.1 and 1.2 parcellings which, as mentioned, are the most urban.

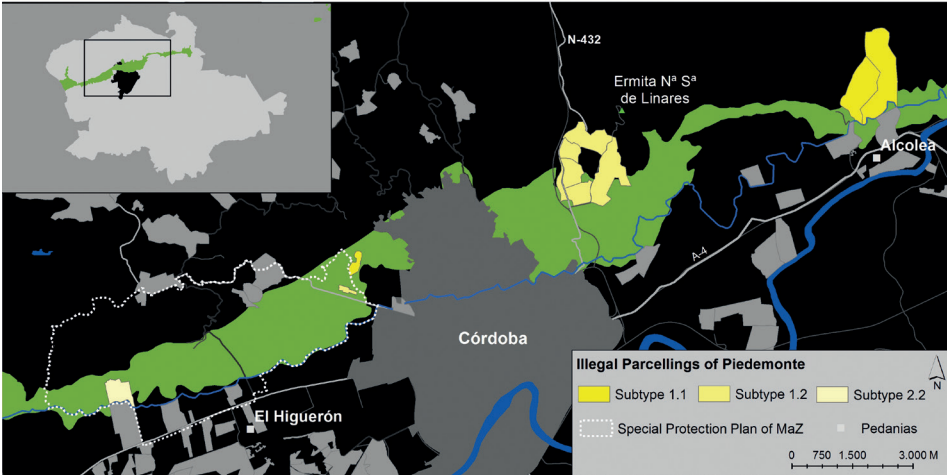


Figure 6: Distribution of the illegal parcellings in the Sierra according to the types and subtypes considered.



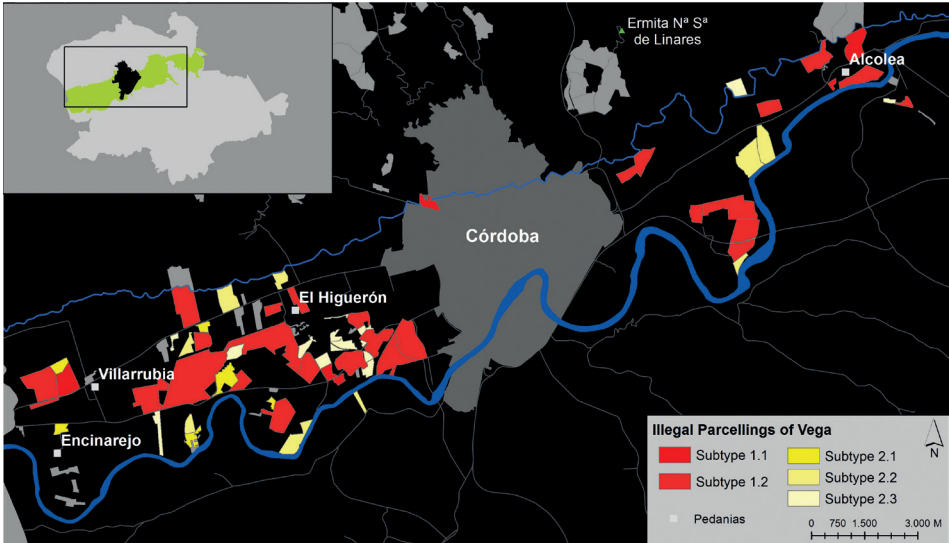
In the geographical area of Piedemonte, the presence of the area of the Special Plan for the Protection of the Archaeological Site of Medina Azahara, included in the World Heritage List in 2018, has undoubtedly contributed to the concentration of the development of illegal parcellings in the eastern sector (see Figure 7). As for the subtypes, as has been pointed out, they are characterised by those of a prominently urban type, with the peculiarity of forming two large residential complexes developed from the gradual annexation of illegal parcellings.

Figure 7: Distribution of the illegal parcellings of the Piedemonte according to the types and subtypes considered.



The area of the Vega is by far the most complex, not only because of the large number of illegal parcellings—around 60%—but also because of the unequal distribution between the eastern and western sectors (see Figure 8). However, it is also due to the existence of significant facilities, infrastructures and public resources of a metropolitan nature and strategic interest (airport, freight centre, etc.). As can be seen, most of the parcellings are located in the western sector, and the process is so intense in this narrow area of the municipality that it is practically full, despite the fact that it is the land with the greatest agricultural value in the municipality. As for the typologies, the predominance, both in number (see Table 6) and in size of those of an urban nature (subtypes 1.1 and 1.2) is striking. This derives from the decision of the regional government to classify these lands as developable for subsequent incorporation into the urban model of the municipality.

Figure 8: Distribution of the illegal parcellings in the Vega according to the types and subtypes considered.



The analysis of the data, size and location of the illegal parcellings reveals unequal impact on each of the geographical areas. In this way, while the land in the Campiña has remained practically untouched by the process, the rest has been affected, albeit with unequal intensity. Thus, if large sectors of the Sierra also remain free, maintaining their environmental and landscape values intact, both a large central sector of the Sierra and the land of the Vega account for almost all the illegal parcellings. Furthermore, as regards the established typologies, their distribution throughout all the affected areas can be seen, regardless of the nuances mentioned previously.

## 5 CONCLUSIONS

As discussed in the initial sections of the paper, the phenomenon of illegal parcelling in Spain has been relatively understudied by the scientific community, probably due to the very nature of their origin as processes developed outside urban planning. The lack of data at the state level has been made up for by the existence of some works which, although not very numerous, have approached the study of them on a regional scale, which allows us to offer an idea, even if it is approximate, of the intensity that this type of process has reached. However, the greatest shortcoming concerns the studies which have been carried out to analyse illegal parcellings at a municipal level; this is of vital importance, especially in those municipalities which, as in the case of Córdoba, have almost doubled the territorial scope of these processes in terms of the size of the consolidated city.

In this sense, the research has allowed to verify the existence of 188 dispersed settlements developed against urban planning. Of these, 121 have been selected for subsequent analysis, as they meet the two basic requirements established: they must be destined for mainly residential use and have an area of more than 2 ha. These 121 illegal parcellings represent 4,606.88 hectares of transformed land which, compared to the slightly more than 2,800 hectares occupied by the consolidated city, can give an idea of the extent and dimensions of the process in the municipality of Cordoba. Similarly, it has been found that there are around 12,500 plots within these settlements, of which almost 10,500 are occupied by buildings of various types, although mainly by first or second homes; to this, we must add 6,956 swimming pools. In addition, it has also been possible to verify the unequal effect on the various geographical areas that characterise the municipality. Thus, as opposed to the almost total absence of parcellings in the lands of the Campiña which, therefore, maintain their traditional agricultural purpose, those of the Vega, especially in its western sector, have been virtually overwhelmed by urbanisation; something particularly worrying given the strategic value of these lands, both from a territorial and agricultural point of view. The area of the Sierra is in an intermediate situation, where the process has affected, above all, its central sector; as well as the Piedemonte, with a more limited impact. In the latter case, this fact is undoubtedly influenced by the existence of the area of the Special Plan for the Protection of the Archaeological Site of Medina Azahara.

This study adds to the scarce amount of research that has been carried out on the typological aspect of the phenomenon. The results of this research have allowed for a significant advance in this direction by defining a methodology for establishing a typological classification of illegal parcellings. To this end, the proposal is based on the need to add other aspects of a qualitative nature to the morphological aspects that are traditionally considered. This means, of course, the need to carry out systematic fieldwork to collect this data, which, together with the use of geographic information systems, has made it possible to achieve the objectives set. Thus, two main types are established based on their planning situation. The first one, *urban-dominant illegal parcellings* (type 1), groups those that are settled on land classified as urban or developable. Secondly, *illegal parcellings with a rustic component* (type 2) fall into one of the categories established for non-developable land. The application of the other criteria established resulted in the definition of a series of subtypes within each of the major categories referred to: two for type 1 and three for type 2. In this way, each of the 121 illegal parcellings considered has been assigned to the different subtypes, which contributes to an assessment that is closer to the complexity of the phenomenon under study.

As regards the geographical distribution of the established types and subtypes, it has been found that, although with unequal intensity, most of them are distributed in the two main geographical areas most affected—Sierra and Vega. This also shows the complexity of the phenomenon itself, as it overcomes the traditional and generic distinction between parcellings in the Sierra and in the Valle. This highlights the fact

that the illegal settlements within each of these spatial areas present great typological diversity. Taking this diversity and complexity into account can help the relevant administrations to design and implement more effective measures than those used hitherto to address the necessary re-engineering of these processes.

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## ILEGALNA STANOVANJSKA GRADNJA V CÓRDOBI (ŠPANIJA): REZULTAT ILEGALNEGA URBANISTIČNEGA NAČRTOVANJA ALI RAZVOJ SKRITEGA MESTA?

### Povzetek

Prispevek obravnava ilegalno stanovanjsko gradnjo v občini Córdoba (Španija). Ta pojav ni značilen samo za Córdoba, vendar je pozornosti vreden njegov obseg na tem območju. Občina Córdoba se nahaja v osrednjem severnem delu Andaluzije, ima površino 1254,91 km<sup>2</sup> in je s tem četrta največja v državi.

Kombinacija analize dokumentov ter intenzivnega terenskega dela je pomagala osvetliti razsežnosti pojava ilegalne stanovanjske gradnje na obravnavanem območju. Raziskava je ugotovila 188 razpršenih območij tovrstne gradnje, 121 pa jih je bilo izbranih za nadaljnjo analizo. Slednja območja obsegajo 4.606,88 ha, kar opozarja na velik pomen tega pojava.

Raziskava prispeva k obogatitvi razmeroma skromnih dosedanjih proučitev tega pojava, še zlasti s tipološkega vidika. V okviru raziskave je bila razvita metodologija za oblikovanje tipološke klasifikacije ilegalne stanovanjske gradnje. Predlagana metodologija izhaja iz potrebe po upoštevanju različnih vidikov kvalitativne narave (planerska situacija, stopnja urbanizacije, kakovost gradnje, dostopnost, površina), poleg morfoloških vidikov, ki so bili pri tem že tradicionalno upoštevani. Ugotovljena sta bila dva glavna tipa. Prvi je pretežno urban, drugi pa z močno podeželsko komponento.

Za prostorsko razporeditev posameznih tipov je značilna zelo neenakomerna prostorska razporeditev. Na eni strani je opazna skoraj popolna odsotnost na območju Campiñe, ki je tako ohranila svojo tradicionalno kmetijsko vlogo. Na drugi strani gre za izrazito zgostitev na območju Vege, še zlasti njenega zahodnega dela. To je še

posebej zaskrbljujoče, če upoštevamo strateško vrednost teh zemljišč tako s teritorialnega kot kmetijskega vidika. Na območju Sierre je proces tovrstne gradnje zajel predvsem osrednji del, pa tudi območje Piedemonteja, a v bolj omejenem obsegu. Ilegalna naselja znotraj vsakega izmed omenjenih območij izkazujejo veliko tipološko raznovrstnost. Upoštevanje raznolikosti in kompleksnosti obravnavanega pojava lahko pomaga relevantnim administracijam oblikovati in implementirati bolj učinkovite ukrepe, kot so bili doslej uporabljeni za reševanje tovrstne problematike.

*(Prevedel Dejan Cigale)*