
Understanding Madrid's peripheral vacant land.

A means to a physical regeneration.

EURAU'12

ABSTRACT. The ultimate aim of this work is to reclaim further research on the nature of vacant land, making apparent its extent within the urban fabric and therefore, its great value as a land resource for contained development and urban regeneration. In so doing, a physical approach to vacant land is proposed, in order to prepare the ground for a future analysis of economic and social dimensions of the problem. The main hypothesis of the study is that there exists a physical pattern, common to all vacant land, which is underpinning its existence. Moreover, the planning tools and mechanisms have been unable to bring back to use this land and have even collaborated on its endurance. The methodology will pose qualitative and quantitative approaches and will include semi structured interviews with the actors involved in the planning process. Though this is a work in progress, the findings reached so far are proving the hypothesis right.

KEYWORDS. Vacant land, land ownership, land use, physical regeneration, sustainable growth.

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1. Context

Sustainable development has been promoted in Europe, since the beginning of the 90's, through a series of spatial policies that have pushed forward a polycentric urban system model and a new understanding of the relationship between rural and urban areas (European Commission, 1999).

Accordingly, a whole set of European programmes (ESDP, EU-LUPA, Corine Land Cover, etc.) have been put in place so as to better comprehend the growth patterns of European countries, to forecast their future scenarios and to propose the convenient strategies to couple growth and sustainability.

Nevertheless, the scale and growth-led strategies of these programmes (Reginster, 2006) are not fitted for the analysis of changes taking place in the already built-up urban areas. Therefore, much of these alterations have been barely studied. One of these is the emergence and endurance of vacant land.

The European Commission has recognized that 'compact cities' and 'land recycling' are innovative ways of planning for sustainability and dealing with urban sprawl (European Commission, 1999). In addition, on considering the EU's standpoint on sustainable development (European Commission 2006), it could be agreed that this is not only a matter of planning for sustainable growth but also planning for a better harnessing of the resources. Hence, it could be expected that the existence of vacant land within the built-up areas were a matter of overriding relevance on the political and town planning agendas. Nevertheless, the literature review has revealed that there is little research done on this subject.

Accordingly, the research will try to cover this gap by looking at the nature of vacant land and how it could be brought back to use, in order to make cities more compact and efficient.

The current research will focus on Madrid's peripheral vacant land and its physical dimension. But trying to provide evidence on how physical factors influence urban developments does not necessarily mean that the social or economic factors, which also operate in the urban realm, should be forgotten. Nevertheless, in order to deliver an effective redevelopment, it is crucial to identify the likely scopes and goals of each approach (social, economic or physical) so actions and strategies can be conveniently directed. Starting off with the physical dimension will provide a solid ground for further investigations on the economic and social dimensions. Ultimately, social relations and their struggles are bond to their physical materialization and anything affecting the latter would also have an impact on the former (Dematteis, 1999).

2. State of knowledge

As it has been said before, there is not much research done on the nature of vacant land. This has usually been considered as a by-product of wider issues, like the shrinkage of cities (Cunningham-Sabot et al., 2009; Hollander et al., 2009). It has also been addressed indirectly, within re-development programmes and policies for derelict areas (Greenstein and Sungu-Eryilmaz, 2004; Kamvasinou, 2011; Taylor, 2008) But the truth is that the particular reasons for the existence and endurance of this type of land have been barely looked at (Pagano and Bowman, 2000).

However, there are some interesting works that have been found and used to frame the research. For instance, UK has paid greater attention to the nature and extent of vacant land than any other European country, delivering a reasonable number of reports and researches on the topic. These can be classified in two different groups: on the one hand, there are some works that have posed a clear market-led approach to the problem of vacant land (Burrows, 1977; Markowski, 1978; Bruton and Gore, 1980) On the other hand, there are some others that have been more interested on land delivery processes and the implementation of specific planning tools (Whitbread et al. 1991; Davis 1997, PIEDA 1997).

Despite this classification, both groups have shown some common findings and mistakes. In first place, they both point out the relevance of property regime and land ownership pattern in the existence of vacant land (Campbell, 1988). In second place, most of them pose a blurry definition of the 'vacant land' concept and they usually rely on second sources of data (Campbell, 1988).

In order to avoid these common mistakes, the present research will consider property regime and land ownership patterns as main factors for the physical analysis of vacant land. Moreover, it will pose a clear definition of 'vacant land' from the outset so as to better select and study the sample of potential vacant sites.

The literature review has also found interesting works outside the European context, mainly referred to North and South America. The works of Clichevsky, Morandé and Loukaitou-Sideris have been especially relevant. The former stresses the relevance of the physical dimension of vacant land and looks at the size and the location of the sites, together with their vacancy period and their ownership pattern. The two latter highlight the impact that public regulations and planning mechanisms have on the existence and endurance of vacant land. Both of them have been used to frame the physical and planning approaches of the research.

3. Research questions

The main goal of this research is to understand the nature of vacant land and the planning implications on its emergence and endurance. In so doing, the research poses two questions:

1. How is the physical nature of vacant land within the built up area of Madrid's outer estates?
2. To what extent does the planning system affects the physical nature of vacant land?

The next section explains how these questions will be worked out.

4. Methodology

The research will use a combination of quantitative and qualitative approaches to solve both questions.

The likelihood for the quantitative analysis is similar to that of other similar studies (Whitbread et al., 1991; PIEDA plc., 1997) and will provide the empirical ground to better support the qualitative analysis. Therefore, the sample will include no less than 50 estates. However, as this is a work in progress, the number of estates considered so far is 14.

The sample will cover a wide range of states, developed from 1956 onwards, for two main reasons:

— 1956 has been considered as a starting point for the analysis because this was the year when the first Spanish Land Law was enacted. Therefore, 1956 could be considered as the year when the modern Spanish planning system 'was born'. Accordingly, the implications of planning system over the existence and endurance of vacant land will be more apparent than in the inner city areas, with a longer history.

— The sample will only consider those estates that have existed over 30 years (almost four times the timeframe considered for a development to take place) so as to avoid 'immature areas' that are still in the pipeline.

Moreover, the sample will take examples randomly distributed across the periphery, in order to avoid the influence of the socio-economic factors (Roch, 1999) in this physical analysis.

4.1 How is the physical nature of vacant land within the built up area of Madrid's outer estates?

As it was previously said, it is necessary to establish right from the outset what 'vacant land' is, so as to better analyse the estates' empty spaces. The definition is as it follows:

— 'Vacant land' comprises those empty spaces that have remained abandoned or undeveloped within the planned urban fabric. Accordingly, there exist three types of vacant land, depending on their endurance and planning status:

- a) Abandoned spaces: empty land which has not been used lately (1) but was once used as planned.

- b) Void spaces: empty land which has never been developed and has never been used as planned.

- c) Leftover spaces: unplanned empty spaces or, to put it in another way, land-leftovers ignored by planning process.

By breaking the concept down into three different categories, the research not only will provide clear boundaries to the concept itself but also will highlight the dynamic quality of the vacancy process over time (Campbell, 1988).

Once the concept has been made clear, it is possible to start off with the analysis of the sample. This will be done in two steps. Firstly, the research will deliver an aerial approach to the selected estates, built up from 1956 onwards. Google Earth, SIOSE

data base and DoE's reports will be the main sources at this point. The data will be put together using GIS software, to facilitate its graphic and numeric analysis, as well as to convey the outcomes as visually as possible.

Secondly, the research will track the planning evolution of the potential vacant land identified before, from their inception up to the present moment. This way, it will be possible to check whether the empty spaces have been ever used before and whether they have ever been planned.

Finally, the desired classification will be achieved and it will be represented by means of individual cards, one for each estate.

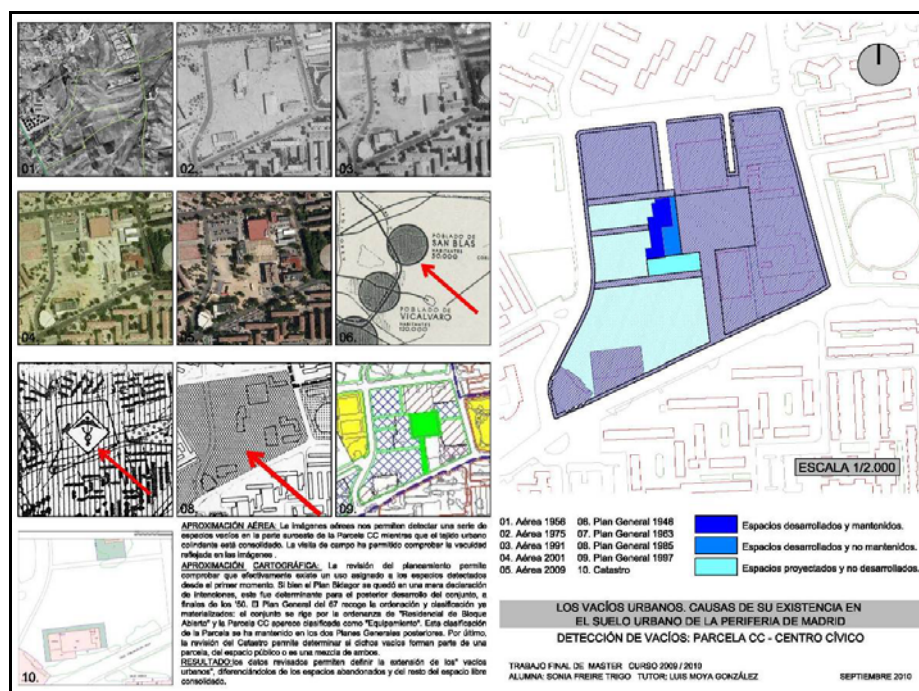


Fig.1

Once the three different types of vacant land have been identified and quantified within each estate, the research will look at their Physical Factors, namely Land Ownership, Land Use, Morphology and Location.

The Aspects considered for each Physical Factor have been selected drawing on similar studies from the literature review. They are the followings:

FACTORS	CHARACTERISTICS	ASPECTS
LAND OWNERSHIP	PROPERTY REGIME (Needham, 2006)	STATE PROPERTY
		PRIVATE PROPERTY
		COMMON PROPERTY
		NON PROPERTY
	NATURE OF PROPERTY RIGHTS (Needham, 2006)	"FISHING RIGHT"
		"MINING RIGHT"
		LEASEHOLD INTEREST
	BOUNDARIES	CLEARLY IDENTIFIED
NOT CLEARLY IDENTIFIED		

Fig.2

FACTORS	CHARACTERISTICS	ASPECTS
LAND USE	ALLOCATED USE (PIEDA, 1997)	SOFT USES
		HARD USES
	UNEXPECTED USE (PIEDA, 1997)	SOFT USES
		HARD USES
		POTENTIAL DEMAND
	BOUNDARIES	CLEARLY IDENTIFIED
		NOT CLEARLY IDENTIFIED
	GROUND CONDITIONS	CONSTRAINTS
NO CONSTRAINTS		

Fig.3

FACTORS	CHARACTERISTICS	ASPECTS
MORPHOLOGY	SHAPE	REGULAR
		IRREGULAR
	SIZE (according to the requirements of the allocated use)	EXCEEDING
		MATCHING
		LACKING
	SLOPE (MOPT Guidance)	STEEP SLOPE ($\geq 12\%$)
		ACCEPTABLE SLOPE (5% - 12%)
		SOFT SLOPE ($\leq 5\%$)
	BOUNDARIES	CLEARLY IDENTIFIED
		NOT CLEARLY IDENTIFIED

Fig.4

FACTORS	CHARACTERISTICS	ASPECTS
LOCATION	ACCESSIBILITY	CAR ACCESS
		PEDESTRIAN ACCESS
		PUBLIC TRANSPORT ACCESS
	CENTRALITY (Space Syntax)	CENTRAL
		PERIPHERIAL
	RELATIVE POSITION (with reference to singular elements)	ADJOINING INFRASTRUCTURES
		ADJOINING PUBLIC AMENITIES
		ADJOINING VACANT LAND
		ADJOINING OPEN SPACE

Fig.5

A table comprising the four physical features will be elaborated for each example identified.

The feasibility of this analysis is certainly high. Most of the information is available on line, except for the information on the nature of private property rights. But even this could be available through a formal request to the Land Register Office.

As a result from the analysis, a whole set of characterizations is expected for each type of vacant land (abandoned spaces, void spaces, leftover spaces). At this point, it will be then possible to look for common patterns within each type.

A common pattern will be that one in which 'Aspects' fall within the category of 'Always'. Four categories will be considered as it follows:

- Always: 'Aspect' appears in 75% - 100% of the sites.
- Often: 'Aspect' appears in 50% - 75% of the sites.
- Rarely: 'Aspect' appears in 25% - 50% of the sites.
- Never: 'Aspect' appears in 0% - 25% of the sites.

As it has been explained before, this is a work in progress, which means that the outcomes presented here should be taken as preliminary ones that may vary as the work evolves. Nevertheless, some interesting findings have emerged so far:

- Firstly, State Property is the most relevant Aspect within the Land Ownership Factor, being the Public Administration the main owner of the Vacant Land considered. Secondly, Soft Use is the most relevant Aspect within the Land use Factor, being the Public Amenities the most common allocated use of the vacant land considered. Accordingly, causation between the management of planning development and the endurance of Vacant Land could be expected.

- In third place, Not Clearly Identified Boundaries and Irregular Shape are the most common Aspects within the Morphology Factor. In this case, the scale used for the Master plan proposal could be at the root of the problem. The design of urban spaces requires a fine approach that cannot be achieved through a Land Use approach.

- And last but not least, Vacant Land is usually located beside major infrastructures (railway, motorway, etc.) or big blocks with single uses (large shopping centre, large park, large sports centre, etc.). The analysis here reinforces Jacob's explanation about the 'curse of border vacuums' (Jacobs, 1961. 257) which are triggered by these single massive uses.

To sum up, the work is proving the existence of a common physical pattern for Madrid's peripheral Vacant Land. However, the definitive outcomes will be provided once the analysis of the 50 estates is finished. Then it could be better assessed to what extent a physical pattern could be underpinning the existence of the vacant land considered.

4.2 To what extent does the planning system affects the physical nature of vacant land

The second stage of the research will look at the relationship between planning system and vacant land. The main goals are:

- To assess to what extent vacant land has been considered a problem that needs specific measures.

— To assess to what extent planning tools have been responsible for the existence and endurance of vacant land.

The first goal will put into perspective the way planning system has dealt with vacant land. As some authors have pointed out (Burrows, 1977; Pagano and Bowman, 2000; Kamvasinou, 2011) vacant land has not always been considered as a problem but a matter of time for development to take place. Therefore, society (local and national authorities, owners, property developers, etc.) have remained oblivious to this issue and have not pushed forward the adequate measures, especially at the planning development stage.

Two types of semi-structured interviews will be carried out, depending on the actor's implication on the problem of vacant land: on the one hand, actors involved in the design and implementation of planning system (planner officers, researchers and politicians) and on the other hand, actors involved in the development of land (owners, property developers, planner officers).

The specific content of the interviews is yet to be defined. However, some of the questions that might be included could be the following:

- Do you see vacant land as a problem or as an opportunity?
- How does the common physical pattern affect a planning proposal?
- What planning mechanism/tool could tackle this pattern effectively?
- Have you got any previous experience in this sense?

Once the awareness of the actors involved has been made clear, the second goal should be able to provide a better assessment on the implication of planning tools in the existence of vacant land.

The research will compare the current physical patterns of vacant land (identified on the previous stage) with their original ones (those physical patterns existing at the moment of their inception). This way it could be detected which planning tools and mechanisms have been commonly applied in the existing vacant land and also which ones have been successful in bringing vacant land back to use. Moreover, it could be assessed to what extent this planning tools and mechanisms have taken into account the common physical factors previously detected.

The analysis will consider the planning tools and mechanisms used in different planning instruments (strategic plans, local plans, master plans and planning proposals). The comparison will be displayed in a matrix in order to highlight any likely correlation between the existence of vacant land and the planning instrument put in place.

The documentation gathered on the first stage of the research will provide the information needed for the original patterns of the vacant sites. Moreover, the use of GIS will make easier to track the evolution of patterns over time and support the outcomes with graphics and maps.

5. Expected outcomes.

So far, the work is proving that a common pattern of physical factors may be underpinning the existence and endurance of vacant land in the built up areas of Madrid's periphery. Proving this would highlight the relevance of a physical approach to the urban regeneration processes.

Drawing on this, the analysis of planning implications would highlight the need for a finer approach to the design of the public realm than the one that planning instruments usually provide. Moreover, the analysis would also provide an interesting review of the extent planning instruments are built upon tangible factors or are mere constructs built upon abstract standards. This could lead ultimately to the reclaim of a greater presence of urban design in the planning process, a new 'urban project' for our cities (Moya, 2002).

Finally, the ultimate aim of this work would be to reclaim further research on the nature of vacant land, making apparent its extent within the urban fabric and therefore, its great value as a land resource for contained development and urban regeneration. Ultimately, the expected positive outcomes

6. Notes

(1) The period of time consider here is 8 years. This threshold is deemed by the planning system as the maximum time allowed for a development to take place (Madrid Plan).

7. Legends

(Fig.1) Vacant Land card for the CC Estate, in Gran San Blas (Madrid). Source: Author (MSc dissertation)

(Fig.2) to (Fig.5) Qualitative analysis for each vacant site. Source: Author (PhD work)

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9. Biography

Sonia Freire Trigo is an architect and an urban planner, graduated in the School of Architecture at University of Coruña (UDC). She then worked as an urban planner for five years, delivering development planning proposals for public and private clients. During that period, she also took an MSc in Economy and Building Management at the Faculty of Economics (UDC) and a Course in Town Planning at the Galician School of Public Administration (EGAP).

In 2009, she left her job as a senior urban planner and took an MSc in Urban and Regional Planning at the Polytechnic University of Madrid (UPM), joining its PhD programme in 2010. At present, she is living in London and has just finished a six month research stay in the Bartlett School of Planning, at the University College London (UCL) where she will join in as a full PhD student from September 2012.

Besides her research on vacant land, she is also interested on the topics of urban agriculture and the walkability of the built environment.

She is member of the Galician Official Association of Architects (COAG) since 2004, member of Architects Without Borders-Spain (ASF-E) since 1999, member of the UPM's Association of Researchers (NeReAs) since 2010 and member of AESOP since 2011.