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## RESEARCH ARTICLE

### **All that glitters is not gold. Urban sustainability and ecodistricts in Spain**

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Since the mid-1980s, ecodistricts have caught the attention of the academic world. By concentrating many of the features promoted by sustainable-development advocates, ecodistricts represent an interesting attempt to go beyond the modernist – and unsustainable – vision of the city. In recent years we have witnessed an impressive growth of ecodistrict-labelled projects in European countries, and more specifically in Spain during the recent take-off of the real estate market. Nevertheless, we demonstrate that in many cases, such urban programmes are mere smoke-screens which obscure the financing of traditional housing projects of doubtful sustainable content. In order to explain this phenomenon, we argue that the misuse of the sustainable-development label in Spain is due to a series of institutional mechanisms that ignored middle-term environmental costs.

**Keywords:** ecodistricts; eco-neighbourhoods; sustainable communities; urban policy.

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## **Introduction**

Ecodistricts – also known as “ecobarrios” in Spanish and “sustainable communities” or “eco-neighbourhoods” in English (Van der Rhyn and Calthorpe, 1986; Rudlin and Falk, 2000) – are urban areas which integrate different technical solutions and sustainable habits in order to minimise environmental, economic and social costs.

The main objective of ecodistrict defenders consists in surmounting the problems currently posed by modern urbanism – a movement born in the early 1900s, which now dominates city planning – through a strategy to promote urban sustainability. Literature on ecodistricts can be found in different sectors of study, like urban planning and architecture, urban governance and urban policies, and sustainable-development analysis. According to some authors (Wackernagel and Rees, 1996), occidental cities are responsible for a high proportion of global pollution. European cities share a large part of this responsibility, although their potential for implementing sustainable solutions is higher than in American cities, as demonstrated by the numerous eco-neighbourhoods developed in recent years (Beatley, 2000; Portney, 2003). Despite a general agreement on the social usefulness of ecodistricts, their existence has also generated certain critiques. Indeed, sustainable communities are sometimes perceived as “ghettos” for the middle-classes (Da Cunha, 2007). In a similar fashion, the implementation of ecodistricts is sometimes seen as a particularly complex goal, since the urban regime necessary to lead such policy must include a wide range of economic, political, cultural, and social actors (Stone, 2001). Thirdly, the enlargement of the concept of sustainable development has converted ecodistricts into a fuzzy category aiming to promote architectural and/or social and/or economic issues, according to a more or less participatory democratic framework (Redclift, 1987; Wheeler, 2006). Lastly, it has been stressed that the term “sustainable neighbourhoods” sometimes hides

an unsustainable *praxis* for commercial reasons, especially in Spain (Del Caz Enjuto, 2003).

This paper focuses on the latter criticism by asking to what extent the ecodistrict label has been diffused in Spain, and why many of the Spanish eco-neighbourhoods follow unsustainable patterns of growth. The choice of Spain was obvious, since for ten years Spain led the ranking of European countries in terms of housing promotion (Pérez Monguió, 2006).

In this article, we aim to demonstrate that the growing number of new “ecodistricts” in Spain is no coincidence. Nevertheless, most “sustainable” urban programmes developed in Spain are mere smoke-screens which serve to hide the financing of traditional housing projects of doubtful sustainable content. According to us, this is due to a series of multi-level institutional arrangements that privileged short-term economic and political profitability and ignored middle-term environmental costs.

This hypothesis is supported by an historical new-institutionalist approach (Pierson, 2000) which assumes that the urban environment is a common resource used by a large range of actors. This paper contends that local systems of regulation have developed over time in order to manage this resource. As a consequence, these patterns orient the evolution of different political sub-systems via different routes (“path dependence” mechanism).

This research was funded by the *Centro de Estudios Políticos y Constitucionales*, through the García Pelayo post-doctoral programme. It was conducted from October 2008 to March 2009 through the reading of advertising campaigns for new buildings launched in the newspapers *El País* and *El Mundo* from 1998 to 2008; then we focused on some of these projects in a qualitative way through a series of 25 semi-structured interviews with scholars, civil servants, journalists, and political representatives; and

through a general review of scientific journals and *grey literature* used by ecodistrict implementers in Spain.

This paper is articulated as follows. In the first part, we propose a general overview of the rise of ecodistricts as a new and fashionable “urban brand mark” for urban development. Next, we attempt to understand their process of international diffusion. In the third part, we focus on the uncontrolled emergence of Spanish ecodistricts and on the institutional factors that provoked the development of such false sustainable communities. Brief conclusions seek to draw out the implications of such developments.

## **Defining ecodistricts: a new brand mark for urban sustainability**

### ***Urban quarters and ecological innovations***

Taking up the challenges of sustainability, ecodistricts have appeared in many parts of the world. Though their objectives and forms vary greatly from one case to another, we argue that all must comply with certain criteria in order to be considered as ecodistricts.

First of all, one of the main objectives of ecodistricts consists in increasing density and compactness – a concept traditionally confused with the issue of overcrowding. Nevertheless, as Alice Coleman (1990) points out, although modern high-rise blocks may give the impression of high density, in reality they are often built for relative low density, since shops, parks, and public facilities dramatically lower the number of people per km<sup>2</sup>. As demonstrated by the Vauban district in Freiburg, or the Vesterbro district in Copenhagen, compactness and density improve the ecological efficiency of cities and reinforce social relations among residents.

The layout of houses is another important element of the ecodistrict strategy. Considering that decisions related to housing cannot be left wholly to the market, some municipal councils must attempt to redirect urban growth and zoning by situating jobs, houses, and commercial and leisure areas nearer together. In concrete terms, this means the classic division of cities into single-focus areas (city business centres, residential districts, and industrial-commercial parks) is a source of unsustainability and should convert to mixed-use spaces, where all functions are disseminated within a single district (Calthorpe, 1986; Vale and Vale, 1991).

Regarding the form, design, and details of individual houses, housing promoters continue to build houses for families made up of two parents with children, while the number of pensioners, students, childless couples, and single-person households is increasingly growing. More flats are needed, and the entirety of cities must be used – including brownfield lands and empty commercial space – as demonstrated by the GWL Project in Amsterdam.

In the same way, transportation is an essential feature of ecodistricts. The main problem here is automobile dependence, which is a source of congestion, accidents, noise, CO<sup>2</sup> emissions, ozone pollution, acid rain and cancer. Reducing car use is necessary and some key policies should be implemented toward this end, viz. imposing traffic calming initiatives (barriers, S-streets, speed restrictions...), proposing alternative means of transport (buses, trains, tramways, metro, bicycling, walking...) and reducing the need to travel by creating “land villages” (multimodal centres fully served by public transport) (Newman and Kenworthy, 1999).

Protection of open space is essential, not only through protecting non-developed areas, but also by restoring contaminated lands. Protection and restoration of natural habitats are fundamental policies for maintaining biodiversity and saving endangered

species. Obviously, this is not a simple task, as some species tend to colonise cities by displacing other species; the question is, which historical or indigenous conditions do we choose to restore? (Riley, 1998).

Resource use is probably the most important aspect of sustainable communities. The main problem is that the “metabolism” of large cities is essentially linear, while the metabolism of a forest is circular (as outputs are recycled to become new inputs (Girardet, 1999). The solution employed in ecodistricts consists in saving resources and recycling whenever possible (water, for instance). Solid wastes, before being buried in landfills, should be sorted and recycled, re-used, composted, or burnt to generate energy. This is the policy followed by a growing number of cities in Europe, particularly in Hanover’s Kronsberg district, where many innovations have been combined to reach their clean city objective (Tillman Lyle, 1994).

Energy use follows the same pattern. Although new technologies need less energy to work, the number of cars, refrigerators, computers, televisions, etc., continues to grow. Indeed, cities need increasing amounts of gasoline and electric current to maintain their activity. Moreover, the loss of energy provoked by the transport of electricity from big power stations can reach 40% of total input. Although zero-emission cities remain impossible to build, the solution implemented in ecodistricts is threefold. First, energy consumption is reduced through the use of new technologies (providing better insulation for houses), new life-habits, and improved urban compactness (travel from home to job is reduced). Second, new heating and power stations can diversify their inputs by combining wood chips, methanol, ethanol, geothermal energy (eventually completed by fuel cells using hydrogen or photovoltaic modules on the roofs of buildings). Third, energy-supply systems can be located as near as possible to residents, in order to avoid losses through transmission. A good example of this is the BedZed district built in

Beddington, South London, where the objective of zero-emission houses has led to innovation in home construction.

### ***Urban sustainability and economical feasibility***

However, ecodistricts must be conceived not merely as ecological sanctuaries, and they should be economically self-sufficient. On the one hand, residents must be convinced that have made a long-term investment at a reasonable cost (that could be lowered using prefabricated systems of construction, as in London's Millenium Village). On the other hand, "clean" economic activities must be available to allow people to work near their home. This is why architects and planners tend to favour mixed-use areas over single-use districts.

### ***Promoting community wellness***

Community wellness is obviously more difficult to measure, but this concept includes ideas such as a sense of community and common identity, to avoid becoming middle-class ghettos. Although the link between urbanism and social welfare is not clear (whether the existence of a community creates a successful area, or whether a community is the product of a successful area), there is powerful evidence demonstrating that a "sane" urban environment is a source of wellness for residents (Putnam, 1995). In short, well-designed districts would be an instrument to avoid environmental inequity (Bullard, 1990) and antisocial behaviours, and create stable links between residents (Page, 1993).

### **The international diffusion of ecodistricts**



### ***International incentives for promoting urban sustainability***

Without a doubt, the 1992 UN Conference on Environment and Development (the “Earth Summit”) held in Rio de Janeiro was a crucial event for the future of ecodistricts. The Rio Summit reformulated the definition of sustainable development created by the 1987 Brundtland Commission and provided an essential instrument for sustainable community planning: Chapter 28 of Agenda 21 .

Chapter 28 of Agenda 21 was prepared and promoted by the ICLEI (International Council of Local Environmental Initiatives). The ICLEI worked in collaboration with the United Nations Environment Programme, the International Union of Local Authorities (IULA), and the European Commission. Despite the Local Agenda being soft law, in the sense that it is regarded by national governments as highly interpretative, this lobbying proved efficient and by 1996, more than 1,800 local agencies in 64 countries were involved in Local Agenda 21 activities (adaptation of the Agenda 21 at the local level) (O’Riordan and Voisey, 1998; Lafferty and Meadowcroft, 2000).

Given this intense activity, the 1996 City Summit in Istanbul represented a logical step forward for specifically dealing with urban development issues. The resulting Charter, known as the Habitat Declaration, avoided certain topics strongly opposed by powerful nations like the United States (including land-use and speculation taxes); however, it proposed changes in “unsustainable consumption and production patterns, particularly in industrialised countries”, and called for “land-use patterns that minimise transport demands, save energy, and protect open and green spaces”.

This declaration gave additional impetus to Local Agenda 21, which included 6,200 local agencies by 2002, when the 2002 World Summit on Sustainable Development was

organised in Johannesburg, South Africa. The Summit invited the sharing of best practices on local sustainable planning. The result was highly mixed, but some agreements were established for tackling water and sanitation issues within the world's cities.

### ***The progressive involvement of the European Union***

This is not to say that the European Union has been inactive in this field. On the contrary, it has been a prime forum for developing continent-wide sustainability proposals from the 1990s onward, as demonstrated by the Green Paper on Urban Environment published by the European Commission in 1990. Actually, a large part of Chapter 28 of Agenda 21 was the product of efforts by European pressure groups – including the European Commission itself. Indeed, in 1991, the European Council established the Expert Group on the European Environment. This group generated intense diffusion of knowledge, and lobbying at different territorial levels through the *Sustainable Cities and Towns* campaign, which integrated various actors like the ICLEI or IULA. Meanwhile, a specialised group of the European Commission (1992) focused on the “Future of European Cities” and reached similar conclusions: a great effort should be made to improve the sustainability of European cities and towns while maintaining their inhabitants' quality of life through technological innovations.

Two years later, the Expert Group on the European Environment managed to catch the attention of cities world-wide by organising a seminal event in Aalborg, Sweden: the *Sustainable Cities and Towns in Europe* conference (1994). This conference resulted in the so-called Aalborg Charter, a document outlining basic assumptions for improving sustainable development in European cities. This adaptation of Agenda 21 to the local level in Europe proved successful, since the network created around this event

currently integrates 1,000 local authorities representing 100 million people in 36 European countries. Moreover, the Charter was followed by a continuous effort of diffusion and deepening of good practices, as demonstrated by the publication *European Sustainable Cities* (European Commission, 1995).

Thanks to its relatively de-politicised position, the Council of Europe tried to reinforce this movement by proposing in 2000 a document entitled *Guiding Principles for Sustainable Spatial Development in the European Continent*, where it tackled issues like an efficient continent-wide transport system, the preservation of ecological and cultural landscapes, and so on. And these proposals were heard, as evidenced by the European Council's adoption in 2001 of the *European Union Sustainable Development Strategy*, in Gothenburg (renewed in 2006), a plan for reducing Carbon Dioxide emissions and maintaining non-renewable resources.

## **The rise (and decadence) of ecodistricts in Spain**

### ***Use and misuse of the ecodistrict label***

Ecodistricts are not a purely European – or Occidental – phenomenon and many examples can be found in developing countries (such as Curitiba city in Brazil). Nevertheless, the Viikki district in Helsinki (Finland), the Ecolonia quarter in Alphen Den Rin (Belgium), the GWL-Project in Amsterdam (Netherlands), the Vauban district in Freiburg (Germany), the Kronsberg district in Hanover (Germany), the BedZed area in Beddington (United-Kingdom), the BO01 in Malmö (Sweden), the Vesterbro district in Copenhagen (Denmark) or the Hammarby Sjöstad quarter of Stockholm (Sweden) all demonstrate that the most famous cases are located in northern Europe, where local

governments have taken the challenge of sustainability very seriously since the 1990s (Arene, 2005; Eco-Valle, 2005).

In Spain, the adaptation process has been more complex. First of all, the majority of Spanish ecodistricts appear in non-urbanised areas. Unlike in northern European countries, Spanish slums and industrial areas have not managed to attract the attention of public and private housing eco-promoters. One of the reasons behind this phenomenon lies in the reduced willingness of municipal administrations to conceive specific eco-master plans for urbanised areas and then attract possible buyers. Until now, given the current state of housing regulation in Spain, profits generated by the simple sale of non-urbanised municipal lands by municipalities to private promoters largely outpace the hypothetical gains of building an ecodistrict via public administration.

Regarding best practices in sustainable community issues, we identified some examples which demonstrate that strong public investment and control over the building process have been successful (Echebarria, Ibarrutia, and Aguado, 2004, 273-281). Indeed, Valdespartares (Zaragoza), with 9,800 flats (only 230 buildings) is planned for completion in 2010. It is located on former military land with particular sun and wind orientation in order to create “microclimates” within private spaces. In the Barcelona provinces, the Policity project of Cerdanyola del Vallés uses ecological heating and cooling. In San Sebastián, the Tetraner district is geared toward a multiplicity of energy sources. In Sarriguren (Pamplona), the 5,027 flats make this programme the most innovative Spanish ecodistrict. The Sarriguren quarter is located in a city with under 200,000 inhabitants; it is situated around a traditional hamlet and built using innovative materials. In Madrid, Ensanche de Vallecas incorporates an astounding 26,046 houses, with a district heating system fed by waste incineration and an “eco-boulevard” focused

on social uses. The Galindo programme in Barakaldo (Vizcaya) is one of the few projects which combine houses (2,200) and a large number of green spaces in a former industrial area; in the same way, Trinitat Nova in Barcelona features more than 3,300 flats in the mixed context of mountains, highways, and traditional slums. These are the best examples of Spanish ecodistricts, and most of them are partially completed (Serradilla, 2007).

Nevertheless, the vast majority of Spanish ecodistricts we analysed are clearly unsustainable. As Del Caz Enjuto (2003) states, we can identify three ideal-types of false ecodistricts. The first are those which mount expensive marketing campaigns stressing that their developments are surrounded by green spaces (for instance La Favera and Las Navas del Marqués, in the province of Ávila, or La Ciudad de la Ciencia y la Tecnología and Valdeprado Ciencia y Tecnología, in Segovia). But most such green spaces are former golf courses or leisure areas with swimming pools! This is particularly problematic in arid parts of Spain where water is crucially lacking.

The second ideal-type, much more extensive, consists in selling an apparently “green” product to buyers. These ecodistricts (Valdechivillas in Soria, Valdespartera in Saragossa, Villa Mediterránea in Almería, Santa María de Benquerencia in Toledo, Sociópolis in Valencia, etc.) use classic energy-efficiency systems (solar batteries and adequate insulation); try to conserve natural resources (through the re-use of grey water for irrigation, for instance); and promote sustainable transport (through bicycle lanes or the use of electric cars within the quarter). However, such ecodistricts share a severe handicap that makes them largely unsustainable: most are located ten kilometres or more from the city centre. This means the ecodistrict’s inhabitants must use personal cars in their everyday commute. The most surprising illustration of this contradiction, so

easily assumed by some, is the Valdechivillas quarter, where an “ecological” car-park with 46,000 spaces has been planned.

Lastly, the wide majority of Spanish ecodistricts are extremely extensive in size (between 200 and 700 hectares), and most work as closed middle-class ghettos by providing large flats for traditional families of five or six members. Obviously, this is not a rational “consumption” of land – a non-renewable resource that might be used for other purposes, like cultivation or the protection of endangered species.

### ***The institutional dynamics of urban unsustainability in Spain***

Despite some legitimate cases of eco-neighbourhoods built in accordance with sustainability criteria, many developments using the term “ecodistrict” are clearly unsustainable architectural projects employing green terminology as a commercial lure for selling standard red-brick blocks. We have identified at least four institutional reasons which, taken together, explain the uncontrolled growth of the real estate sector .

The most important factor in explaining the shift towards urban sustainability has certainly been the incredible profitability of the Spanish real estate sector from 1995 to 2008 (Villoria Mendieta, 2001, 95-116). Indeed, from 1997 to 2007, the profitability of the sector grew at 175% per year. In certain cases, the conversion of rural lands into zones approved for development allowed land owners to multiply the price of their resource by 900% (even when proposed housing was for social purposes). Property developers were also certain to sell off future constructions before they were even completed; in the same way, potential owners preferred to buy houses still under construction, because the high profitability of the sector guaranteed that a house bought in 2000 could be sold two years later at double of its initial cost. Despite warnings by international agencies – from the European Parliament through representative Margrete

Auken in 2009, or from the United Nations and special spokesperson Miloon Kothari in 2007 – about the risk of overspecialisation of the Spanish economy in building trade (citing a growing gap between potential demand and increasing real estate supply), one strategy used by property developers to silence their opponents was the use of “green” terminology.

The second factor which favoured the “greening” of unsustainable projects in Spain was the financial attraction exerted by the real estate sector on all types of actors. Firstly, the rise of the building sector was motivated by easy access to bank mortgages, due to late-1980s deregulation of the financial sector and the relatively low interest rates imposed by the European Central Bank, which eased access to home ownership. This rapid circulation of money combined with the arrival of poor migrants from South America, Eastern Europe, and Northern Africa, as well as the conversion of the Mediterranean coast into a second home for pensioners from Germany, the UK, and Scandinavia. Secondly, the real state bubble provoked large firms to invest in housing and offices in order to generate immediate profits, and this short-term thinking dramatically fed a vicious cycle of speculation. Lastly, criminal organisations used Spanish real estate to launder money. The green label added a sheen of respectability to their projects. This is not to say that the whole Spanish real state sector grew only on dirty money, but as Professor Diego Vera (2007) states, it helped considerably.

Thirdly, the misuse of the ecodistrict label cannot be fully grasped without considering the lack of a clear distinction between public and private regulation of lands – which meant that the market served as the sector’s only regulator. Indeed, Law 15/2001 on Land Use transferred great power over the use of lands to Spanish municipalities (which had suffered a serious lack of resources since the 1980s, and which used the real state bubble to fund basic services and utilities). Though this

responsibility has sometimes been used in fraudulent ways (for example by allowing development in protected natural areas, for money), it has been generally managed in a legal fashion. Obviously, the power of mayors to discretionally decide the future of municipal lands went too far, as recognised by the current Law 8/2007, which transferred parts of these responsibilities to the regional level of administration. But at the end of the day, this evolution would not have been possible without the passivity of public authorities with respect to unsustainable practices, since most of them (mayors, judges, etc.) acted slowly and inefficiently (if at all).

The fourth element necessary to explain this trend was the lack of transparency, since most actors in the real estate sector (including city councils, property developers, land owners, judges, notaries, and common citizens) retained information, hid building plans, or failed to collaborate with police. For NGOs and the mass-media, access to information was made rather difficult until recent times – even where municipal and regional governments served as the prime contractor. For example, the aborted project for building a Spanish “Las Vegas” in the Las Bardenas desert of Aragon – planned by the socialist autonomous government – was not ended by pressure from ecologist activists but rather by the financial crisis which began in 2008. Actually, the sudden lack of liquidity of Northern American banks (due to another real estate crisis in the United States) stopped the influx of bank loans dedicated to housing. From 2008, it appeared that speculation had provoked in Spain the building of one million houses too many, with respect to potential demand. This is the logical consequence of the lack of urban planning in a country where such regulation was non-existent until the advent of the democratic process (1979-1982), and very limited until now.



## Conclusion

As demonstrated, so-called ecodistricts have become a fashionable concept at the international level and have met with considerable success in Spain. However, the initial intentions for “greening” the housing market in Spain seem to have ended in deadlock. While the number of urban eco-labelled projects has increased considerably over the last two decades, building practices have generally remained the same, and red-brick super-blocks continue to invade Spanish cities.

The use of green labels was simple: on the one hand, they gave more legitimacy to political leaders and building companies through the use of “eco” concepts; on the other hand, they allowed the sale of old-fashioned, unsustainable buildings in a new “green” package. The term “eco” is a *cluster-label*, viz. a performative description without significant change (Skinner, 1996). This means actors used the label but did not apply the *praxis* which corresponds to urban sustainability (Gelan, Shannon and Aitkenhead, 2008). In sum, looking back on the last decade, we must reject the majority of Spanish ecodistricts for not respecting the basic rules of urban sustainability.

As we have tried to demonstrate, a set of institutional variables renders Spain unable to apply green urban solutions by orienting the Spanish economy toward speculation. In any case, the rise of ecodistricts in Spain has been quite limited. Obviously, such a process of path dependency is not specifically a Spanish occurrence, since many other areas likewise entered in a spiral of speculation during the 1990s and met its dramatic end in 2008. As such, now may be the best moment to draw lessons from the Spanish situation. Indeed, it now seems obvious that *laissez-faire* policies, short-term investments, local scarcity of financial resources, and general opacity are all enemies of green urbanism. As many Spanish mayors now state, what is needed is

greater regulation, a middle-term perspective, more money, and open processes of coordination (Pérez Monguió, 2006, p12).

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