

POLITECNICO DI TORINO
SECOND SCHOOL OF ARCHITECTURE
Master of Science in Land, Town and Environment Planning
Honors theses

**Low density settlement and land consumption:
experiences of sustainable management in the metropolitan area of Barcelona,
Spain**

by Alice Falco

Tutor: Fabio Minucci

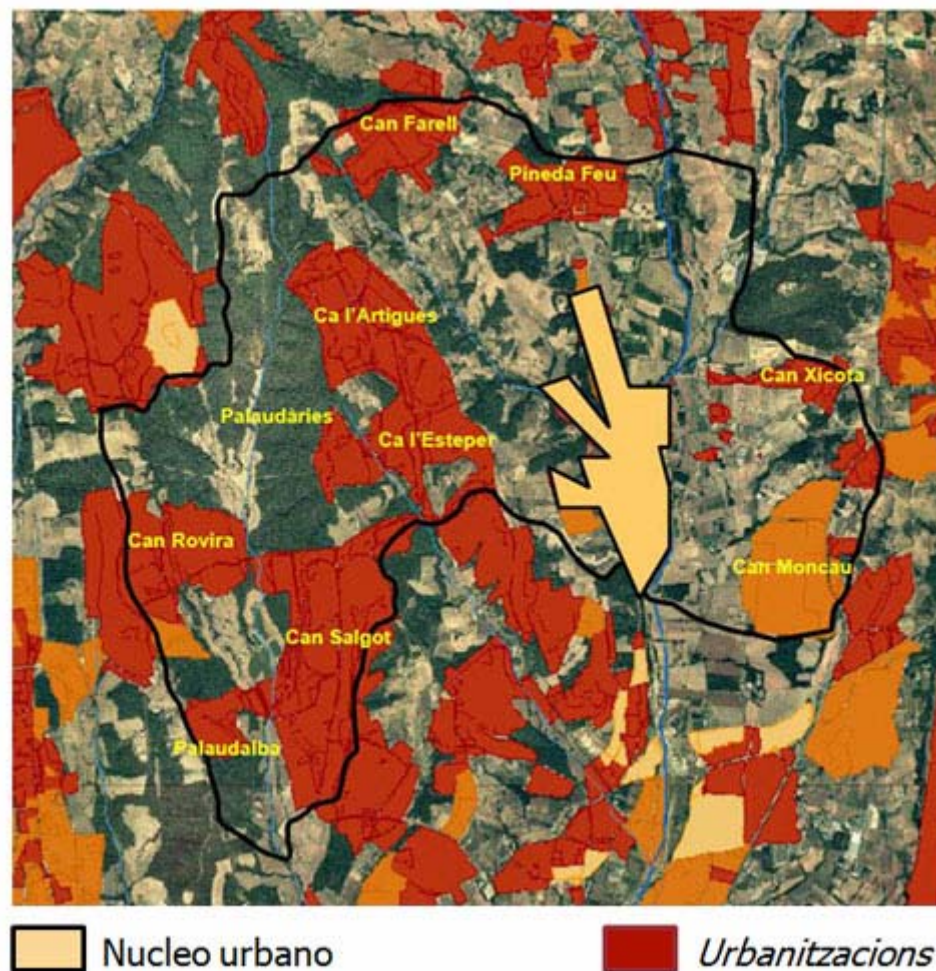
Co-tutor: Francesc Muñoz

The topic of land consumption holds an increasingly important role in spatial planning as evidenced by the numerous number of scientific studies on the subject in recent years, which have highlighted the problems by creating a certain amount of scaremongering. It is now clear that the city will not expand more with the classical extensions but in an increasingly dispersed way. These new types of expansion are to occupy higher amounts of land, compared to the past, with the creation of almost exclusively single-family building types. Besides the large amount of new occupied areas, the most worrying fact is their location/distribution and, consequently, the high degree of fragmentation that occurs. All these factors deeply undermine the quality of the territory and landscape. In regards to the metropolitan area of Barcelona, most of low density urbanized land is made from the so-called “*urbanitzacions*”, mainly located in medium-sized towns, which aren’t extensions of the urban center, but “patches” that develop in a particular historical moment in areas separate from the core. These *urbanitzacions* show significant problems in terms of environmental sustainability, economic but also social. However as this is now a widespread reality which cannot be cancelled, work is underway in Barcelona, thanks to a law for the regulation and improvement of *urbanitzacions* and also a testing of management strategies to tackle low density land. This approaches the problem from different perspectives.



Satellite photo of a *urbanització* in the town of Lliça of Amunt

The first part of the thesis focuses on new ways of expanding cities and the effects this phenomenon has on the territory and specific land consumption. As previously mentioned, one of the constants shared by these new urban forms is the fact that more land is used than in the traditional model of the compact city.



The territory of Lliça d'Amunt

The second part of the thesis addresses the issue of land use in Spain, especially in the metropolitan area of Barcelona, examining the most recent urban dynamics and changes in land occupation which have led the way land consumption has been analyzed and finally how the issue falls within the broader framework of spatial planning.



Morphology and equipment planning of *urbanització* - La Floresta

The third part has a more practical and proactive aspect than the previous sections. The general topic of land consumption is confined to the partial but significant theme of the *urbanitzacions*. High land consumption is due to several factors: the types of building used (generally low density), the disorganized manner in which they are “scattered” on the territory and far from the city center and finally the fact that in recent decades these settlement types are the most demanded way “to inhabit”.

Furthermore, land use is not the only issue relating to this type of urban expansion: this reality presents many critical issues such as the social costs related to energy sustainability, the issue of supply and consumption of water, management of municipal waste, the implementation of sewerage systems, the difficulty of implementation and management of public transport, and the so-called “landscape consumption”. Low-density *urbanization* is absolutely “not sustainable”. This thesis presents four of the most significant of these “strategies” (selective densification, reformed typological, suburban centrality and integrated strategy) developed for the metropolitan area of Barcelona to contain, reduce and manage low-density settlement.

For further information, e-mail:
Alice Falco: alicefalco@alice.it