



POLITECNICO  
DI TORINO

# Honors thesis

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## COURSE OF ARCHITECTURE FOR SUSTAINABLE DESIGN

*Abstract*

### **Rooftop Farming in the Buenos Aires City** **Towards a new urban model of resilience, innovation and regeneration**

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Current trends, which are becoming more and more relevant in the context of climate change taking place, show that in 2050 there will be 9.2 billion people living in the city. As explained by Shivaji Pandey, Director of FAO's Plant Production and Protection Division (AGP), "Historically, cities have always been places of opportunity, employment and generally better living conditions, but in many developing countries, rapid urban growth has not been driven by economic opportunities, but by the high birth rate and by the massive influx of rural population trying to escape hunger, poverty and insecurity". Thus, it is estimated that by 2020, 85% of poor people in Latin America and about half of poor people in Asia and Africa will be concentrated in urban areas. It is in this perspective, defined as the new "demographic bomb", that cities assume a strategic role of mitigating and adapting of ongoing changes. The consequences of the latter will make sure that, in the next thirty years, 60% of the earth's surface undergoes a strong urbanization with a drastic loss of agricultural land, natural capital and water resources. In this context, the challenge is to change the course of unsustainable urbanization undertaken, orienting the political agenda towards resilient urban models. According to various international bodies, the experiences leading towards this direction are those of urban and peri-urban horticulture, specifically that of Rooftop Farming.

The aim of the thesis is to propose this technology as a strategy of urban and territorial transformation in the Autonomous City of Buenos Aires. The implementation of this course of action presents itself as a measure to increase urban resilience in relation to existing environmental and economic risks; as a strategy to combat food insecurity, especially of the most vulnerable sections of the population; as an instrument of social innovation, through the declination of a new partnership between the public and private sector that can finance and build these socio-ecological spaces, through which supporting a successful integration of the more deprived community; as a practice for the physical requalification of the city, but also social, through an inclusive approach that welcomes the individual knowledge, practices and experiences and then relate them to each others through this urban network of Rooftop Farming.

To define a food policy that considers food as an urban infrastructure, a research work was started starting from a global analysis of the risks linked to climate change in progress, especially those related to agriculture and food security. In the second chapter, the causes and effects of this phenomenon are related to the urban space recognizing to the latter a role of primary importance within the processes of mitigation and adaptation of the changes underway. That is the purpose of urban agriculture, whose benefits and multiple roles are described and supported by the present Thesis work focusing attention on one of its declinations, namely Rooftop Farming.

Within the third chapter, urban food policies and programs are examined and mapped together with the local experiences of civil society in twelve major metropolises located between Africa, Latin America and Asia. The experiences reported are also analyzed from the point of view of governance, making a distinction between those promoted by civil society up to those with a real urban food system and one or more control bodies.

Chapter four therefore focuses on the urban landscape of CABA (Ciudad Autónoma de Buenos Aires in Spanish). The policy proposal aims at the recovery of flat roofs through their conversion into Rooftop Farming, starting from the analysis of environmental and social

regulatory instruments in urban areas promoted by public administrations, which could support their birth and promotion, up to the definition of a real pilot project to be implemented on a large scale. Compared to these experiences, the project is a catalyst for the resolution of specific environmental and food issues, the latter linked to availability, access, use and stability in the constant availability of food resources.

The situation described outlines an urban condition that affects the major metropolises of the world nowadays and, among these, the City of Buenos Aires.



*Resolution 175/10 APra. Image produced by the author.*

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