

**ALMA MATER STUDIORUM – UNIVERSITÀ DI BOLOGNA
SEDE DI BOLOGNA**

Corso di Laurea Magistrale in Didattica e comunicazione delle Scienze Naturali
Curriculum Didattica e Sviluppo Sostenibile

**I PROGETTI STRATEGICI
COME OCCASIONE PER
L'ADATTAMENTO E LA RESILIENZA
DEL TERRITORIO**

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Anno Accademico 2024 - 2025

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Sitografia

How should we behave in a scenario that continues to evolve? If we say that it is far more easy to design and propose ideas inside a laboratory where each variable can be completely controlled and stressed, we wouldn't commit a mistake. So strategical project, following this way of thinking, should have an elemental realization and planning.

It isn't like that

As anticipated by the opening question of this introductive paragraph, we live in an environment that keeps on changing, positive or negative despite our point of view as one among the other species that live on the planet, and for this reason only, now considering our not indifferent viewpoint, to plan new solutions we must follow the family of Chamaeleonidae. These creatures are masters in adaptation, and are resilient through changes; strategical projects, then, must be able to respond to several needs and must be ready to undergo modifications to adapt to different points of view, to criticisms, to melt and integrate, becoming one unique thing with what surrounds without being source of social division and environmental rift.

Cities and environment are often in conflict for several reasons. The aim of this thesis, therefore, is examining how big projects could be great opportunities to balance the environmental issue and the social one inside cities.

Same rights on the paper, same right in the reality; equal justice on the paper, equal justice in reality.

In order to explore this theme, we should consider different stakeholders, several voices and opinions, giving also the possibility to who does not have human voice to bring its own reasons inside strategical projects as in the case of the Nuova Porrettana, a project that affects a wide area of the province of Bologna. Then,

considering the large group, it is necessary to understand how to communicate, being effective without being preponderant and grasp the moment but also how to give room for others contributes encouraging participation from the bottom, the citizens. In this way the needless disagreement can be reduced or removed, which may have the possibility of damage the confidence in the project therefore people have a negative response that doesn't show no will in listening to other reasons. Focus on, but also invest, the environmental component as economic balance for health isn't a hazard that will not bring to tangible results but it is a fundamental allied to change the world that will come, the future, entrusting posterity, a reality, hopefully, a better one compared to the current state.

Now we could ask how could be possible to reduce or, in the best case scenario, cancel the conflict between the city and the environment, between man and nature. There are different possibilities as: apply the principle of Do Not Significant Harm, DNSH, use satellite pictures that investigate the planet's surface throughout different spectral lengths, Nature Based Solutions, NBS, and many other stratagems, or in order to define them in a better way, shrewdness.

In order to appreciate solutions that can be used to change the city and the environment, three projects have been selected are: Madrid, the Calle 30 project created new connections, Boston, through the Big Dig project among several changes introduced a new road system with tunnels and bridges, Barcellona, the Plaça de les Glòries Catalanes realized an enormous multilevel roundabout. Those will then be studied and compared to the local project of Nuova Porrettana in Casalecchio di Reno. The comparison will be carried out considering several environmental matrices. The aim of this study is to be able to understand whether the

actions locally undertaken have been carried out to the best of the current availability or can be improved among the other examined situations.

Languages translate the term environment in several ways that could be more or less direct in its meaning, what surrounds. Environment acts a crucial role in each project, for this reason it mustn't be left aside; at the beginning of our history the environment was our home then it was confined outside our existence, beside the borders of our cities; we have witnessed, well lived, the consequences of that wicked choice.

The definition, the legal one, of environment is worth because it can guarantee a better protection for health's environment; the consideration of this actor begun in 1941 with the Trail Smelter Case, then several Conferences, Associations, Organizations, Politicians, and others where more and more interested in its safeguard.

As links in the net are thick, as the efficiency of the net is high. Fishermen could agree. This is a good metaphor to describe the strength and the effectiveness of the relations between life, biotic part, and environment, abiotic one. Animals, plants, fungi, microorganisms mirrors the health of the environment; if one or more links are missed the net collapses, as well as life. You, dear reader, may find what has been described inside a book written by Lovelock, A New Look at Life on Earth, where balance and feedbacks play an important role too. Remember that life has a great, powerful, talent to change the planet, the first recorded evidence was dated back in the Precambrian Age thanks to the innocent life of some bacteria that started the Great Oxidation Event, GOE, in which the planet reached for the first time a steady amount of free oxygen in the atmosphere. But this isn't the only example that we could cite; there are several of them. As each life form can influence, and modify, the

environment, it could also do the same to life through, for example drugs, pollution, plastic, Persistent Organic Pollutants, POP, specifically bioaccumulation and biomagnification. But plants are also the exception to this trend because they could suffer but also be the solution, without suffering any stress.

Changes are important but they could also be problems if we consider timing, life knows it, this is the reason for many figures are discussing how could we call the period in which we are living in. After all names, words have an important role in communication also if they aren't the only part that is really worth in a message, they're a little part of it. Just think at pictures, they convey a message without any text, during the Medieval period the large majority of people couldn't read, so they told another language to describe the life of Saints among the other scenes.

As cities grow, streets do the same also if their grid hasn't much changed. Luckily the little part that changed improved the presence, the quality, the look of streets with plants, trees, flowers. They become an object that passes through the landscape without splitting it. Urban sprawl can be fought by sustainable development whose core is environment. Cities are affected by different sources of pollution, light, noise, urban heat island, particulate matter, gases, mobility and so on; this is the reason for several studies that try to solve completely or partially this problem. Cities need to increase the presence of green, plants and green infrastructure, blue, water and blue infrastructure, and biodiversity also in order to increase the resilience of the city's system. One possible source of help is mitigation in addition to resilience. This isn't the only way to solve these problems, there are also quality labels, life cycle assessment, life cycle impact assessment, international ISO standards, administration.

Nature isn't worth only for animals but also for us as many scientists, poets, artists told us. It can be our medicine, both for body and mind.

After all these observations, I'll put the focus on some projects that have been realized in Madrid, Boston and Barcellona, till the main core of this thesis, Nuova Porrettana, a street whose layout has been changed due to the improvement of mobility, pollution, a safer situation for citizens, infrastructure's environmental quality. I've proposed several changes in this project, such as putting citizens in the center of the project to ensure a better communication but also participation considering all kinds of means of communication, from paper to the internet till moments of sharing inside conferences, workshops and seminars. Another change concerns vegetation that will also comprehend the local vegetation, herbaceous, shrub-like, arboreal, so biodiversity will naturally increase and different species will prosper also inside an anthropic environment, city, during the whole year period also offering new and lovely sight for population that lives around.

Materials and light sources are other protagonists of change to fight light pollution and urban heat island.

Safety is too important, also in tunnels, this is the reason for I've recommended an improvement in the fire prevention system and in ventilation one.

The monitoring in programs and projects is an important part because it allows to control if parameters are respected.

I decided to follow the project of Nuova Porrettana because is important to improve the mobility system trying to move heavy vehicles from streets that passes through the city to a street that cuts, literally, city. As new construction, this project can consider plants as an important part of its reality. This is the reason for the methods

that I've assumed: learning, comparing, design, think and then plot both new proposals and settings for the area affected by the construction site. If these advises will be followed, the outcomes will be: the increase in biodiversity, a better habitat for different species throughout the year, a better air quality, a better management of rainfall, a mitigation of the urban heat island, a more citizens-friendly city for all citizens, greater trust in the administration.