

REGENERATION OF HISTORIC CENTERS IN MEDITERRANEAN CITIES: THE CASE STUDY OF THE VENICE DISTRICT IN LIVORNO

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Abstract – The following contribution wants to tell an experience of design research, aimed at the regeneration of a portion of the waterfront of the city of Livorno, which is now fragmented and in a state of decay. The area, located within the historic Venice District near the Forte Vecchia and the port, is strongly characterised by the presence of the fish market building, which stands out for its contemporary architecture and its original roof. The research proposes a new spatial arrangement through the re-functionalisation of the building and the design of all the access systems to the area, driveways, pedestrian and cycle paths, which can allow its proper use by citizens and tourists. The change from a wholesale market building to a city market is aimed at a wider accessibility of the building, which for years was limited to a restricted group of users. The project promotes not only a rationalisation of the routes but, above all, a slowing down of the user's journey: it obliges him to walk through it and observe it slowly, to take possession of it again. In order to achieve this aim, a proposal is made to revise the driveways, which currently represents a critical issue in the neighbourhood, to introduce routes for green mobility and to eliminate the non-functional and degrading superfluous structures that have occupied the area over the years, disfiguring it. The design of the direct connection with the entrance to the port, the new car parks and the large equipped green areas, at different levels, accentuates the new vocation of the site, which from a transit place is transformed into a place of rest and meeting.

Introduction

The contemporary city today is dense but discontinuous, constituted by built, semi-built, and open systems that need to be resolved with a new methodology of intervention: urban regeneration. Regeneration acts on the existing heritage both by redeveloping infrastructures and services and by giving back regenerated spaces to the community. In Italy, historic centres have not only an architectural value but are also the focus of the city's commercial, tourist and social interests: in these areas the first urban settlements arose, the first productive activities developed, and the first commercial buildings were constructed. In the case of cities on the Mediterranean, the value of the historic centre is increased by the presence of the sea, which often represented the trigger for the development of the city and where activities, as well as attractive places, were established from the coastal strip. Afterwards, with the growth of the population and the introduction of new means of transport,

there was a weakening of the historic centre in favour of an urban extension towards the suburbs. Today, however, the trend of redeveloping the underused and degraded building heritage of historic centres encourages construction in the already built-up area [Schiaffonati et al., 2017]. Some of the buildings that make up the waterfront of Mediterranean cities, once indispensable to promote the relationship between land and sea, now are as empty spaces ad de-functionalised that show the degradation caused by the years and the salty: the waterfront of the city of Livorno represents, from this point of view, an emblematic case. The first Livorno settlements were defensive, coastal and port-related. Livorno is distinguished from other Mediterranean cities by the presence, in addition to the sea, of a system of navigable canals, called Fosso Reale, which crosses a short urban section. The Venice District, so called because it is strongly characterised by the presence of canals, constitutes the city historic core and is located between the two 16th-century fortifications: the Fortezza Vecchia, near the port, and the Fortezza Nuova, in the urban centre [Bortolotti, 1977]. The system of existing canals and fortresses is the testimony of the to the historical-architectural development of a precise urban model, and represents an environmental, commercial, cultural, social and tourist heritage for Livorno [Vanni et al., 2017].

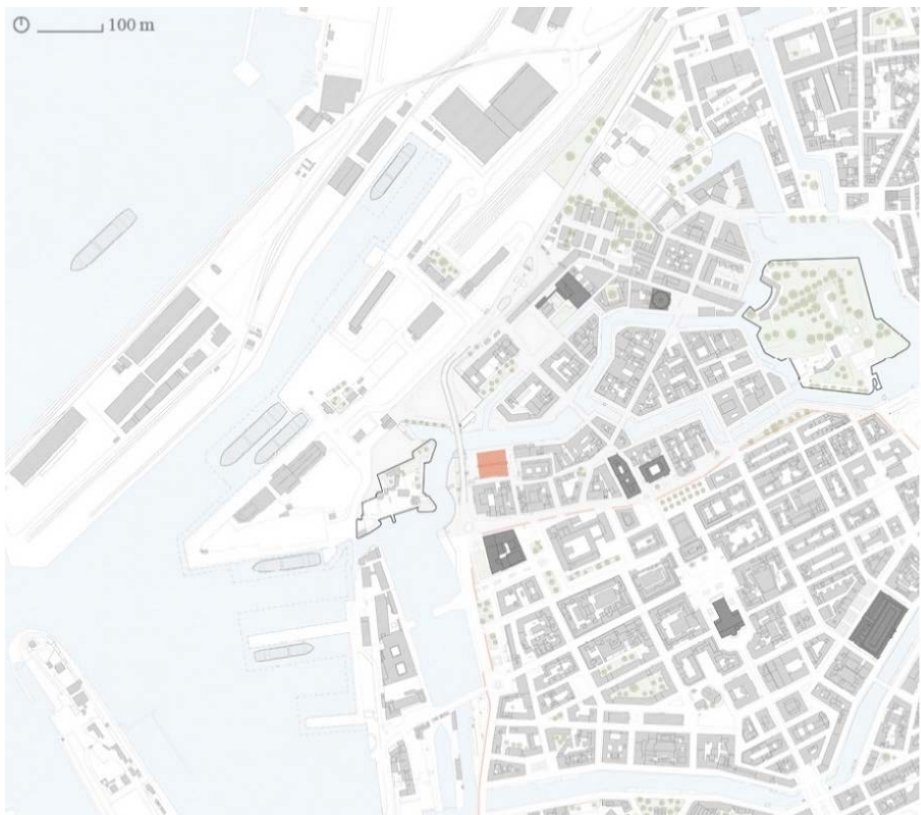


Figure 1 – Livorno, the Venice District with the project area, drawing made by authors.

The area investigated can be identified within the historic district, near the port passenger entrance and the oldest fortification. The area is divided into two parts by the navigable canal and, due to its strategic nature, has always been a place of high social and commercial interest, but at the same time vulnerable to external attacks. Much of the architecture in the area, in fact, was damaged during the two world wars, and in particular the area that was designated in 1960 for the new fish market was cleared following World War II bombing, which affected not only most of the buildings, but also the span of the 19th-century bridge that connected the two banks. The only traces of the 1844 Santa Trinita bridge visible in the area today are the remains of the two bases that served as a storage area. The fish market, designed by architects Beata Di Gaddo (1921-2007) and Pietro Barucci (1922), was built in 1967, following a public competition provided for in the city's Post-War Reconstruction Plans [Micali, 2002]. The building, which the architects proposed for the competition in the Fortress Square, is characterised by its contemporary form that can be perceived both from the outside and from the inside. The market has a rectangular floor plan and is a single space on two levels under a large roof, accessible only to fishermen and wholesalers during the early hours of the day. The functional scheme consists of two independent main paths: the first is dedicated to fish merchandise (on the ground floor) and the second to the public (on the first floor). The two environments visually communicate each other through the balcony on the upper floor and the large tribune in the centre of the hall where the fish auction takes place. The organic and rationalist architecture of the building can be seen especially in its roofing, which was realised thanks to new technologies and experimentation with innovative materials. The roof pitches made of pre-stressed reinforced concrete, shaped according to parabola arches and softly lowered on the lateral supports, emphasise the structure, which inside appears as a large open space without structural interruptions. The designers intention was to create a roof that morphologically resembled a net or sail laid out to dry in the sun after fishing [Tentore et al., 1964].

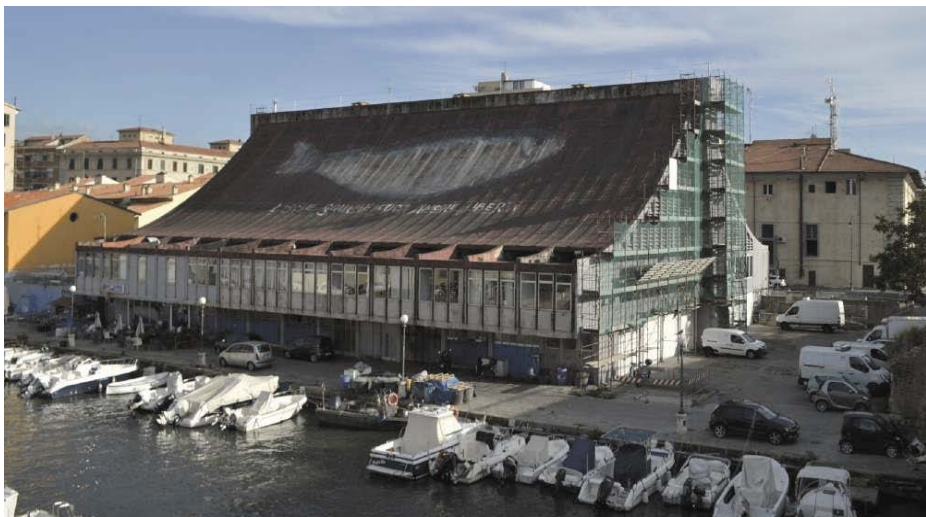


Figure 2 – The 1967 fish market, photo by authors in 2020.

In the competition phase, the architects proposed the inclusion of a quay for fishing boats near the building, to allow products to enter the market directly from the sea. The quay, together with other proposals regarding the arrangement of the external areas adjacent to the building, were not accepted by the administration, thus forcing the entry of fish only by road [Lenci, 2009]. In 1989, more than twenty years after the construction of the market, a road overpass was built in the area with the aim of connecting the two banks and keep the traffic away from the city centre. The road infrastructure, built over the remains of the 19th-century bridge and in the absence of continuity with the existing built heritage, complicated the normal conduct of fishing activities close to the market [Zucchi, 2016]. In addition to the overpass, the decline in the number of fishermen engaged in the sale of fish also contributed to the degradation of the building and the area, which quickly assumed marginal roles within the city. In fact, in November 2018, due to changing needs, about 85 % of fishermen moved to a new building to conduct their daily fish auction, effectively declaring the loss of commercial attractiveness in the area. However, thanks to its centrality and significant proximity to certain points of interest such as the ancient fortification, the port and the City Museum, the area retained the potential to become a meeting place and a reference point once again for the inhabitants [Merlo, 2006].

The design research, considering the needs of the contemporary Mediterranean city, aims to propose solutions to the deterioration elements in the area through the re-functionalisation of the fish market and the intervention in the public space, giving back to the city of Livorno part of its historic district and delivering to its inhabitants a new place for the community, accessible today only to a conspicuous group of people: fishermen and buyers [Careri, 2006].



Figure 3 – The current state of the area from the canal, author photo in 2020.

Materials and Methods

The contemporary architecture of the fish market set within the complex and degraded area, represents the starting and finishing point of the design experience. The building, in fact, for its architectural value and singularity, is proposed as a new attractive

pole open to the public, able to dialogue with the points of interest already existing on the urban waterfront [Massa, 2015]. These are also valorised and made more accessible to pedestrians thanks to the new urban design. The overall objective of the project is to consolidate the identity of the area, making it a strategic crossroads for people coming from all directions, and using the building by architects Barucci and Di Gaddo as a primer for this process. The methodology used had an anthropocentric approach, focusing on the inhabitants as well as tourists and their need to easily reach interest points and to freely access public spaces at the centre, preferring the slow rather than the fast mobility [Gelh, 2008]. In addition, the analysis of the current use of the fish market building, the curiosity about its architectural quality and the desire to open it to a wide public drove the design research to a change of use of the building. The research takes up the challenge of comparing the complex theme of urban regeneration of the Mediterranean city in terms of architectural redevelopment and dialogue with the natural and social context. The research organisation, which is multi-scalar and interdisciplinary, can be divided into four phases: state of the art analysis, urban design, architectural design and detail design.

Results

The preliminary phase of studying the state of the art was necessary to understand the needs of the different user profiles that live in the area and, consequently, to implement planning at the different scales, from urban to detailed. This phase made use of both tools of an analytical and evaluative nature of the framework of needs, as well as tools proper to the discipline of urban sociology. Specifically, the analysis was made possible thanks to the consultation of bibliographic sources, the carrying out of numerous on-site visits and the arranging some interviews. Among these, the most important was certainly the interview with the architect Pietro Barucci, one of the designers of the fish market. The discussion with the architect at the beginnings of research made it possible to deepen the information found in the texts by proposing a respectful and conscious development of the project in its totality [Spagnoli, in publication 2022]. At this stage, various themes were studied, including the historical evolution of the area, the fast and slow mobility flows, the usability and accessibility of the external spaces, the degradation state of the existing architectural elements and their relationship with the context.



Figures 4- 5 – The current state of area, author photos in 2020.

Once it was understood from the previous analysis that the fragmentation and complexity of the project area is the result of numerous focused interventions in response to individual needs, which do not converge into a unified objective, it was necessary it was necessary to work initially at the level of urban planning. The analysis highlighted the virtues to be maintained and the criticalities to be eliminated for the urban and social regeneration of the area. First of all, the research proposed the elimination of the flyover, which represents the main element of degradation as a physical and visual barrier between the city and the sea, transferring car traffic to the underground level and thus not modifying the road system. The urban project provided for the pedestrianisation of almost the entire area with the inclusion of new connections for green mobility, such as the new cycle-pedestrian bridge and the extension of pedestrian and cycle paths. In addition, the new Fortress Square was designed on two levels (at the level of the quay and at the level of the existing square), which allows not only the entrance to the contemporary building, but also a privileged view of the Fortezza Vecchia. The project involved both banks, through the insertion of many green areas with tree species compatible with the Mediterranean climate, pavements, vertical connections and street furniture respecting the existing context and the removal of architectural barriers.

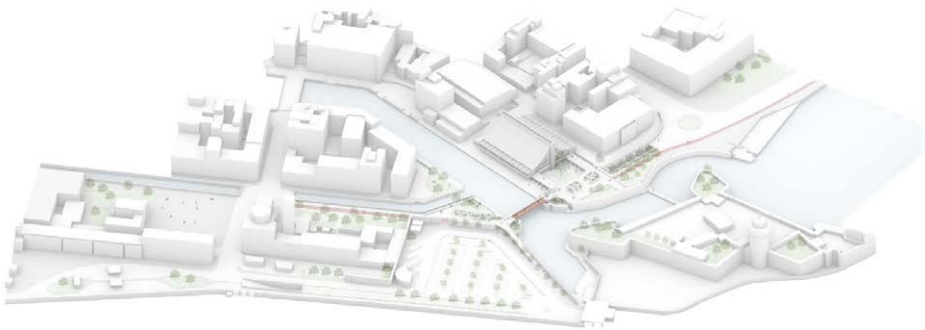


Figure 6 – Project axonometry, image made by the author.

Then it is decided to work on the existing architecture and in particular on the fish market building. The proposed change of use of the building is the result of the survey carried out during the state of the art analysis, from which showed that for some years the use of the wholesale market, also as a result of the new demands of the fish business, has been significantly reduced both in terms of the number of fishermen and buyers and the time they spend there. The results of the survey, together with the desire to make the architecture a public good, were the trigger for the re-functionalisation of the building, which was transformed from a wholesale market into a retail and restaurant market, as well as a covered shared space open to all. The new function, identified with the aim of involving a wider and more heterogeneous group of users, offers the historic district not only a new restaurant service open all day, but also a new meeting point. The re-functionalisation project was designed with respect for the valuable architecture, without making any changes to the original structure, but necessarily sacrificing the semicircular tribune, that had become an obstacle for the new activity. The main access to the building is from the new Fortress Square,

but there are secondary entrances on all sides of the building, making it permeable and in constant dialogue with the rest of the city.

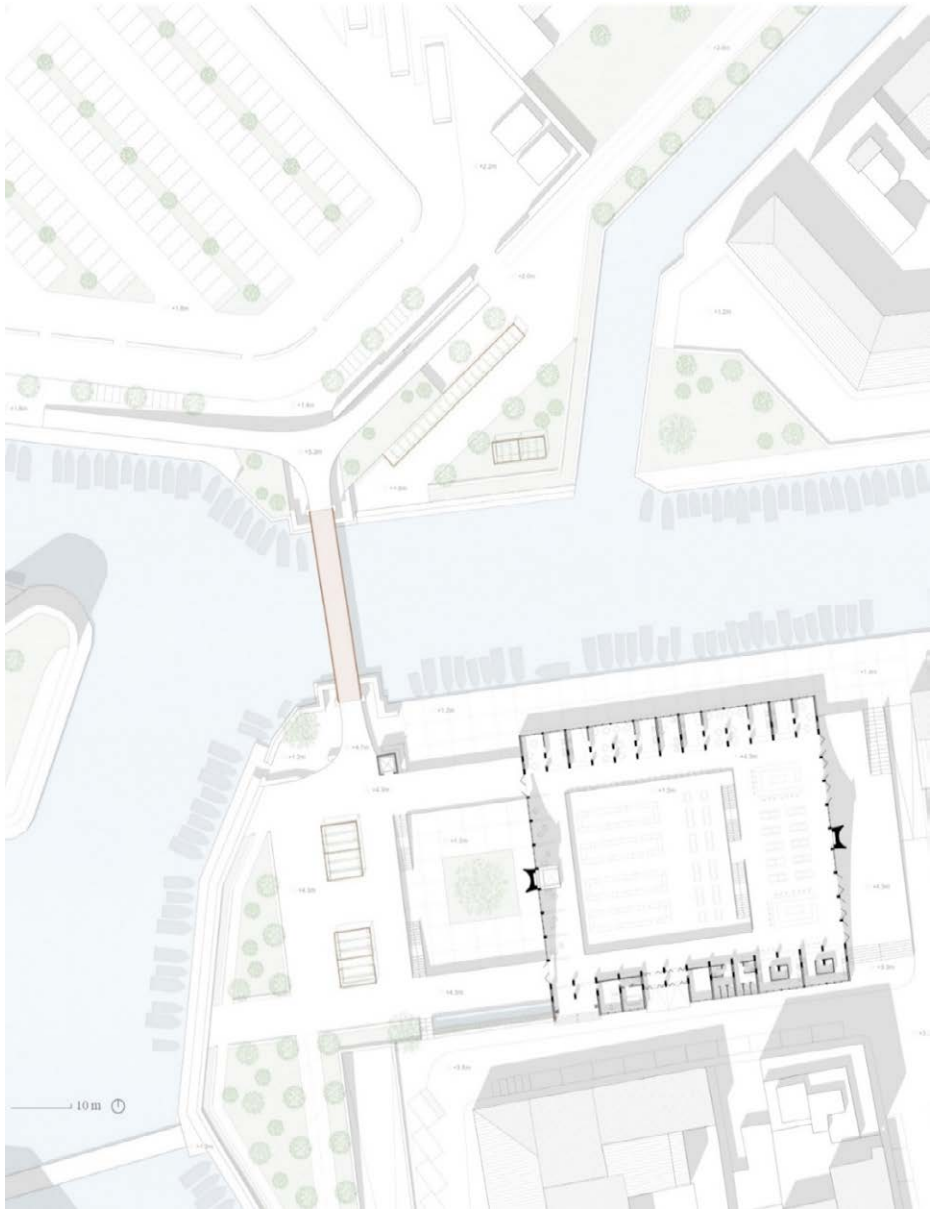


Figure 7 – First floor plan, drawing made by the author.

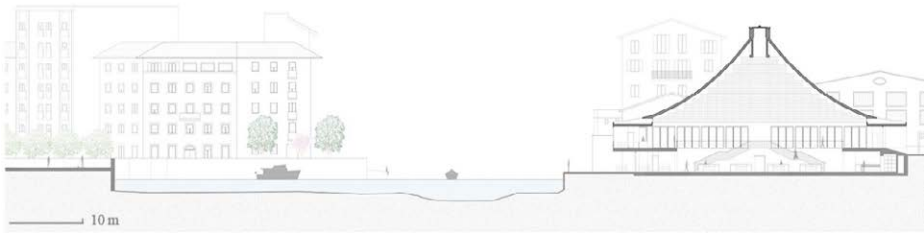


Figure 8 – Transversal section, drawing made by the author.



Figure 9 – Project view of the market interior, image made by author.

Finally, the research studied in detail some significant elements that contributed to the regeneration of the public space, such as the new cycle-pedestrian bridge and the elements of street furniture. The proposal for the new crossing provides the placement of the two pillars, which support the span, within the remains of the 19th-century bases present on both banks, with the intention of emphasising historical memories at the same time as introducing a new element of identity in dialogue with the built environment. The new bridge is characterised by a load-bearing structure in reinforced steel covered with micro-perforated Cor-Ten sheets, a parapet in steel slats and the walking surface in wooden material. The walkway is connected to the two banks by concrete footbridges so as to find continuity with the new square pavements. Lastly, Cor-Ten steel is also used to realize other urban elements such as the parapets and pergolas: essential tools for transforming a transit place into a place to relax, meet and socialize each other.

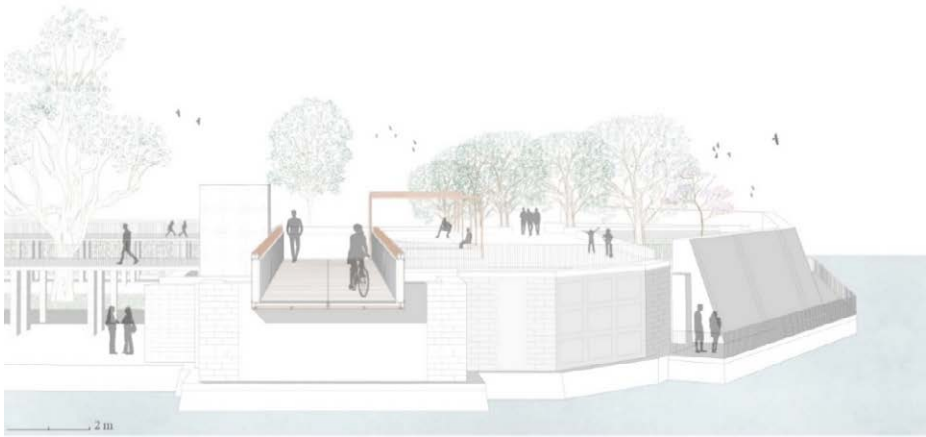


Figure 10 – Transversal section, drawing made by author.



Figure 11 – Transversal section, drawing made by author.

Conclusion

Public spaces in the Mediterranean historical centres constitute a cultural heritage of great importance for cities and have always represented a place where citizens can meet and relate. The continuous evolution and transformation of the contemporary city, the changing needs of its inhabitants and the use of new technologies by planners have meant that some of these places have lost their identity, even disappearing in some cases [Fatta, 2005]. Today, it appears necessary to rethink Mediterranean cities, avoiding a nostalgic and excessively conservative approach, but, once their history is understood, to enhance them through a process of updating. Architecture is perhaps the ideal tool to achieve this, as it is capable of interpreting changes in an increasingly multi-ethnic society and thus also capable of enhancing its quality of life [Lima, 2020].

The design research on exhibit aims to offer an innovative solution for enhancing a multiplicity of public spaces already present on Livorno's waterfront, but hidden and damaged by sporadic interventions over time. The recovery of appropriately located architecture, as in the case of Pietro Barucci and Beata Di Gaddo's fish market, can become an essential tool for the urban and social regeneration of a degraded area of Livorno. The characteristics of the Mediterranean city contribute to emphasising the regeneration potential of degraded spaces. In particular, the presence of the sea stimulates the relationship with the latter, emphasising the concepts of openness, inclusion and sharing, favouring an urban liveability based on 'slowness' and the need to re-appropriate spaces through the re-appropriation of time. The building, the square, the green areas and the bridge are part of a single great design experience with the ultimate aim of giving back a portion of the city to the inhabitants and visitors of Livorno.



Figure 12 – View of the regenerated area, image made by the author.

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