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Renewal strategies for the environmental conversion of crafts districts in Italy

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ABSTRACT

Different approaches can be experimented to enhance the urban and environmental quality of manufacturing areas. In recent years, in Italy, some local governments produced guidelines and research projects to explore the possibility of recovering suburban industrial sites in which a clear lack of quality design produced identity loss and a general decay. Planning and design criteria concerning these areas deal with diverse issues: urban morphology, energy-saving supply, waste management, sewage and water treatment, insertion of new services and qualified public areas. All these criteria face fundamental items but are difficult to be managed at the same time within a single project because of the high cost of such a multi-purpose urban policy, especially when applied to small-budget areas such as small industrial ones. Recent experiences made in some urban areas of the Emilia-Romagna region are trying to operate so as to enhance the design and the environmental quality of small and medium size crafts areas, acting mostly on open space rehabilitation and management. This should prelude, according to these regional urban policies, to a wider strategy of deeper renewal, referred to a complete range of instruments in ecologic redesign. Such perspectives are at the moment suffering the shortage of economic public and private resources and this fact caused the arrest of any public-private-partnership project, premise of any further urban renewal enterprises.

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1. INTRODUCTION

Urban renewal concerning industrial areas, especially lots-designed areas, has not been taken as a

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primary theme among the land transformation policies that have interested Italian cities in the last decades. This happened in spite of a large amount of operations, aimed at converting lots of abandoned manufacturing sites no more able to produce and operate with competitive profit before deep changes in Italian economic conditions. These transformations concerned mostly great extension of land owned by a single firm, interested to retrieve the value inherent in the industrial site. We will consider a different kind of industrial site, much more frequently built in Italy but much less considered as a planning and design item.

In this paper we will examine manufacturing settlements, intended as places where a certain number of small and medium-size firms are grouped together in areas resulting from parceling out criteria. This kind of urban settlement is frequently defined in Italy as “Crafts district”, since it shows qualities that exceed those we usually find in common industrial areas. The term “district” refers to urban neighborhoods, mainly of mixed producing and residential kind, with peculiar and distinct morphological characters, sufficient and autonomous facilities, clear community relationships. The alternative term of “villages” means, as well, a mixed presence of small size activities and housing, merging in the same place working-cycles and family life. Such examples constitute a well-known research issue within Italian planning traditions [Quaroni, 1981, 103].

Manufacturing zones in Italy, in fact, present particular aspects useful to explain their special evolution: settlements spread out all over urban and rural environment, partition of land in small size private areas (connected with land-property fragmentation), maximization of estate revenue, intensive soil occupation, flexibility of built facilities in front of different activities that can use them. These peculiar aspects are much different from that of great historical industrial settings (who were the engine of both urban and economic development of Italian post-war cities) and request a different study and planning approach.

Local government projects concerning the urban renewal of these particular industrial sites are still few. The most significant of these initiatives has been promoted by the Provincia of Treviso, with a research project called Q.U.A.P., a project that has been carried on by an international workshop in 2006 and produced two volumes of guidelines [Provincia di Treviso, 2005].

Policies of whole urban renewal concerning this kind of manufacturing settlements are hardly accepted by all subjects involved and so can't be easily treated with large conversion plans. Italian crafts districts reproduced or modified themselves slowly, by individual transformations or substitutions performed at random during a long-lasting period. It is a typical procedure that goes on with the insertion of new activities without urban renewal, “new uses without rehabilitation” (expression pronounced by Marcel Smets, so to mean that many uses can take place inside an industrial building without involving urban quality) [Provincia di Treviso, 2005], in order to be able to find more convenient economic uses. This especially happens if we consider a process that forces the substitution of previous manufacturing activities with services and offices.

Such conditions encourage an increasing and generalized need of renewal and rehabilitation, able to improve environmental quality and dwelling performances. Any redevelopment operation must start from the particular role that these manufacturing districts perform inside the urban context: they are located in places very close to urban and residential urban tissues, they present an increasing demand for services and better working environment that exceed equipments usually available for working spaces and present much various expectations coming from different subjects, related to recursive users, especially those referred to the most recent activities. Such conditions need a deeper and more careful analysis, able to explore the particular circumstances, which have involved these settlements. Indeed, these places were initially peripheral zones and have later become completely urban places; this means the opportunity to understand how to imagine proper transformation possibilities, according to processes aimed at achieving integration with the existing urban environment and the infrastructural and services equipments.

Design strategies in conversion and renewal of such particular places are supposed to use instruments

of various kinds and to fit these instruments to each specific context. In particular, we will explore some redesign criteria that have been defined during a research project inside the Italian region Emilia-Romagna. In recent years, scholars in urban studies from the University of Parma have made many research projects concerning the sites of manufacturing activities in the Emilia-Romagna Region. The research group is at the moment carried on by Paolo Ventura, Michele Zazzi, Damianos Damianakos and Luca Gullì. Past participants, in the last years, were also Francesco Gastaldi and Andrea Costa, former professors at the Faculty of architecture. The researches involved themes such as the planning of the Technological- pole in Parma, projects for “natural shopping-centres”, perspectives in the transformation of industrial settlements in the cities of Bologna, Modena and Parma.

2. REHAB PRINCIPLES FOR ITALIAN CRAFTS DISTRICTS

In recent years urban growth has much changed the original localization conditions of Italian crafts districts, which have changed their role: from a peripheral situation (much far from historical city centers) to a strategic landmark, strictly related to contemporary urban growth zones. This situation causes rather critical conditions and struggling expectations; in fact, manufacturing settlements are now placed in a position suitable to host rare and privileged urban activities. The lack of representative urban and architectural qualities generates conflict between land-owners' economic expectations and interests concerning the conservation of low-value manufacturing activities.

Critical conditions also come from the progressive loss of the original social and manufacturing configuration that was conceived in order to combine living, dwelling and working in the same urban place. We are witnessing a process of increasing fragmentation, a separation of living and working inside Italian crafts districts, so as to perform specialization of manufacturing areas. On the other side, dwelling removing from these districts is followed by increasing insertion of other activities, such as commerce, service bureaus, offices – quite able to merge with classical manufacturing activities. Mixing so many different functions in the same neighborhood should have increased a full city-life effect, so as to improve vivacious life conditions and spatial complexity. Unfortunately, this condition engenders conflicts and a fragmented use of space, caused by different demands concerning accessibility equipments, diverse kinds of facilities to persons, treating of industrial waste and sewage, logistics and site administration, availability and maintenance of public spaces.

Urban managing aspects are also an interesting factor, when we analyze the birth and growth of Italian manufacturing districts. This fact brings to our attention another aspect that is significant of the evolution that occurred to the original industrial settlements in the Emilia-Romagna region. Historical creation of working districts in Emilia-Romagna followed strong public policies for land acquisition, so as to prepare them and make them available to a wide number of subjects, using uncommon administration instruments for a low-cost land policy. This have guaranteed the small and medium firms a competitive advantage at their beginning, so as to ease the birth and consolidation of widespread manufacturing activities that are the core of the Emilia-Romagna's industrial model.

In recent years, this model has had to face other company subjects, capable to acquire much more added value because of their advanced technology production, referred to business sectors connected to the international market dynamics. These phenomena of crisis are to be considered together with others, related to urban critical conditions that interfere with large renewal operations: the spreading out of most regional industrial settlements, the typical tiny dimensions of districts (unable to ensure adequate scale-dimension costs for large land extensions), the lack of infrastructure facilities and services, the decay of public space and commons, old and inadequate technology systems, very low quality and conservation state of the buildings.

These soft decline conditions have not been assumed as a priority item for urban and regional planning

policies. In recent times, instead, some regional governments have shown a growing attention for industrial small districts, so as to assume them as object of specific projects. This increasing interest, is in conflict with all the critical conditions previously numbered, that are proper to most of the case-studies considered, conditions which prevent the starting of a wide renewal regional program: presence of very different activities, scattering of land property, low attention to commons so as to interfere with any attempt to general redevelopment.

It is not easy to give answers to the demand of development, which come from several subjects. Are there innovative methods and techniques to ensure efficacy to the procedures available? Is there any experimental possibility to carry on intuitions, which are deemed possible?

It is certainly not possible to give general recipes because each crafts district has special characters owing to its evolution pattern, to its specific location, to its transformation suitability to answer the impulses which come from the dynamics of land transformation. This is the reason why it seems to be more necessary than in other cases to start a dialogue with the many subjects involved. It is furthermore necessary for designers and urban planners and for social and economic experts not to forget the contribution of dwellers, paying attention to the transformation demand, which is widespread although never homogeneous. This is not an easy task because dwellers, at least in the case of Emilia-Romagna's settlements, are equally composed by owners and tenants and present divergent perspectives.

A first acquisition of these remarks leads to acknowledging the necessity of a new process of awareness on the issues of urban and settlement organization. It is necessary to develop a critical analysis of present phenomena and of their constitutive processes in order to build up a shared consciousness, which is prior to the performance of apt forms of action on work-sites. Furthermore, in crafts districts it will be necessary to single out new values in order to plan special financial and fiscal instruments adequate to the carry on a significant change. Let us consider the perspectives which could be opened if these settlements were interpreted as "power sources" in which to promote important public projects of energy saving and energy production. Some alternatives which seem to be pertinent in this case and which are therefore to be considered as priorities can be mentioned.

If we range such alternatives in a progressive hard-application scale, a first list is the following:

- the intensification of a functional re-use, meant as compatible with the original activities, if still present;
- the acquisition, or rehabilitation, of public services and public space;
- the formal reshaping of existing buildings;
- the definition or recovery of steady settlement criteria, aware of forming rules that have involved both built environment and landscape proper to a particular context, aiming to enhance working places peculiar aspects;
- the densification of settlements, whenever possible;
- the rationalization of settlements according to a high number of options, from partial demolition to complete substitution of built areas;

To go deep into these principles means to reshape planning policies in the direction of the renewal of crafts districts. This implies consideration of actions connected with the debate about urban transformation: to avoid the use of free soil for unnecessary urban growth; to renew the existing buildings according the newest criteria for energy saving and reduced pollution emissions and, more generally, of environmental impact; to fully exploit the proper management of building materials and of natural resources which are necessary for the economic activities settled inside the district.

A useful operational starting point, even in the Italian context, is the one which derives from actions of conversion of settlements which are classified as environmentally equipped manufacturing areas (in Italian: APEA), areas provided with particular services and facilities. Such services, as shared waste management, water procurement for industrial uses and sewage disposal, energy production and

distribution, management of public lighting, integrated logistics and mobility management in order to best exploit the transport of goods and people, maintenance of roads and green areas, the promotion of optional norms for environmental performance and territorial marketing constitute more and more consolidated perspectives inside the APEA [Provincia di Bologna, 2008, 41 and passim]. These policies have forced even resilient local subjects to consider seriously environmental issues and sustainability.

There are many possibilities of intervention. One of the most important issues is the recovery of building envelopes. Acting with balance strategies of conservation and transformation it becomes possible to modify the formal and technological aspect of the container to make it better able to enhance its relationship with, and insertion into, the landscape [Ghini, 2011]. In spite of the fact that strategies are varied owing to the complexity and heterogeneity of the industrial built environment and also owing to the different goals presented, it is however possible to identify three different design approaches at different levels of container transformation which can be classified as follows:

- “first-level transformations” for graded buildings, in which the re-qualification of the container must balance the need to preserve the original historical content and matter together with the achievement of new energy performances;
- “second-level transformations” for buildings which maintain the same function and status. Their transformation should be performed according to a volume enlargement close to the previous building so as to acquire a higher performance level. In such cases, it is not so important to respect the original morphology of the building;
- “third-level transformations” for buildings which can deeply change their function and status and whose container does not present any relevant formal or technological character. In such cases, the rehabilitation must imply not only enhanced behavioral performances but also architectural ones.

To interventions about built environment rehabilitation must be added design strategies for the reshaping of public spaces and green areas, which represent the elements about which public policies could prefer to operate.

3. DESIGN STRATEGIES FOR THE PUBLIC AND OPEN SPACE SUSTAINABILITY OF CRAFTS DISTRICTS

The landscape and architectural characters of industrial settlements suffer from a clear contrast between what should be the configuration of a site which performs a specialized function with a recognizable identity and the real outcomes of existing building realizations which are disorderly, decayed and anonymous. It is a long time since we have abandoned that kind of urban development which entrusted to industrial architectural projects a primary leading role, following an idea which identified in the manufacturing function the engine of urban and social growth, reflected in an avant-garde design practice [Peters, 1980, 570]. Although design for industry is no longer the leading experience of architectural practice, yet manufacturing settlements still express full requirements of global design accuracy: unity in the treatment of urban landscape, ease in functionality, building care, good site organization, ecological performances and architectural identity, proper to an urban function which more than any other presents features of distinctive characters as well as of strategic location.

This is why recently some Italian local administrations have considered the necessity of starting research and projecting programs in order to explore the reasons which are at the core of the low urban space quality proper of most local industrial sites.

This phenomenon represents a critical issue, as the generally perceived low environmental quality of manufacturing areas concerns all the elements which compose the site and therefore it requires a close consideration and an integrated intervention approach on the many features which influence urban quality. The target of these initiatives, namely the crafts districts, is, as we have seen, a subject of a peculiar

nature because it couples a composite and heterogeneous character to a specialized activity. Indeed, operators have to deal with an urban tissue which, in spite of its sectorial role, has experienced a fragmentary and paratactic process of constitution, especially in the contexts of small and medium Italian firms.

To start initiatives concerning general renewal of manufacturing districts areas is a rather engaging commitment: it means, first of all, to restore these sites to their role inside the dynamics of life and use involving the rest of the town, to modify and break up their isolation and unique function and make them generators of morphologic and ecologic quality, so that they can assume a role of peripheral centrality [Browne, 1955, 308].

An overall rehabilitation and revitalization project of crafts districts implies therefore a plurality of aspects to be treated; it means much more than operating on the sole architectural design or simply on built environment: to trade places and revitalize the factories implies to act at the same time on the relationships among subjects (internal relationships) and among urban forms (external relationships) [Wright, 1969, 338].

The difficulties in the realization of so wide and engaging renewal projects are obvious, since policy makers are in the most adverse operating conditions to start an effective action: long-term public policies with a wide involvement of the social subjects, establishment of objectives, constraints, requirements, regulations which are often technically complex and onerous. The operating process of such programs requires that immediate, concrete and material costs be balanced by long-time, diffuse and often immaterial advantages [Wilson, 1973, 331-337]. For these reasons, such inaugural regional policies for industrial sites are experimenting a variety of approaches: from multi-purpose programs aimed at global improvement of the performances of such sites, to more restricted initiatives for the enhancement of the fruition and landscape quality of urban space. These last initiatives seem to be oriented towards a more immediate rehabilitation strategy targeted to public space [Comune di Parma, 2009, 6; Capra and Gullì, 2008, 91].

It follows that we ought to consider some peculiar aspects concerning the landscaping of industrial areas open space equipment. The possibility to recover sufficient amounts of open space, available for re-design operations, is the crucial aspect of a renewal global operation concerning Italian districts.

Traditional experiences of enterprise zones planning (especially in Britain and The Us) show the need of an integrated approach to project, a design set up which tends to confer a uniform scheme to the mutual relationships among all the diverse urban materials, in order to have a strict correspondence between spatial organization, economical, functional and identity characters of the settled community [Magagnoli, 2007, 57 *passim*]. On the contrary, especially regarding to crafts settlements in Italian central and North-eastern regions, the need to interpret their realization as an entire and complete urban and community project, capable of performing at the same time good functional efficiency and quality of shared urban space, has often been ignored as well as the need of accessibility and infrastructural facilities. The dynamics of incremental growth which moved the constitution of these urban parts have therefore disregarded entrusting their quality and functionality to a clear and coordinated project, aware of the relationships between: 1) common space; 2) open servicing private areas; 3) margin and wedge areas [Browne, 1955, 310].

The lack of an adequate project treatment, regarding each one of the above three items, is reflected negatively on all other aspects of the settlement and jeopardizes the quality of the whole environmental and landscape impact. Indeed, all the components of the manufacturing areas are elements which play a specific role in their relationship with the others, amongst the whole structure of the site. In this perspective, they perform a double task, which unites functional vocations and relevance of landscaping presence [Gibberd, 1959, 170-171]. To the rehabilitation and rethinking of such spaces, which are primarily dispensers of urban order and identity, is entrusted the whole improvement of the site. Indeed,

these utilities constitute serving factors which are not only functional to the rational course of the located activities but also, more generally, to the fruition needs of the (much neglected) public and recreational areas, inside and outside the settlement.

It could be so added that, owing to the extreme heterogeneity and diversification which the built objects that constitute industrial areas present (as regards their dimension, location and character), the impact of such settlements on the surrounding urban environment unfolds with various modalities and on a wide range of scales, from micro-areas to the regional extent.

All these issues need to recover strict communicative, functional and proximity relationships, driven mainly by the role of public places, in order to express a renewal possibility for manufacturing settlements. This implies to examine each specific circumstance of intervention, so to recognize how open spaces inside industrial areas leave margins of global reorganization and rehabilitation.

On the other hand, the constraints dictated by reasons of economy and best use of common space implements have usually determined a planning pattern which does not allow a morphological arrangement characterized by an ample margin of liberty in the design and wide-ranging complement spaces. Indeed, open spaces are a crucial factor for the balancing and the insertion of built objects, especially if they have a considerable volume impact [Browne, Crowe, 1954, 229]. As regards Italian crafts districts, open spaces constitute a small quota of the overall surfaces available and therefore, in order to provide the fruition of the functional and environmental services, which are connected with their role, they must rely on an especially rational pattern which may enhance the value of their position.

This fact brings to areas which are formed by prevailing clustered functions, gathered together in different times, with an extreme economy of services and landscaping zones (much less able to play the role of lowering buildings and facilities messy configuration), constituted by isolated enclosures lots, with a leading presence of disturbing technological equipments, which have never relayed on construction and building quality and which have small margins in investing in recreational green areas. The summing up of all these factors brought to a general deterioration of the Italian industrial landscape.

At the same time, the composite, stratified and multifunctional configuration of Italian crafts districts constitutes a precious opportunity and potentiality. Indeed these are specialized and emerging places, which are often composed of distinguished architecture with high volume impact, whose capability of hosting and combining different uses and activities constitutes an unique design resource to drive an aware renewal, encouraging new melted and mixed urban uses in the peripheral and often abandoned regions placed just outside crafts districts [Adam et al., 2004, 18-19].

It follows that any attempt of rehabilitation concerning industrial areas must recover primarily a pattern of coherence concerning the organization of public space, to individuate a minimum scheme of order between internal and external relationships, to summon up each part within a general urban project.

To encourage crafts districts aptitude in entrusting their role as a full extent urban place, unitary, coordinated and able of exchange with surrounding areas, these intermediate public space components play a leading role:

- edge and internal road framework (conceived for both motorized or slow mobility);
- service areas, green areas and elements of common public space;
- equipped surfaces internal to private properties (store areas, parking lots and courtyards);
- architectural utilities;
- technological installations of a subsidiary kind.

All these components have close communicative relationships related to characters of proximity and similar function; for this reason, the lack of design care concerning one of them is reflected on all the others. It follows that each part must be set inside the framework of a global urban project.

In the industrial areas of the Emilia-Romagna region, every time a basic design and organizing framework has not been followed the entire settlement has become the source of deep environmental

decay, both inside itself and on the surrounding urban environment.

The endemic lack of a project for open spaces, therefore, constitutes the main de-qualification factor of these settlements and of suburban land in general; however, acting on open spaces and on free areas constitutes a comparatively easy quick start for the re-qualification process, especially if attention is directed toward the asset of public property areas. It must be said, however, that in the case of Italian crafts districts even the simple rethinking and redesigning of open spaces presents difficult aspects. Unlike the situation in industrial areas where great plants are settled, which are widely provided with open and service spaces, crafts districts have produced densely exploited sites with uneven perimeters in which public space has been confined to an interstitial element, often invisible and only useful to absorb the site's irregularities. This situation has been determined by a fragmented and enclosed subdivision of the site [Navarro, 1990, 30].

The survey of some usual critical characters concerning the available open space inside the crafts districts of the region may provide hints for measuring the intensity of the project intervention according to a growing progression of the transformation effort:

- spreading of green areas: lessening of the marginality conditions of such equipments through their settling either along their crossing nets or across the routes of the primary communication systems; connecting these areas along linear routes of slow mobility and continuous with the external ecological networks;
- uncertain hierarchy and promiscuous use of the viability equipments: re-configuration of the routes according to a clear distinction between main viability and service viability, realization of perimeter and circuitual routes;
- discontinuity or sudden cut up of the routes: to be connected to the network previously described or to be transformed into linear green lanes;
- incongruous disposition of private assigned spaces: reallocation of permeable surfaces on the public side and on the main accessibility points, possible reduction of the standard amount of internal parking lots;
- diversified disposition of buildings main prospects: re-composition, on the main prospects, of the functions and services aimed at customers; injection of complementary functions connected with the manufacturing activity [Giusti, 1986, 76];
- random disposition of shared technological equipments: merging and centrally concentrated setting of technological facilities inside public and green areas, appropriate design of these public equipments' envelope [Paludan, 1987, 148-151];
- lack of design in the arrangement of street furniture: repositioning of lacking elements, especially as regards basic ones, on completion of public commodities;
- absence of relationships subsequent to enclosures and built barriers: reshaping of the building envelope and recovering of edges as spongy communicative elements [Peters, 1986, 21];

Those mentioned above are operations that present a range of different size relevance and require diverse project resources but are all weighty factors able to coordinate the internal and external relationships of the settlement, according to a growing charge of rehabilitation operations.

By following most of these intervention criteria, the environmental coherence and the apt disposition of common service spaces could be obtained with limited costs and mainly under the public guidance. To consider a competent organization of the design setting as a primary target and to privilege a careful combination of different landscape-shaping strategies, means to relay on a highly valuable intellectual practice which, however, does not imply a considerable increase of the economic resources employed. This way of acting may inaugurate a further course in the realization of more elaborate and onerous renewal strategies.

A more ambitious policy of sustainable rehabilitation strategy for crafts districts sites, such as that

which has recently been established in the technical guidelines of certain Italian regions, has till now been prevented by the high costs required by the excessively demanding objectives. Indeed such guidelines fix up a performance qualification ratio about a wide range of issues: density of soil exploitation, road-network requirements, water cycle, sewage and garbage disposal, integration among different production cycles, high energetic performance of the built containers, control of the materials employed in construction, dispositions about forming complex managing societies [Provincia di Bologna, 2008]. These elements, which imply a conspicuous increase in economic resources for either the new installation or the renewal of existing crafts districts, have caused these programs to be stopped at the stage of pilot projects; even when promoted exclusively by public administrations, such projects have never proceeded beyond a few initial exemplifications.

An integrated and coordinated intervention, able to enhance the architectural, ecologic and landscape quality of crafts districts, may become socially, financially and managerially sustainable only through the support and promotion of a wide technical building policy, to be produced (at least) at a regional level. Until such an incentive policy is started, all attempts at realizing a whole design strategy about the ecological sustainability of industrial districts will be stopped by the lack of the economic sustainability.

The costs of the manufacturing site's accurate design and of the ecological requirements of its open space not only appear by far lower, but can also be easily governed by a simple set of performance rules and with a limited procedural load. Such rules will contain design qualifications on the shape and characters (of position, organization and connection) [Turner, 1986, 34] of the materials belonging to public and open space, before better conditions in the economic and administrative context may allow to realize a similar renewal effort in favor of architectural sustainability.

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