

# Self-renovation in Rome: Ex Ante, in Itinere and Ex Post Evaluation

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**Abstract.** In Europe, self-construction/self-renovation are innovative and additional tools to meet the needs of a part of “disadvantaged” social groups that can not buy or rent dwelling at market prices. At the end of the 90 s of the twentieth century, the Municipality of Rome has set the first trial at the national level (still not completed and remained almost unique) related to disused building self-renovation (especially school buildings). The text shows the results of a research, still ongoing, aimed at ex post evaluation of items that have prevented to conclude timely and as provided such interventions and, consequently, doesn’t meet the housing needs for which had been started.

This allows to highlight as the assessment tools, in the different phases of the development process of these initiatives, ex ante, ongoing and ex post may help to reduce the risks of “failure” of self-construction/self-renovation initiatives.

**Keywords:** Ex ante, in itinere, Ex post evaluation · Multi-criteria decision analysis · Self-construction · Self-renovation · Social housing

## 1 Introduction

In Europe, within the sector of public policy on social housing, initiatives of self-construction/self-renovation are held to be an innovative, supplementary tool when it comes to meeting the need for housing of the new (and old) “disadvantaged” segments of society, or those that find themselves unable to purchase or rent a dwelling at market prices (Housing Europe 2015, CECODHAS 2012, BSHF 2011; Czischke and Berthon 2008; AAVV 2000). In Italy, which presents a variety of significant manifestations of such unmet housing needs (by now “chronic” in nature, especially - though not exclusively - in large urban agglomerations) (Guarini and Battisti 2014a) projects of self-construction/self-renovation constitute an opportunity limited to “weak” family units that present specific characteristics: a low capacity for earning income, but suitable conditions - as well as a willingness - to join together with other family units (as members of a cooperative) and work in their free time on the construction of a residential building suited to their needs and to the number of participating families, all of which share in meeting the risks tied to a similar operation. From the outlook of government bodies and authorities, be they regional, provincial or municipal administrations or agencies responsible for managing public housing, efforts of self-construction/self-renovation

should be viewed solely as a specific approach that provides an alternative to other forms of intervention, meaning that such initiatives should always be considered and undertaken within the context of more extensive, fully effective housing policies, though, at the same time, examples of self-construction/self-renovation already implemented in Italy and Europe show that the approach can also serve as a way of furthering policies of social support and integration. In fact, the resulting efforts can be seen as contributing to: a lessening of instances of social exclusion and spatial segregation; the implementation of strategies to fight poverty; a heightening of the sense of responsibility on the part of the subjects to whom the housing units are assigned, in terms of the care and management of the dwellings during the operational phase (Housing Europe 2015; Bertoni and Cantini 2008; Cittalia 2011; BSHF 2015; Mullins and Sacranie 2014).

The self-restoration projects promoted by the municipal administration of Rome within the framework of the policies undertaken, starting from the late 1990's, to deal with the sharp peaks in the housing crisis that occurred in those years within the municipal territory provide a specific set of case studies involving the types of self-renovation/self-construction projects that were carried out in Italy and Europe as a whole. Identification and evaluation of positives and negative factors that have marked the start and development of the mentioned experience after almost two decades still not completed, may be useful in reducing the risk of failure of any similar initiatives that will be undertaken in Italy and in Europe; in this way will be possible to reach the objectives and the expected results related to process, cost and schedule.

## 2 Aims of the Work and Assessment Approach

### 2.1 General Aims and Particular Focus

The text provides an overview of the results of the portion of a research (still underway)<sup>1</sup> aimed at identifying and evaluating, in terms of the planned procedures and those actually implemented, the operative management of the projects of self-renovation carried out by Rome Municipality. A particular focus of the research is to formulate an analysis and assessment, of this specific approach to policies providing housing support to disadvantaged segments of society promoted by the municipal administration of Rome from the moment of their start-up (1998) though June of 2015, so as to be able to:

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<sup>1</sup> The research was developed, in part under a working relationship established with the Municipal Department for the Development of Outlying Areas, Infrastructures and Urban Maintenance of the City of Rome, as per a convention signed in December of 2014 with the Department of Architecture and Design. Some of the results of the research were illustrated in the course of an international workshop entitled, "Faced with the problem of real-estate speculation, what responses are provided by housing cooperatives in the Latin sector of Europe, meaning Italy and Spain?" (Rome, 10-11 June 2015), organised jointly by CHAIRECOOP & the LAC (Laboratoire d'Art Civique, the University of Rome, Campus III) and the Rome Tenants Union. Claudia Buccarini (during doctoral course) and Serena Scaffoni (during the preparation of the first level degree thesis), participated in the research collecting and processing some of the data related to self-renovation cases presented in this text.

- highlight (after the fact/while the efforts are underway) the factors and causes that have led to failure to achieve the expected results - within the forecast time periods and cost parameters - for problems involving: the housing crisis; the environmental and social deterioration of certain urban zones; social cohesion and integration; the consumption of land (Nesticò and Pipolo 2015; Tajani and Morano 2015);
- formulate possible lines and modes of action to be implemented (in advance) for the future development of new initiatives of self-renovation in Italy and Europe.

In the research it was examined and organized:

- in general and concise way, information and related data: (i) a survey of documentation on self construction/self recovery initiatives ongoing (or proposed) at the international, European, national, and (ii) the legislation adopted in Italy at regional level and local;
- in specific and detailed way, as auto construction was regulated and implemented in the Lazio Region, particularly in the City of Rome.

The goals pursued have been identified, highlighted and compared, as well as the different subjects involved and their roles, together with the criteria followed in procuring and assigning the funds allocated for the development of these initiatives, plus the budgets and timing of the projects, both as forecast and as recorded in actual fact (European Commission 2014).

To develop initiatives relating to the deepening of self-recovery carried out in the municipality of Rome, data and information contained in the resolutions of the administration Capitoline Council (*Determinazione di Giunta Capitolina -DGC*) and a part of the Managerial Determinations (*Determinazione Dirigenziale - DD*) - taken by AC offices responsible for managing these interventions - has been collected, analyzed and processed.

## 2.2 Assessment Approach and Perimeter of Investigation

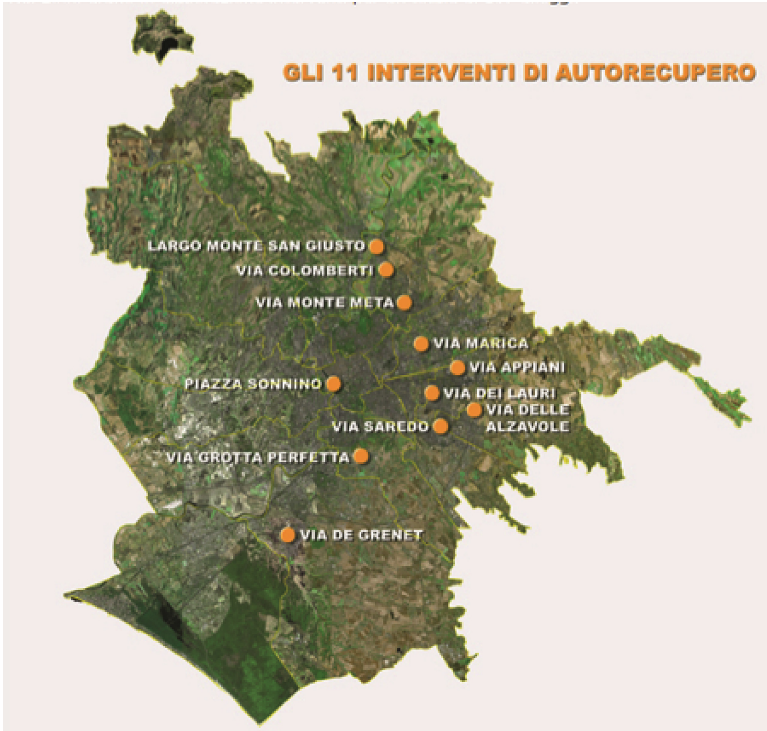
In this research an evaluation approach has adopted to assess the level of correspondence between objectives and expected results expected and actually achieved, with a per-inductive comparison process between than assumed ex ante, what happened in itinere and what is encountered ex post.

This is in order to identify: (i) aspects, moments, decision nodes which provide the quality and success of an intervention self construction/self renovation (satisfaction the objectives undertaken in the planning stage); (ii) the main risk factors that can hinder the success of this type of initiatives.

In this way it has been possible to build a useful framework for defining strategies for actions that have to be implemented in the planning, design, implementation of similar future initiatives, not only in Italy but also in other European countries.

For this purpose, of the 11 efforts (197 housing units) being drawn up in 2008 Fig. 1 ([http://www.comune.roma.it/pcr/it/dip\\_pol\\_riq\\_per\\_aut.page](http://www.comune.roma.it/pcr/it/dip_pol_riq_per_aut.page)), there was detailed examination of 7 projects that involved school buildings (on the Via Saredo; the Via Marica; the Via Colomberti; the Via dei Lauri; the Via di Grotta Perfetta; the Via F. De Grenet; and the

Via Alzavole) and that, at the time the research began (2013), were still, in varying stages, underway. These initiatives, financed with funds from the Ministry of Infrastructures, the City of Rome and the Lazio Region were all carried out by the “Inventare l’abitare” (“Inventive Housing”) Cooperative.



**Fig. 1.** The 11 self-renovation intervention being drawn up in Rome in 2008 (source: [https://www.comune.roma.it/pcr/it/dip\\_pol\\_riq\\_per\\_aut.page](https://www.comune.roma.it/pcr/it/dip_pol_riq_per_aut.page))

The detailed analysis did not cover a project in the Piazza Sonnino involving an historic structure (on the part of the cooperative “Vivere 2000” Srl) or three efforts that had been suspended (at the Via Appiani, the Via Monte Meta and Largo Monte San Giusto). The data provided by the documentation to be found on the website of the city of Rome, as well as the documentation made available (in part) by the Department of Policies for the Renewal of Outlying Urban Areas of the City of Rome and by the “Inventare l’abitare” Cooperative were processed to determine what factors prevented completion, within the time periods and according to the procedures stipulated, of the project undertaken, leading to failure to satisfy the need for housing that they were initiated to fulfil.

The results recorded to date, though based on data that are not complete, nonetheless make it possible to draw up a fairly precise of the critical problems underlying the failure

to achieve (as of June 2015) the objectives that the municipal government intended to pursue with the projects, and namely:

- satisfaction of at least a portion of the demand for social housing over periods of time that are shorter than those needed for the construction of new residential housing, and without causing further consumption of land;
- experimentation with an “alternative” response to the housing crisis;
- solving of certain manifestations of environmental and social deterioration found in a number of the city’s urban settings, potentially with the involvement of occupants of buildings (mainly school facilities) to be retrofitted as residential structures (European Commission 2014).

The paragraphs that follow succinctly illustrate how, in the course of the research, the various critical problems identified were found to be closely interrelated, all being attributable, in general terms, to the manner in which the procedure followed had been structured and implemented, though specific failings regarded:

- the ways in which the buildings to be reclaimed through the efforts of self-renovation were identified;
- the role and the procedures for involvement of the future holders of the residential units during the phase in which the financing was procured and the internal restoration of the units was performed;
- the instructions and the decisions on questions of timing, financing, planning solutions and investment costs needed to carry out the work required to transform the school buildings into residential housing;
- the business and financial capabilities of the enterprises selected to perform the work.

At first descriptions shall be given of the decisions made, together with their repercussions, with regard to the procedures for identifying the structures and the role and manner of involvement of their future holders (Sect. 3.1), as well as those addressing aspects of the planning, design and execution of the initiatives (Sect. 3.2). Then, prior to the presentation of the conclusions (Sect. 5), a number of assessments are drawn up, together with operating guidelines to be implemented in advance of any future initiatives of self-construction (Sect. 4).

### **3 Projects of Self-renovation of School Buildings in the City of Rome for Residential Purposes**

#### **3.1 Decisions and Repercussions Regarding the Procedures for Identifying the Structures and Determining the Role of the Future Holders of the Housing Units**

The city government undertook the procedures of self-construction in accordance with statutory and regulatory measures of the following types pertinent to self-renovation/self-construction: (i) general, stipulated under regional statutes (Law no. 55 of the Lazio Region, issued on 11 December 1998); (ii) specific, promulgated by the municipal

administration for the enactment of the projects, starting with Resolution no. 248 of 20 November 1998 of the Municipal Council.

Examination of the documentation considered shows that the city government identified the buildings to be retrofitted for residential purposes by considering the housing crisis that, since the late 1990's, had manifested itself, in part, through the occupation, with the support of movements for more available housing, of unused public structures (school buildings in particular) on the part of family units in search of dwellings. Resolution no. 753/2002 of the Municipal Council – on the approval of the first “Draft Agreement. Draft of the public procedure for assignment and authorisation of the establishment of statutory first mortgages covering the work involved in the construction transformation through self-renovation” of the school buildings on: the Via Saredo; the Via Marica; the Via Colomberti; the Via dei Lauri; the Via di Grotta Perfetta; and the Via F. De Grenet – describes the “climate” under which decisions were made regarding both the buildings involved in the initiatives of self-renovation and the positions and roles assigned to the parties occupying the structures as the process of self-construction moved forward. The document in question states that: “certain school buildings owned by the municipal government are improperly utilised as family dwellings following the illicit occupation of the structures; this practice arose due to the inadequate and insufficient supply of housing offered by the rental market, as well as the impossibility of finding alternative arrangements, combined with the modest economic means of the majority of the illicit occupants; the housing situation inside the occupied school buildings – apart from the significant concerns it raises in terms of public security – must be restored to a situation of legitimacy; to that end, and as part of a more extensive program for the regularisation of the large number of different types of illicit occupations, consideration has been given to the possibility, among other options, of maintaining the residential use of certain school structures”. Furthermore, regional and municipal measure specified that, for each building involved in an initiative of self-construction, the financing, planning and performance of the works was to be:

- managed directly by the municipal government with regard to the jointly held portions of the structure, both internal and external (primary renovation). The municipal government was responsible for procuring the financial coverage needed for the preliminary and final planning of the entire effort, as well as for the formulation of the working plans and the performance of the work of primary renovation, doing so both by drawing from funds in its own budget and through financing from the central state (the Ministry of Infrastructures – Committee on Residential Housing, from the allocations of Law 457/78) and the regional government. Assignment of the planning and performance of the primary renovation work must be made through a procedure open to public scrutiny;
- the work inside the apartments (secondary renovation) was to be delegated to the cooperative that won the competitive procedure for assignment of the building. The cooperative was to be selected in accordance with the parameters of quality indicated in the regional directive and specified in the call to tender drawn up for the purpose by the municipal government. In responding to the call to tender of the municipal government, the competing cooperatives were to: (i) present a working plan for the activities of secondary renovation to be carried out; (ii) agree to: advance the sums

need to carry out the work by taking out a loan (guaranteed by the municipal government) through registration of a mortgage on the assigned structure and to arrange for the performance of the work, under the supervision of the municipal government, by a firm selected through direct assignment. The cooperative that won the project tender was to repay the sum advanced by the bank within the stipulated time period, doing so through a mechanism that took ongoing deductions of the amounts due from the monthly rental payments owed by the families to which the housing units had been assigned.

If one of the purposes of self-renovation efforts was to achieve objectives tied to the active involvement of the inhabitants in the process of modifying the structures, then the procedure, as structured and implemented in Rome, constitutes only a “partial” form of self-renovation, in light of both the role given to the future residents in the financing process and the procedures for carrying out the work needed to retrofit the school buildings for residential use. Indeed, the calls to tender did not require that there be, with regard to the activities of secondary renovation, an active contribution on the part of the occupants of the structure (who, having formed cooperatives, were to be assigned the right to live in the buildings). The documentation shows that the establishment of the cooperatives by the occupants (who, in this way, gave up their places on the waiting lists for public housing) was essentially geared towards:

- obtaining access to mortgage loans under favourable conditions (guaranteed by the municipal government as the owner of the building), in order to procure the sums needed to carry out the work of secondary renovation;
- satisfying the housing needs of the individuals occupying the school buildings by regularising their irregular positions, assuming they meet the requirements for obtaining public housing.

The fact is that the presence in a cooperative submitting a proposal of individuals “considered to be occupants of the buildings to be restored, or otherwise falling within the context of the buildings covered by the program agreement to resolve the housing crisis endorsed, of common accord, by the Ministry of Infrastructures and the Lazio Region”, as well as the municipal government, was one of the three criteria of priority stipulated in the calls for tender for the assignment of the buildings to the cooperatives. However this priority, though meant to provide the occupying family units in need of housing with reasonable safeguards, resulted, in practice, in each family unit automatically being assigned the space that it already occupied inside the building. This outcome constitutes an “anomaly”, compared to how initiatives of self-construction/self-renovation normally unfold, both in Italy and abroad. In the majority of such initiatives, in fact, the residential units are not assigned to the families until all the work has been completed, with this being done, in part, to obtain the active cooperation, as well as the integration, of the building’s future inhabitants, thanks to the bond of their joint effort to make their dream of adequate housing become reality. Further critical problems arising from the anomalous role given to the family units involved in these initiatives have to do with the delays in the various phases of the development (planning, design, execution) of the initiatives (illustrated in greater detail further on), which also led to discrepancies in the treated afforded to the different family units. In fact, in terms of

timing, there were differences in: (i) the points in time when the occupying families were able to leave the occupied buildings and move to “temporary” accommodations so that the work needed to upgrade the school buildings for residential purposes could be carried out; (ii) the periods of time during which the family units stayed in these “temporary” accommodations, where the majority still live (2015).

On account of unforeseen complications and accumulated delays, the cooperative “Inventare l’abitare” was able to take possession of only some of the buildings, and at different points in time, to carry out the secondary restoration work. This work was performed when, in actual fact, the activities for which the city administration was responsible had not yet been completed (see further on). Only a few of the families of cooperative members to which residential units had been assigned continued to live in precarious and disadvantaged conditions in a number of the structures (which still lacked documentation attesting to the final performance testing of the work done, as well as certificates of fitness for use and utility hook-ups), in order to guard the premises and prevent acts of vandalism.

Given this state of things, further repercussions to be taken into consideration include the fact that: (i) many family units have begun paying back their quotas of the loan provided on eased terms (taken out by the cooperative to finance the secondary renovation work), even though they do not yet live in the assigned housing; (ii) in the ensuing years, the city government has been obliged to sustain elevated costs to carry out evictions (following subsequent occupations of the buildings by other families), including the expense of moving and housing the occupants in residential hotels or through rental vouchers at market prices.

### **3.2 Decisions and Repercussions Tied to the Procedures for the Planning, Design and Execution of the Initiatives**

The documentation shows that, in the case of the majority of the projects, the phases of planning and design occupied a timeframe that ran from 1998 to 2004 (Fig. 2). Specifically, it took:

- approximately 10 months to arrive at the signing (on 22 September 1999) of the Memorandum of Understanding between the city government of Rome, the Ministry of Public Works (Committee on Residential Housing) and the Lazio Region (Department of Urban Planning and Housing), a document “meant to implement a complex program of residential construction, in order to move displaced inhabitants from residential hotels and absorb the peak manifestations of the housing crisis, eventually by means of self-renovation”;
- more than a year and a half for (outside) assignment of the formulation of the final plans (3 August 2000) and for the holding of the Services Conference (12 September 2000) to obtain the preliminary opinions of the departments responsible for the efforts, both inside and outside of the municipal administration;
- approximately 2 years for the city government to approve: (i) modification of the zoning designation of use (from educational to residential) of the buildings, under a waiver of the regulations for the enactment of the General Regulatory Plan (16

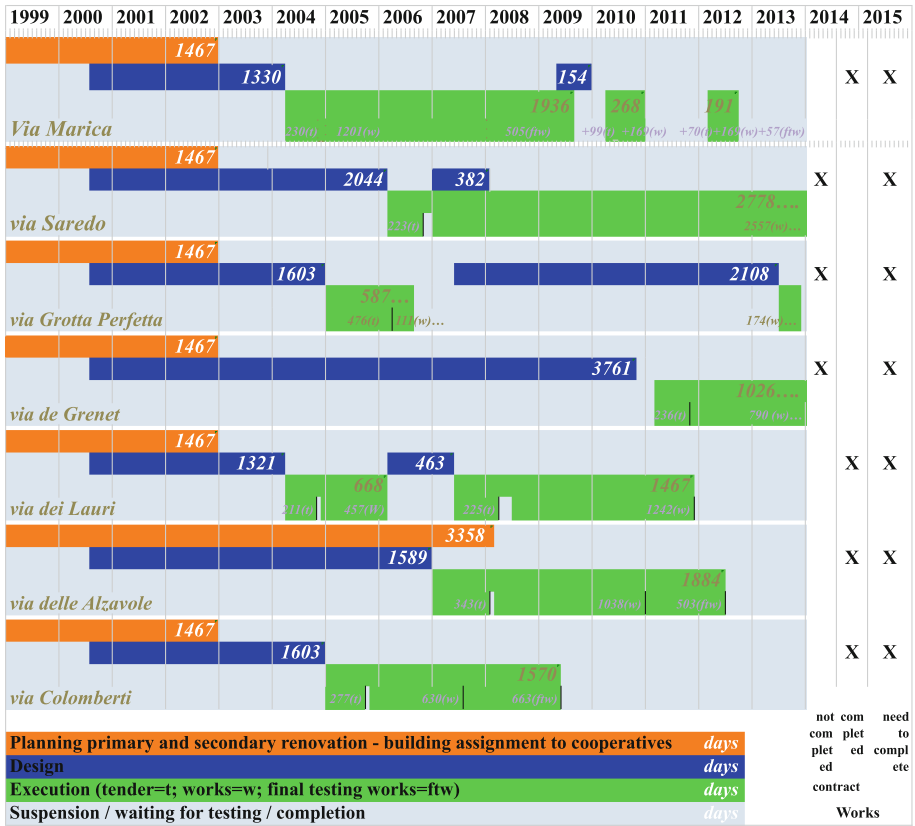


November 2000); (ii) the Residential Housing Program covering the renovation of the buildings earmarked for residential retrofitting, together with authorisation (25 January 2001) for the Mayor to sign the resulting Program Agreement;

- approximately 3 years to arrive at the signing (3 October 2001), ratification (18 October 2001) and publication of the Program Agreement between the Ministry of Infrastructures and Transportation, the Lazio Region and the City of Rome (Official Bulletin of the Lazio Region, issue no. 32 of 20 November 2001, ordinary supplement no. 2), the document under which the localisations and amounts of the financing for the initiatives of self-renovation involving the housing stock of the city administration were approved.
- approximately 4 years for approval (17 December 2002) of the first draft of the Convention and Call for Tender for the assignment and authorisation of the stipulation of statutory first mortgages for performance of the work of residential retrofitting, under a self-renovation approach, on the interiors of 6 school buildings. Another five years were to go by before approval (20 February 2008) of the draft for the other 5 buildings for which projects were underway since 1998 (making for a total of 9 years);
- more than 4 and a half years for the municipal government to receive, towards the middle of 2003, the regional allocations disbursed under Law 457/1978 for the performance of the initiatives of self-renovation.
- approximately 6 years for approval of the final plans assigned to outside planners.

In the case of all the projects, the approval of the working plans, the commitment of the funding and the holding of the tender to assign the work of (primary) renovation took place at practically the same point in time. Given the impossibility of examining all the documentation regarding these acts, the timeframe that led to the opening of the worksites can be calculated only by taking the last date common to all the efforts, as corroborated in the documentation (approval of the final plans). Only in the case of two of the efforts (the buildings on the Via Marica and the Via dei Lauri) did it take less than a year to go from the approval of the final plans to the drafting and confirmation of the working plans, followed by enactment of the procedures of the call to tender for the execution of the primary restoration work and, finally, consignment of the structures to the contractors. In the other cases, the additional time needed was traceable to delays in the presentation of the plans and/or in the holding of the contract tender and/or in the procurement of certification of proper payment of taxes on the part of the contracting enterprises. As a result of all the above, the performance of the primary restoration work began anywhere from 6 to 9 years following approval of the first regional and municipal regulatory measures (Fig. 2). Naturally the winners of the tenders were selected, based on the starting levels for bids, at amounts, time periods and volumes of work, as indicated in the working plans, that were subject to noteworthy reductions (an average of approximately 37 %).

The documentation shows that the cost estimates for the projects, as illustrated in the economic overviews for the final plans and the working plans, remained essentially unchanged, in terms of the overall amounts, from those indicated in the preliminary plans (drawn up by the municipal government). The estimated time for the presumed duration of the performance of the work was also held to a maximum of 360 consecutive calendar days, starting from the official notification of the presentation of the projects



in the meantime regarding technical standards for construction in seismic zones, for the structural safety of the works and for the energy efficiency of the buildings. These unforeseen requirements led to additional costs that the municipal administration had to absorb by reformulating the economic outlooks for the projects, though without varying the overall cost, meaning that quite often the most complex and innovative features of the original plans had to be abandoned. It also proved necessary to deal with the bankruptcy and breaches of a number of the forms to which work had been assigned, carrying out new tenders as a result, and with the reserves expressed by contractors during the performance of the work, as well as additional costs generated by extended periods in which the worksites were open (such as those involving scaffolding).

The municipal government had to manage some critical problems that emerged during the worksite phase, coming up with solutions that took into account not only the “constraints” posed by the regulations on financing, together with tender procedures and contracts, including those that have changed over time, but also vital problems that emerged during the completion phase of the procedures involving: the awarding of contracts; the taking of consignment and the performance of projects.

Over time, inside the buildings in which much of the primary renovation work has been completed, signs have begun to appear of deterioration traceable to: less than perfect execution of works; acts of vandalism; the wear and tear of use; a lack of ordinary maintenance. It should be noted that, as of December 2014, the municipal administration still had to carry out work in the shared portions of buildings, consisting of activities of finishing and completion and/or renovation and/or upgrading and assurance of safe conditions (for an estimated amount, based on the figures bid, of 300,000 euros), involving the hook-ups to sewage and electricity networks, infiltrations and upward seeping of water, accessibility for the handicapped and miscellaneous finishing work (fencing, railings, pruning of plants and arrangement of outside areas) in all the buildings being considered, except for the one on the Via Grotta Perfetta, where solutions must still be found for critical structural problems detected in the building immediately after the start of the work, despite the numerous assessments and structural designs that had been drawn up.

In the final analysis, the value of the primary recovery work completed, or still to be carried out, did not, in actual fact, correspond to the estimated figures, as the works themselves did not match, from an economic standpoint, the activities performed or the resulting functional features, as these had been defined during the phases of preliminary, final and working planning and design, and not only in terms of dimensions, forms and quantities, but as regards the quality of materials and components as well (Table 1).

#### **4 Considerations and Strategies of Action to Be Followed (in Advance) for the Development of Future Initiatives of Self-renovation**

Based on the considerations presented above, it appears safe to say that the procedures, both those planned and those actually implemented, were not well suited to guaranteeing achievement of the results expected in terms of timing (brief periods of completion) and

**Table 1.** Snapshot of the processed data relating to the progress of self-recovery operations

Phase		Self-renovation intervention considered							
		<i>Via Marica</i>	<i>Via Saredo</i>	<i>Via di Grotta Perfetta</i>	<i>Via de Grenet</i>	<i>Via dei Lauri</i>	<i>Via delle Alzavole</i>	<i>Via Colomberti</i>	
Planning	Homes Resident	27	11	20	8	23	8	10	
	Primary renovation	84	35	55	26	65	21	23	
	Cost (planned) €	774,685.35	396,122.00	697,216.81	370,816.27	515,739.54	516,461.21	329,558.89	
	Secondary renovation	Cost (planned) €	580,123.08	235,504.35	391,328.67	198,515.18	373,429.92	224,820.62	233,376.52
Design	Detailed proposals	Assignment (a)	03/08/2000	03/08/2000	03/08/2000	03/08/2000	03/08/2000	27/06/2002	03/08/2000
	Final proposals	Validation (b)	10/03/2004	22/07/2005	12/05/2004	18/02/2004	18/02/2004	10/11/2004	26/05/2004
		Δ (b – a)	≈ 4 years	≈ 5 years	≈ 4 years	≈ 4 years	≈ 4 years	≈ 2,5 years	≈ 4 years
Execution	Contract tender	Assignment (c)	10/11/2004	18/10/2006	25/01/2006	21/03/2005	13/10/2004	29/01/2008	26/09/2005
	Primary renovation	Validation (d)	Δ (e – b)	8 months	39 months	20 months	13 months	8 months	38 months
	State (2015/06)	Start (planned)	2005	2003	2006	2003	2003	2003	2007 200?
	Cost (2014)	End (planned)	2005	2003	2006	2003	2003	2003	2007 200?
	Finishing work required (2014)	State (2015/06)	1,072,875.00	396,122.00	1,106,320.00	370,816.27	898,051.00	516,461.21	329,558.89
	Secondary renovation	Consign (g)	X	X		X	X	X	X
		Assignment (f)	23/06/2003	17/01/2006	19/12/2003	23/06/2003	23/06/2004	18/01/2008	17/06/2005
		Δ (g – f)	2008/03	2009/10	No	2009/04	No	2012/11	2008/03
		End (h)	5 years	3 years		6 years		16 months	3 years
		Δ (h-g)	2010/10	2010/11		2010/05		2013/05	2008/10
		Home	16 months	12 months		12 months		7 months	7 months
Operational	Pre-allocation	Inhabitate (safeguard)	(safeguard)	(safeguard)	No	No	(safeguard)	No	Yes
	Loan	Payment (from)	2008/02	2009/11		2009/06		2012/11	2009/08

operational performance (the quality and innovative nature of the initiatives to be carried out: experimentation with bio-climatic building or bio-construction techniques). There can be no question that the undertaking of a procedure structured with the primary renovation work placed under the responsibility of one and the secondary renovation work under the responsibility of another, though useful for the purposes of procuring financing, with one portion covered by the public sector and the other by the beneficiaries, would not appear to be the best approach for achieving the expected results. But more to the point, the observations made lead to the reasonable supposition that the preliminary, working and final plans for both the primary and secondary works, together with the resulting cost estimates, were formulated in the absence of an accurate preliminary assessment of the features, as well as the state of construction and the structural condition, of the buildings, which, furthermore, deteriorated over time, on account of the periods during which they were occupied, as well as the persistent delays in the phases preceding the start of the work to be carried out, plus the prolonged suspensions of the working activities.

The “political” decision to meet the housing needs of the occupants of the school buildings by retrofitting these structures for residential purposes did not lead to the hoped-for results and benefits within the time periods, and in the manner, counted upon to respond to the compelling needs of the occupants and the body public, for the simple reason that it was not supported by assessments expressed according to objective criteria, following a preliminary evaluation of the possibilities, in terms of urban planning, categories of construction, static conditions and funding, for transforming and upgrading the occupied buildings for use as residential units (Morano and Tajani 2013), in keeping

with their current state, all leading to a final decision on the advisability of proceeding with a renovation project rather than, for example, demolishing and rebuilding the structure as part of a self-construction effort.

During the planning phase (prior to the decision on what type of initiative to undertake), a “material” knowledge of the structures being phased out of operation, and slated for retrofitting through self-renovation projects, should be obtained. Before initiating a self-renovation effort, the following key questions must be answered: which/how many buildings no longer used as active municipal assets could undergo self-renovation initiatives? Do the features of these buildings make them well suited to retrofitting for residential purposes? Are the costs and timing required for a restoration initiative (to be accurately estimated) more sustainable than those for carrying out a project of demolition/reconstruction? (Guarini 2014).

Tools of multi-criteria evaluation make it possible to come up with objective responses to these questions, in support of decisions leading to well-informed, sustainable initiatives (European Commission 2006). Given that the decision-making problems to be addressed include spatial factors as well, it might prove advisable to resort to the joint, integrated application of a multi-criteria analysis (MCA) (Guarini and Battisti 2014b) and a territorial evaluation employing geographic information systems (GIS).

## 5 Conclusions

With reference to the examined case study, the adopted evaluation approach allowed to assess the level of correspondence between objectives and expected results expected and actually achieved, with a per-inductive comparison process between than assumed *ex ante*, what happened in *itinere* and what is encountered *ex post*.

The research work carried out made it possible: (i) to formulate an overview of what has effectively been done and by what means; (ii) to identify the technical and regulatory problems that have hindered proper execution; (iii) to illustrate the results obtained in terms of costs and benefits. More specifically, it highlighted the fact that, in order to carry out an initiative of self-renovation/self-construction suited to the underlying objectives of such efforts, care must be taken: (i) to review the procedure for the enactment of the initiatives of self-renovation/self-construction; (ii) to use tools of evaluation that prove adequate when it comes to examining all the elements potentially able to contribute to: determining the criteria of feasibility for initiatives of self-renovation involving buildings that are no longer active municipal, as well as selecting the buildings on which to undertake self-construction projects, with the ultimate goal of reaching the stipulated objective within the in accordance with the expected time periods and methods.

Compared to a more general framework, the analyzes of this research have identified: (i) aspects, moments, decision nodes which provide the quality and success of an intervention self construction/self renovation (satisfaction the objectives undertaken in the planning stage); (ii) the main risk factors that can hinder the success of this type of initiatives.

In this way it has been possible to build a useful framework for defining strategies for actions that have to be implemented in the planning, design, implementation of similar future initiatives, not only in Italy but also in other European countries.

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