Paolo Rosato, Lucia Rotaris

The sustainable reuse of historical buildings of Villas project

Održiva prenamjena povijesnih građevina u sklopu projekta Villas

Povijesne zgrade jedinstven su i neponovljiv resurs pojedinoga područja. One sjedinjuju društvene, povijesne i kulturne vrijednosti lokalnih zajednica. Ako se napuste, ubrzano propadaju i nemoguće ih je ponovno dovesti u izvorno stanje. Visoki troškovi održavanja danas su golem financijski teret koji se plaća za njihovo očuvanje, a ti su troškovi veći što je područje bogatije naslijeđem. Privatizacija i ekonomska prenamjena povijesnih zgrada često se smatra jednim od mogućih rješenja ovoga problema, ali ekonomska zlouporaba tih zgrada može biti jednako negativna kao i potpuno napuštanje jer može iz temelja promijeniti njihove izvorne povijesne i umjetničke karakteristike, smanjivši – ako ne i potpuno uništivši – njihovu kulturnu vrijednost.

Prvi je cilj ovoga rada opisati status održavanja i ekonomsku prenamjenu određenih povijesnih zgrada analiziranih u sklopu projekta Villas u trima talijanskim područjima: regiji Veneto, provinciji Ferrara i regiji Umbria. Osobita će pozornost biti posvećena:

– kvaliteti konteksta (prirodni resursi, kontekst urbanih sadržaja, očuvanje pejsaža)

– ekonomskom razvoju područja (ponajprije turističkog sektora, te općenito sektora poljoprivrede, industrije i tercijarnih sektora)

– dostupnosti zgrada s najbližih prijevoznih točaka (željeznica, ulaz na autocestu, luka, zračna luka)

– arhitektonskim i strukturnim karakteristikama zgrada (fleksibilnost zgrada gostima i ekonomska aktivnost).

Usto, uporabom određenih ekonometrijskih modela izvršit će se usporedba glavnih karakteristika svakog uzorka, kao i analiza glavnih pokretača procesa odlučivanja o prenamjeni u svakomu području. Na kraju određena će pozornost biti posvećena i odnosu između ekonomskog razvoja područja analiziranih tijekom projekta i ekonomske prenamjene odabranih zgrada.

Historical buildings represent a unique and irreproducible resource of a territory. They embody the social, historical, and cultural values of the local communities. If they are abandoned they rapidly collapse and cannot be restored in their initial shape. Contemporarily, the high costs of their maintenance represent an enormous financial burden to be paid for their preservation, costs which do increase with the stock of heritage. The privatization and the economic reuse of historic buildings has been frequently viewed as one of the possible solutions to this problem, but an economic misuse of these buildings can be as negative as their complete abandonment, as it can radically transform their original historical and artistic characteristics, reducing, if not cancelling, their cultural value.

The first objective of this paper is to describe the maintenance status and the economic reuse of some historic buildings surveyed in the Villas project in three Italian areas: Veneto region, Ferrara province and Umbria region. The attention will be focused on:

– the quality of the context (natural resources, urban context amenities, landscape preservation and beauty);

– the economic development of the area (specifically of the tourist sector, and more in general of the agricultural, industrial and tertiary sectors);

– the accessibility of the buildings from the nearest transport facilities (rail station, highway entrance, harbor, airport);

– the architectural and structural characteristics of the buildings (flexibility of the buildings to host an economic activity).

Furthermore, via some econometric models the main features characterizing each sample will be compared and the main forces driving the reuse decision process within each area will be analyzed. Finally some consideration will be made on the relationship between the economic development of the areas analysed in the project and the economic reuse of the sampled buildings.

projekt Villas
održiva namjena
povijesne građevine
ekonometrijski modeli

Villas project
sustainable use
historical buildings
econometric models

Prof. Paolo Rosato
Università degli Studi di Trieste
Dipartimento di Ingegneria Civile ed Ambientale
Piazzale Europa 1, 34127 Trieste, Italia
www.dic.univ.trieste.it
Tel. + 39 040 5583 582
Fax + 39 040 5583 580
E-mail: rosato@dic.units.it

Prof. Lucia Rotaris
Università degli Studi di Trieste
Dipartimento di Ingegneria Civile ed Ambientale
Piazzale Europa 1, 34127 Trieste, Italia
www.dic.univ.trieste.it
Tel. + 39 040 5587 024
Fax + 39 040 5583 580
E-mail: lucia.rotaris@econ.univ.trieste.it

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Historical buildings represent a unique and irreproducible resource characterizing the endowment of a territory as they embody the social, historical, and cultural values of the local communities.[1] They share the conservation problems characterizing many exhaustible and unique public environmental resources. If they are damaged or completely ruined due to abandonment or lack of appropriate conservative interventions, they cannot be restored in their initial shape and are thus irremediably lost. Contemporarily, the high costs of maintenance and restoration represent an enormous financial burden to be paid for their preservation, costs which do increase with the stock of heritage. The privatisation and the economic reuse of historic buildings has been frequently indicated as a possible solution to these problems in alternative to the selection of the „most important and valuable" buildings to be subsidised with public founds and the others to the abandoned. But an economic misuse of these buildings can be as negative as their complete abandonment, as it can radically transform their original historical and artistic characteristics, reducing, if not cancelling, their cultural value. There is a strong demand of both analysis and decision support for the valuation of decisions about uses.

In order to analyse which factors are determining both the maintenance status and the conditions for reuse of historical buildings, a survey has been performed within the Villas project. In this paper we will present the main features of the survey, the characteristics of the sampled buildings, the econometric models used to analyse the collected data, the results obtained via this models, and some preliminary conclusions that it is possible to delineate at this stage of the research programme.

THE SURVEY

Within the Villas project 645 historical buildings have been surveyed:

– 26 in Carinthia (Austria);

– 19 in Croatia;

– 14 in Corfù (Greece);

– 337 in Veneto (Italy);

– 97 in Ferrara (Italy);

– 100 in Umbria (Italy);

– 52 in Molise (Italy).

The information collected for each building concern eight main areas:

1) the characteristics of the place where the building is located: geographical position, accessibility, landscape and environmental characteristics, degree of economic development and urban qualities;

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1   Avrami *et al.*, 2000; Mossetto, 1993; Fusco, 1987.

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2) the building typology: original architectural features, composition and dimension of its main and secondary elements;

3) the ownership characteristics: private or public, individual or shared, property constraints;

4) the main elements describing the current and the previous use of the building and the importance of the criteria driving the owner's decision making process toward the current use;

5) the characteristics of the alternative use that the ownership would like to implement in the medium-long term and the importance of the criteria driving the owner's decision making process on the feature project;

6) the maintenance status of the building as a whole and of its main elements;

7) the profitability of the economic activity actually hosted in the building;

8) the characteristics of alternative uses of the building that the owners could have realized instead of the one actually implemented.

We have chosen these topics on the base of the previous experiences reported in the literature on cultural heritage valuation (Alberini *et al.*, 2003; Cuccia and Signorello, 2002; de la Torre, 2002; Mazzanti and Montini, 2001; Navrud and Ready, 2002; Fusco and Njkamp, 1989), and on the results of several focus groups performed with some experts dealing with the phenomenon.

The Characteristics of the Sample

In order to identify the elements influencing the characteristics of the activities (residential, cultural, etc.) implemented in the buildings and the maintenance status of the buildings, some econometric models have been used. As econometric models ask for a great number of observations in order to estimate correctly the variable (characteristics of the context and of the building, ownership, etc) influencing a phenomenon (the use or the maintenance status of the building), only three out of the seven areas surveyed in the Villas project could be analysed in this way: historical villas in Veneto region, castles and historical hamlets in Umbria and rural buildings in the province of Ferrara. For this reason we will focus these areas in the following sections on the results.

The landscape of the majority of the surveyed buildings (45%) presents good[2] characteristics, with some exceptions: in the Umbria region, there is the highest percentage of buildings (39%) with excellent landscapes and a fairly high percentage (7%) with moderately or highly ruined landscapes In the Veneto region, 10% of buildings are surrounded by a moderately or highly ruined landscapes. Most of the landscapes are characterized by the presence of rivers, especially in the Umbria region (75%), while woods and under bush areas appear to be relevant only for the Umbria region (42%). The level of the environmental quality appears to be quite good in all the three areas, as only in Veneto the 35% of the buildings are localized in areas affected by pollution (air, soil, water and noise). The presence of other historical buildings close to the object of survey is high both in Umbria and in Ferrara, while it is less relevant for 38% of the building surveyed in Veneto.

The majority (45% and 60%) of the buildings analysed in Ferrara and in Umbria are isolated, while 55% of the buildings located in Veneto are close to a city (urbanized areas).

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2   as defined by the European Convention dated 20/10/2000.

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The total surface area of the architectural complex is smaller than 1.000 m² in most of the Ferrara (80%) and Umbria (62%) case studies, while it is more than 1.000 m² in 60% of the buildings localized in Veneto. Only 20% of the Ferrara buildings have a park, while this is a typical feature of the Veneto and Umbria buildings.

The accessibility level is quite good for the majority of the surveyed buildings as, on average, almost 60% and 80%, respectively, are less then 10 km. away from the closest highway entrance and railway station. 90% of the Ferrara buildings belong to single private individuals or institutions, while in Umbria the percentage is 67%, and in Veneto it is 52%. The remaining buildings are equally distributed between private shared ownership and public institutions in all the three areas.

THE ECONOMETRIC MODELS

The relationships among the variables characterizing the surveyed buildings and use and maintenance state have been investigated using Random Utility Model (RUM). RUM approach is based on the hypothesis that a rational individual, having to choose among a set of alternatives, will point to the one that will produce his maximum utility.[3] That is, when the owner of a building has to choose which kind of use to implement in its property, or the maintenance level to be preserved over time, he will do this comparing the *pros* and *cons* of each possible alternative, and he will choose the one able to maximize his level of satisfaction.

If the owner's preferences are rational, the characteristics of two uses that can be implemented, *a* and *b*, are represented by *X* attributes, and the utility perceived for the implementation of each alternative use is respectively U_a and U_b, then the owner will choose *a* instead of *b* if and only if:

$$U_a > U_b \; \forall \; a \neq b, \; eA \ni a,b \tag{1}$$

While the characteristics of the alternatives driving his choices are evident for the decision maker, it is almost impossible for an external observer to identify and correctly measure all the variables (*X*) influencing his decision process. For this reason the utility function of the decision maker is represented by an expression made by two components, a random (ε_a) and a deterministic ($V_a = \Sigma \beta X_a$) one:

$$U_a = \Sigma \beta X_a + \varepsilon_a \tag{2}$$

As the analyst can measure only the deterministic part of the utility perceived by the owner, he will not be able to predict deterministically the owner's choice on the bases of the characteristics of the two alternative uses,[4] rather he will be able to estimate only the probability (of the decision in favour of *a* rather than in favour of *b*) subject to both the characteristics of *a* and *b* and the characteristics of the random part of the utility function. That is, the probability that the owner will choose *a* instead of *b* is equal to:

$$Pr(a \,|\, X, \beta) = Pr(U_a \geq U_b, A \ni a,b \,|\, X, \beta) \tag{3}$$

As the theoretical structure of the RUM seems to represent the decision process concerning the historical buildings quite realistically, we decided to use this model in order to estimate which factors systematically influence the choice among different uses to be implemented and between the maintenance levels that can be adopted.

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3   for a more detailed description of the discrete choice models refer to Hensher *et al.,* 2000; 1994; Demaris, 1992; Kroes and Sheldon, 1988.

4   It implies that the standard techniques generally used to fit the model (OLS) cannot be used in this context.

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The specification and the properties of the model differ accordingly to the probability distribution hypothesized for the random component ε of the utility function (2). If there are reasons to believe that the random components are independent and identically distributed (IID) the probability (3) can be represented by a Binary (if the alternatives to be chose are only 2) or a Multinomial Logit (if the alternatives are more than 2). If the basic hypothesis is that the residuals can be correlated and differently distributed instead, that is, they do not respect the IID property, and are distributed like a multivariate Normal distribution with mean zero, the probability (3) can be represented by a Binary or a Multinomial Probit.

THE MULTINOMIAL LOGIT MODEL

This is probably the most popular model specification among the available discrete choice models. Assuming that the random component of the individual utility function is IID Gumbel distributed, the probability that the individual q will choose the alternative i is equal to:

$$P_{iq} = \frac{\exp(\beta V_{iq})}{\sum_j \exp(\beta V_{jq})} \qquad (4)$$

The identification of the variables to be included in the deterministic component of the utility function depends: on the availability of data representing the analysed phenomenon, on the correlation characterizing those data, on the theoretical *a priori* hypothesized by the analyst, and on the number of observations collected.

This model has few peculiarities that we had to deal with when we tried to apply it to estimate the factors driving the use and conservation decisions of the buildings surveyed during the Villas project. It is not able to correctly predict the choices made among correlated alternatives, which frequently characterize the uses that can be realized in each building. For each variable it will estimate as many parameters, as the number of alternative uses, minus one (the reference use) that is, if there are many alternative uses that can be implemented in the buildings, the model will require an extremely numerous database in order to produce statistically significant results. Finally, it assumes that the set of alternative uses available to the owners to be individually implemented is the same for all objects in the surveyed sample, which is quite unrealistic.

Besides, we wanted to emphasize one characteristic of the observations to be studied, that is the „ordinal" structure of the choices that could have be done by the owners both in terms of implemented uses, that could have been extremely conservative of the original characteristics of the building (residential activities, cultural activities) or more and more „invasive" (administrative activities, recreational activities, or disuse), and in terms of maintenance level, that could have been good, quite good or poor. (From options extremely conservative towards the original characteristics of the building (residential activities, cultural activities) towards more and more „invasive" (administrative activities, recreational activities, or disuse) uses, and in terms of maintenance level, from good, to quite good or poor conservation state).

For these reasons, instead of using the Multinomial logit, we decided to analyse the choices made using the Ordered Probit Model.

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The Ordered Probit Model

This model is based on the hypothesis that the random component of the decision makers (that is the owners of the buildings) is distributed like a multivariate Normal with zero mean and arbitrary covariance matrix, and that the choices made by the decision maker can be ordered on a ranking scale. Under this hypothesis the probability that the owner q will chose the alternative use m (or that he will guarantee the maintenance level m) can be represented by the following expression:

$$Pr_q = \phi(\mu_m - \Sigma \beta V_q) - \phi(\mu_{m-1} - \Sigma \beta V_q) \tag{5}$$

where μ_m represents the ranking specification of the uses (or of the maintenance levels) that the owner q can implement in his building.

This model does not allow us to estimate which are the factors (the variables) influencing the realization of each alternative use (or of each maintenance level), rather it lets us estimate which are the factors driving the decision process towards alternative uses (or maintenance levels) more and more conservative of the original characteristics of the building.

RESULTS

Initially the list of the alternative uses employed to survey the status quo of the buildings was quite long and detailed, as illustrated in table 1.

In order to simplify the analysis of the sample's choices we have re-classified the use typologies into five categories, ranked from the most deteriorating, in terms of conservation of the original features of the building, to the most conservative one: no kind of use, recreational-hosting activities (hotels, bed and breakfast, restaurant, pub, etc.), administrative activities (banks or insurance companies' head quarters, city hall, etc.), cultural activities (art exhibitions, foundations, etc.) and residential activities.

The three case studies present homogeneous frequencies relatively to the non use situation, which characterizes 15% of the buildings surveyed in the Ferrara province and

Table 1. Use typologies of the surveyed buildings

1	No kind of use	10	Permanent residential house	19	Restaurant
2	Hotel	11	Bed and breakfast	20	Museum
3	Pub	12	School/college	21	Library
4	Art exhibition	13	Lodge / club	22	Health centre/surgery/hospital
5	Foundation / research workshop	14	City hall	23	Kindergarten
6	Sport/fitness centre	15	House for hold people	24	Shops/shopping centre/retail
7	Farm	16	Storehouse	25	Barracks
8	Office district/laboratories	17	Social voluntary activity	26	Other (specify)
9	Visiting open days	18	Desultory residential house		

Table 2. Use typologies frequencies characterizing each case study

Area	Use typologies				
	None	Recreational-hosting	Administrative	Cultural	Residential
Ferrara	15%	27%	0%	0%	57%
Umbria	15%	9%	0%	7%	69%
Veneto	10%	32%	14%	13%	32%
Total	12%	25%	7%	8%	47%

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Table 3. Ideological — cultural *a priori* rated by the owners of the buildings

Cost of the realized project compared to the cost of the alternative ones
Expected profitability of the realized destination
Availability of loans / financial support / fiscal special terms
Public accessibility of the villa / castle / etc.
Economic development of the area where the villa / castle / etc. is located
Cultural development of the area where the villa / castle / etc. is located
Conservation of the original architectural features of the villa / castle / etc.
Conservation of the original use of the villa / castle / etc.
Availability of professional consulting assistance
Difficulties obtaining the required administrative authorizations
Chance of being part of a network of activities (local, national or international)

Table 4. Influence of the ideological — cultural *a priori* on the use typology chosen by the owners

Area	Change of the probability of choosing each use typology				
	None	Recreational-hosting	Administrative	Cultural	Residential
Veneto					
Loan availability	−3%	−5%	−1%	1%	8%
Original use maintenance	−7%	−11%	−2%	2%	18%
Umbria					
Original use maintenance	−1%	−1%			2%
Network externalities	4%	1%		1%	−6%
Ferrara					
Local economic development	4%	3%			−7%

in the Umbria region and 10% of the buildings surveyed in the Veneto region (Tab. 2). For what concerns the recreational-hosting activities, instead, the results are more diversified. This type of use is much more frequent in Veneto (32%) and in the Ferrara province (27%) than in Umbria (9%), the administrative activities, marginally characterizing only the Veneto region (14%), the cultural activities, marginally present only in Veneto (13%) and in Umbria (7%), and the residential activities, typically hosted in the buildings surveyed in Umbria (69%) and in the Ferrara province (57%) but much less frequently implemented in the buildings surveyed in Veneto (32%).

In order to identify the factors determining the choices made by the owners of the buildings we estimated individual ordered probit models per (for?) each case study.[5] It was not possible to estimate the whole sample in a single model because the characteristics of the ownership, of the buildings themselves, and of the territory in the three case studies are so different that it would have been misleading to aggregate all the collected observations and to treat them as homogeneous ones.

We started testing which of the ideological — cultural *a priori* characterizing the ownership were significantly influencing the implementation of the current use. These judgements were expressed by the rating of the criteria driving the owner's decision-making process towards the current use as stated during the interview. The criteria rated by the interviewed using a four level scale (none, low, medium, high) are listed in table 3.

In table 4 we report the influence that an increase of the importance given by the owners to the driving criteria on the probability to choose each of the five use typologies.

As summarized in the table, the ownership attitudes driving the choice process in the three Italian areas are quite different. While in Veneto the maintenance of the original

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5　All the models reported in this paper are statistically significant, with a probability of erroneously refuting the hypothesis that none of the estimated parameters are different from zero smaller than 10%.

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Table 5. Influence of the characteristics of the context, of the building and of the owners
on the use typology implemented in the building

Area	Probability change of choosing each use typology			
	None	Recreational-hosting	Cultural	Residential
Veneto				
Environmental quality	−5%	−7%	1%	11%
Airport proximity	1%	1%		−2%
Building maintenance level	−4%	−5%	1%	9%
Umbria				
Building maintenance level	−12%	−7%	−5%	24%
Environmental quality	−13%	−8%	−5%	26%
Ferrara				
Landscape quality	−1%	−22%		32%
Restoration constraints	−4%	−75%		79%
Park	4%	72%		−76%
Highway proximity	1%	6%		−7%

use of the building and the availability of loans to be invested in the realization of the restoration project seem to play the dominant role, in Umbria, besides the maintenance of the original use of the building, the possibility of developing network externalities via the institution of a local association represents a significant factor driving the ownership decision, and in the Ferrara context the level of local economic development systematically influences the decision process.

Specifically, in Veneto an increase of the importance perceived for the „loan availability" criteria stimulates the owners to invest in more conservative uses, typically the residential activities, rather than in less conservative ones, that is in recreational-hosting activities, or in the minimum maintenance level needed to allow the postponement of the investment decision. An increase of the importance perceived for the „original use maintenance", instead, increases the probability of choosing the residential activities, rather than the recreational ones, and reduces the probability of delaying the investment.

In Umbria the perspective is quite different, because as the importance perceived for the „network externalities" increases, the probability of implementing less invasive uses, specifically the residential activities, decreases, while the probability of postponing the investment in the future increases.

Finally, in the Ferrara context, the increasing importance perceived for the local economic development stimulates the ownership to invest in recreational-hosting activities or to postpone the investment decision, and reduces the probability of restoring the original residential activities.

We have tested, which characteristics of the context, of the building and of the owners had systematically influenced the decision process. The results we have obtained show the heterogeneity of the mechanisms underlying the choices concerning this kind of buildings, as in Veneto and in Umbria environmental quality of the surroundings, as well as characteristics, and maintenance status of the building appear to drive the decision process, while in the Ferrara area the driving factors seem to be, besides the environmental quality of the surroundings, the presence of a park and the existence of legal constraints limiting the restoration activities of the building. In table 5 we report the influence that an increase of the factors listed in the left column produces over the probability of choosing the use typologies listed in the first row.

Both in Veneto and in Umbria the environmental quality of the area surrounding the building and the maintenance status of the building increase the probability of in-

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Table 6. Perceived and objective factors influencing the decision making process on the use typology to be implemented in the building

Area	Probability change of choosing each use typology			
	None	Recreational-hosting	Cultural	Residential
Veneto				
Maintenance level	−2%	−7%	−1%	10%
Maintenance of the original use	−4%	−12%	−2%	18%
Umbria				
Maintenance level	−11%	−9%	−7%	27%
Network externalities	4%	3%	3%	−10%
Environmental quality	−11%	−9%	−7%	27%
Maintenance of the original use	−1%	−1%	−1%	2%

Table 7. Factors influencing the maintenance level of the building

Area	Maintenance level		
	Low	Medium	High
Veneto			
Tourism activities hosted in the surroundings	−3%	−6%	9%
No. of detached elements of the complex	−10%	−17%	27%
Park	−9%	−15%	24%
Umbria			
Residential activity	−3%	−11%	14%
Environmental quality	5%	20%	−26%
Airport proximity	0%	2%	−2%
Ferrara			
Residential activity	−3%	−11%	14%
Accessibility level	−9%	−33%	42%
Environmental quality	−3%	−12%	15%
Landscape quality	2%	7%	−9%

vesting in residential activities, while in the Ferrara area, besides the importance of the landscape quality positively influencing the probability of investing in residential activities, the presence of restoration constraints seems to penalize the investments in recreational-hosting activities, while the presence of a park area appears to affect those activities in a positive manner.

In order to test if the ideological *a priori* of the ownership is equally important as a driving force in their decision process as the context and the building characteristics we estimated the ordered probit model using both sets of factors. While for the Ferrara area the importance of the ideological criteria disappears when introduced into the model together with the other factors, in Veneto the maintenance level of the building and the importance of preserving its original use seem to determine the ownership choice, while in Umbria, besides the maintenance level of the building and the importance of preserving its original use, the importance perceived for the network externalities and the environmental quality of the context where the building is located, appear to influence the process (tab. 6).

Both in Veneto and in Umbria the probability of investing in conservative activities, specifically the residential activities, is positively influenced by the fact that owners perceive the importance of the preservation of the original use of the building and the maintenance status of the building, whereas in Umbria this choice is positively correlated to the environmental quality of the surroundings and it is negatively influenced by the importance perceived by the owners for the possibility of joining some local positive network externalities.

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Finally we have analysed which factors are systematically related to the maintenance status of the building. While in Umbria and in the Ferrara area, besides some characteristics of the context and of the building itself, the conservation level of the implemented uses appears to influence the maintenance status of the building, in Umbria this factor does not seem to be statistically significant. We report the results of our analysis in table 7.

Both in Umbria and in the Ferrara area the implementation of less intrusive activities, typically the residential ones, tend to be systematically related to high maintenance level of the building as well as the environmental quality and good accessibility, positively correlated to a medium or high level of maintenance. In Veneto, instead, the buildings characterized by high maintenance levels are those localized in areas with higher tourist vocation, and those presenting higher flexibility levels, represented be the presence of a park and by a greater number of elements of the architectural complex.

CONCLUSIONS

In the preceding paragraphs we have presented the first results of a survey on the driving forces of use and maintenance of historical buildings in three case studies of the Villas project. Obviously, (at the present point it is not yet possible) it is impossible to delineate definitive conclusion on the issues analysed. The samples are quite small compared with variability of the real situation and further analyses are needed.

In any case it is possible to outline some preliminary considerations.

First of all, the case studies present homogeneous frequencies relatively to the non-use situation, which characterize the 10-15% of the buildings surveyed. The owners show a significant tendency to maintain the original use of the building even if in the last decades, there has been a progressive lost of functional linkages between these historical buildings and the surrounding economic tissue. This tendency is more evident in the Veneto were the architectural value of the villas is higher than the one of buildings surveyed in Umbria and Ferrara. If the buildings appear more flexible (as in the Umbria case study), besides the maintenance of the original use of the building, the possibility of developing network externalities via the institution of a local association represents a significant factor driving the ownership decision to implement recreational-hosting activities. In the rural buildings (Ferrara) the ownership is very sensible to the local economic development that stimulates to invest in recreational-hosting activities or to postpone the investment decision, and reduces the probability of restoring the original residential use.

The decision process seems to be systematically influenced by the characteristics of the context and of the building. In Veneto and in Umbria a higher quality of the surrounding environment and a higher maintenance status of the building increases the probability of investing in residential activities, while in the Ferrara area, besides the landscape quality and restoration constraints positively influencing the residential use, the presence of a park area appears to affect positively the implementation of recreational-hosting activities.

Finally the survey shows a significant correlation between the high maintenance levels and the location in tourist areas and the flexibility of the architectural complex.

These first results outline useful indications for the evaluation of the vocation of the buildings to host „sustainable" economic reuses and for the design of appropriate support policies which will have to take into account the specific characteristics of the building itself as well as of the physical and socio-economic surroundings /framework.

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