

Portuguese method for buildings' condition assessment. Analysis of the first three years of application

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Abstract

The purpose of the paper is to analyse the first three years of application of the Portuguese method to assess buildings condition. This method is a multi-criteria assessment methodology to determine the condition of the building and the presence of basic infrastructure in a five-point scale, based on a visual inspection. The method was developed within a new Urban Tenancy Regime (Law n. 6/2006) that allows an extraordinary update of rents for tenancy agreements signed before 1990. The results provided by the method are used to determine the maximum annual rent value, and to summon landlords to carry out repairs if the state of the building falls short of the required standard of maintenance.

The analysis intends to find: to what extent the method has been applied, if the results correctly convey the condition of the buildings and the presence of basic infrastructures, if it is necessary to control results of inspections, whether the surveyors have an adequate level of education, and if the instructions provide enough information. To address these questions, opinions of surveyors and Local Committees were collected during a seminar and with survey. From a database the number of assessment processes was collected. The gathered data was analysed and the cause of deficiencies was look for. Finally improvements to the method were suggested.

The main results are the following: the number of requests for assessment is below the expectations, the method correctly assesses the buildings condition and the presence of basic infrastructures, it is not necessary to control results of inspections by surveyors, the lack of training courses led to incorrect assessments by some surveyors, and the instructions provide enough information. So far, the implementation of the method has not raised unforeseen situations which would make advisable to introduce changes in the technical aspects of the method. Despite the favourable evaluation, some improvements are suggested to its application procedure.

Keywords: Housing, Assessment of buildings condition, Building pathology, Portugal

1. Introduction

In Portugal, according to the data from the census of 2001, there were approximately 740,000 tenancy agreements, 420,000 of which were signed before 1990. Rents in the pre-1990 agreements were, on average, only 50 Euros per month, compared with 220 Euros in post-1990 agreements (Council of Ministers, 2004).

The low rents in pre-1990 agreements are due to several periods of social or economic instability in which rents were frozen or rent increases were restricted. The low rents led to situations of social injustice, in which tenants paid rents that are below the fair market value and thus have no desire to move. It also led to decades of neglect and under-funded maintenance on the part of the landlords. The progressive deterioration of buildings impaired the urban image of Portuguese cities and undermined the habitability of many rented units.

In 2006, the government approved a new Urban Tenancy Regime in a bid to change this situation (Law no. 6/2006). The main objectives of the regime were to promote the rented market in such a way that it offered an economic alternative to home ownership, facilitated residential mobility, promoted urban rehabilitation and restored confidence in private investment in real estate. The new regime introduced a crucial change by allowing an extraordinary update of rents for tenancy agreements signed before 1990.

To regulate the rent increase the new regime compiled a formula to define the maximum annual value, namely: four percent of the tributary patrimonial value of the rented unit multiplied by a maintenance coefficient. The tributary patrimonial value was already used to determine a tax on property and reflected the market value of the rented unit. The maintenance coefficient is linked to the condition of the building as follows: excellent – 1.2, good – 1.0, medium – 0.9, bad – 0.7, very bad – 0.5.

The National Laboratory for Civil Engineering (LNEC) was commissioned to develop a method to assess the condition of buildings (MAEC) within the legal framework described above. This method was approved by Ministerial Decree 1192-B/2006 and is in application since November 2006.

The purpose of this paper is to analyse the first three years of application of the MAEC. Five research questions are addressed: To what extent has the MAEC been applied? Do the results correctly convey the condition of the buildings and the presence of basic infrastructures? Is it necessary to control results of inspections? Do the surveyors have an adequate level of expertise? Do the instructions of MAEC provide enough information?

The following section briefly describes the MAEC. Section 3 explains the research methodology and Section 4 addresses the results of the study. Section 5 presents the conclusions.

2. The Portuguese method for buildings' condition assessment

2.1 Checklist, assessment criteria and calculation formula

The condition of a rented unit is assessed by means of a visual inspection (Pedro et al, 2008). A checklist was compiled for registering the information collected. The main sections of the checklist are: defects in functional elements, defect index, description of severe and critical defects, and evaluation.

The section *defects in functional elements* evaluates the level of defects in each of the 37 functional elements in the building. Each functional element consists of a set of sub-elements (e.g. structure covers foundations, columns, supporting walls, beams, floors and structural parts of balconies). These functional elements are organized into three groups: the building as a whole, the shared parts, and the unit. The second group is used only for buildings with more than one unit (e.g. apartment blocks).

The level of a defect is assessed by comparing the current performance with the original performance. To determine the level of defect of a functional element four criteria are applied: 1) the effect of defects on the functional requirements; 2) the type and extent of the required repairs; 3) the relevance of the affected space or facilities to the unit's use; and, 4) the existence of alternatives to the affected space or facilities.

The level of a defect in any given functional element is assessed on a five-point scale: minor defect (5 points), slight defect (4 points), medium defect (3 points), severe defect (2 points) and critical defect (1 point). A weighting coefficient, varying between 1 and 6 points, is linked to each functional element. The score of the functional element is derived from the product of the number of points linked to the defect level by the weighting coefficient. If the functional element does not figure in the rented unit, the answer is "*not applicable*" and no score is calculated.

The *defect index* is the quotient of the total of the scores for the applicable functional elements and the sum of their weighting coefficients.

The *description of severe and critical defects* explains the reasons behind the score for each functional element. This description is accompanied by photographs to illustrate the situation found by the surveyor.

The *evaluation* section presents the condition of the building and is obtained by applying the calculation formula to the defect index. The calculation formula includes three rules. The first rule classifies the defect index on a scale of five levels. The second and third rules correct, if necessary, the result of the first rule in order to avoid extreme individual values below the average value.

2.2 Instructions

The aim of the instructions is to ensure that the different surveyors apply the assessment method correctly and thus attain consistency in the results. This document includes the surveyor's code of ethics and liability; a description of how surveyors, tenants and landlords should proceed during an assessment; an explanation of how to fill in each section of the checklist; a description of the assessment criteria; an extensive list of frequent defects for each constructive element classified according to level; the calculation formula and examples of application. Common defects are illustrated by more than 400 photographs.

Instructions are not included in the Ministerial Decree that approved the MAEC. Improved versions, based on experience collected during the implementation, are made available on the Internet.

2.3 Application procedure

The Institute for Housing and Urban Rehabilitation is responsible for managing the assessment method at national level. In each municipality there is a Local Committee made up of representatives of the main stakeholders in the rented sector: the municipality, landlords, tenants, engineers, architects and lawyers. These committees implement the assessment method at municipal level.

The surveyors who apply the assessment method are architects or civil engineers who belong to the respective professional associations and have followed a training course specifically for this purpose. As an exception during the first three years, professionals with at least five years of experience may apply the method without taking the course.

A website has been set up to support the implementation of MAEC and other features of the Urban Tenancy Regime (<http://www.portaldahabitacao.pt/pt/nrau/home>).

3. Research methodology

The analysis of the first three years of application of the MAEC has been carried out as part of a PhD thesis currently underway at LNEC (Vilhena, 2007). The methodology of the study had the following four phases: define the research questions, collect relevant data, analyse the data and seek the roots that cause deficiencies, and suggest improvements to the MAEC.

Three types of data were collected: opinions from surveyors and representatives of Local Committees expressed during a seminar (Vilhena, 2009); a database with the number of requests and decisions of buildings condition assessment for all municipalities; and a survey to the Local Committees.

4. Analysis of MAEC application

4.1 Application level

The application of the MAEC started in November 2006. After the first year, 900 assessments had been concluded and 3,700 were underway. In December 2008, 2,390 assessments had been concluded and 7,380 were underway. The number of new requests and assessments concluded remained approximately constant in the first two years. This tendency was contrary to the initial expectation that the number of process would tend to increase within time.

According to the census of 2001, the number of tenancy agreements signed before 1990 was 420,000 (Statistic Portugal, 2002). It is improbable that this number has decreased after 2001, since tenants paid rents that are below market value and thus have no desire to move. In the first 26 months of application, only 9,770 rented units were assessed or under assessment, which represents 2.3 % of the total number of tenancy agreements signed before 1990. If the present rhythm of assessment continues, it will take about 100 years to assess all rented units (Pinho, 2009).

These figures show that the Urban Tenancy Regime, approved in 2006, did not create the conditions necessary for updating the value of rents. The main handicap of the regime is that the maximum value allowed for the update rent is low when compared to market value and the increase takes place gradually over a period of 2 to 10 years depending on the tenant's income and age. In addition the landlord may have additional costs, since repair works can be necessary and the tax on property is updated after the solicitation to increase the rent.

As an example, a dwelling in Lisbon was assessed by the General Directorate of Taxes in 2009 to be 55,420 €, and rented by 1,000 € per month. If this dwelling had a tenancy agreement signed before 1990 and the maintenance condition was excellent, the maximum value of the rent per month would be 221.68 €. One can argue that rent values are presently exaggerated due to the narrow rent market, but this does not justify a difference of more than 1 to 4 (Pinho, 2009).

In conclusion, the number of assessments is below the expectations, but the main reason for this is not the MAEC itself.

4.2 Results of the method

According to the Local Committees, the results of the MAEC correctly convey the condition of the buildings and the presence of basic infrastructures on a five-point scale. There are no indications that MAEC does not give consistent results to all buildings regardless of use, construction date, construction process, location, costs, size, etc. The number of landlords and tenants that disagree with the results of the MAEC is very low, according to the number of reclamations received.

Some Local Committees pointed out that in a number of rented units the level obtained was higher than expected. When discussing these claims, it became clear that some defects may have significant visual impact for the surveyor but do not jeopardize safety or comfort conditions of the rented unit and require simple repairs. Therefore, the overall assessment of the maintenance condition is not significantly affected by these defects.

4.3 Control of results

The results of the inspections carried out by surveyors are controlled at several moments:

- 1) Local Committees, when deciding the maintenance coefficient, check the description of the defects and the illustrative photographs. When they feel that the assessment criteria have been mistakenly applied, they can discuss this with the surveyor, who may then correct the evaluation.
- 2) Landlords and tenants may also check out the results and appeal against them before they become definitive.
- 3) Professional associations are informed if a surveyor repeatedly submits incorrect assessments. He will be investigated and, depending on the findings, may be excluded from the system.

Therefore, random checks of assessment results, with re-inspections by a control authority, are considered not necessary. To gain better understanding of the MAEC results, a statistical analysis of the frequency of defects in functional elements should be carried out.

4.4 Surveyors

Tools and procedures were established to enable accurate and transparent application. However, the quality of the results depends heavily on the competence of the surveyor.

According to the Local Committees, the majority of the surveyors correctly apply the MAEC. However, deficiencies were identified when surveyors did not study the application instructions properly, or when surveyors have a long experience of applying other instruments and are reluctant to adopt new procedures. When Local Committees pointed out mistakes, surveyors usually accepted and corrected the checklists.

The lack of a specific training course was pointed out as a reason for these deficiencies. However, Local Committees also observed that there is a lack of theoretical and practical expertise of surveyors regarding construction pathology. This weakness is more common in architects, but was also registered for some civil engineers. Therefore, it is urgent that all surveyors attend a specific training course on the procedural and technical aspects of MAEC.

Approval in an examination should be mandatory to continue to carry out inspections. In order to increase the level of expertise, attending a training course on construction pathology is recommended for some surveyors.

It is interesting to observe that these recommendations are identical to conclusions of a study about the quality of residential surveys in England (Hollis and Bright, 1999), using the RICS method of survey. In this study it is recommended: the improvement of the level of expertise required for inspecting a building; guidance to the level of inspection testing and note taking; and, the training to aid defect recognition and the establishment of risk of consequential damage.

Considering the expertise, time and resources necessary to carry out an inspection, the amount paid to the surveyor is insufficient. Consequently, the more experienced and skilled technicians are ceasing their activity as surveyors. As the conditions to work as a surveyor should be increased, the payment for each inspection should also be revised. Bearing in mind that mistakes may have economical implications for landlords and tenants, surveyors should have to take liability insurance.

4.5 Instructions

According to Local Committees and surveyors, the instructions of the MAEC are very useful. The description of the inspection procedure and the illustrated classification of common defects was considered particular helpful. No improvements were asked in the instructions.

However, Local Committees confirmed that the illustrated version of the instructions was not appropriately advertised, and some surveyors continue to use the previous versions. Therefore, the link to the most recent version of the instructions should be more visible in the website and a note about the update should also be published in the news section of the website. Complementary, an email should be sent to all surveyors informing about the new version of the instructions.

Surveyors submit the results of inspections in the website of the Urban Tenancy Regime. Yet there is not electronic tool to support the surveyors during the inspection. A program to work in a PDA (Personal digital assistant) should be developed with the following functions: register answers of surveyors, take photos of defects, validate the checklist and apply the calculation formula. This program should also include the instructions or consultation during inspections.

5. Conclusions

5.1 Synthesis of results

The MAEC has been in use since November 2006 and it is now possible to draw some conclusions of its application:

- 1) The number of rented units that has been assessed is below the expectations. Only 2 % of the tenancy agreements signed before 1990 were assessed or under assessment in the first two years. The main reason for this low application is not related to the MAEC. Landlords are not requesting the extraordinary update of the rents because it is not economically attractive.
- 2) The results of the MAEC correctly convey the condition of the buildings and the presence of basic infrastructures. The number of disagreements with the results of the MAEC is quite low.
- 3) The results of inspections carried out by surveyors are controlled at several moments. It is not necessary to perform random re-inspections to control results of inspections.
- 4) Most surveyors have an adequate level of expertise. The lack of a specific training course is the main reason for some deficiencies in the application of MAEC. Some surveyors lack theoretical and practical expertise on construction pathology.
- 5) The instructions provide enough information to apply MAEC correctly.

5.2 Improvements

So far, the implementation of MAEC has not raised unforeseen situations which would necessitate a revision of its technical aspects. Despite the favourable evaluation, some improvements are suggested to its application procedure:

- 1) A statistical analysis of the checklists filled in during inspections should be carried out.
- 2) An analysis on the reclamations by tenants and landlords should be made, to understand the main points of disagreement with the results of the surveys.
- 3) All surveyors should attend a specific training course on the procedural and technical aspects of MAEC. Approval on an examination should be mandatory to continue to carry out inspections.

- 4) Training courses on construction pathology should be organized for surveyors that want to improve their expertise on the subject.
- 5) The payment for each inspection should be increased.
- 6) Surveyors should have to take liability insurance.
- 7) All surveyors should be informed about the most recent version of the instruction and other tools to support the application of the MAEC should be developed.

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