Performance Assessment of the Architectural Heritage

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Abstract: The purpose of this research paper is to explore the importance of the architectural heritage of the old city of Constantine “Medina” and to develop a research frame work based on a post occupancy evaluation (POE) as a tool to assess the performance of buildings related to the preservation, restoration and renovation of historic architectural and urban heritage at risk in Algeria.

Keywords: Preservation, renovation, rehabilitation, historical heritage, Post Occupancy Evaluation (POE), Assessment, Building performance.

I. Introduction

Historical heritage is one that gives us a sense of wonder and makes us want to know more about the people or culture that produced it. Moreover, it has an architecture, aesthetic, historic, documentary, archeological, economic, social, and even political and spiritual or symbolic values. It deals with the political, social and economic aspects of the period in which the structure was built and gives the chronological sequence of events in the life of buildings, Bernard M Feilden, (1994). Within the context of the city of Constantine In Algeria, the historical heritage is mainly composed by the old city of Ottoman era “Medina” and the European city of the French era. These urban centers have experienced and continue to experience significant changes in their units, homogeneity and urban image. This phenomenon is accentuated with the natural growth of cities and the rural exodus. Therefore, urban development has complied with the economic imperatives alone, ignoring any historical urban structure reflecting the richness of different civilizations and cultures in the country. During the French period (1830 - 1962), the city was mainly inhabited by the Algerian population concentrated in the neighborhoods of the traditional city “Medina”, and a European population concentrated in the colonial-type of houses. The city of Constantine which is considered the capital of eastern part of Algeria, by its size, its history and geographical position has seen many changes related to its structure and urban image. Most buildings have unique characteristics, with special attributes such as windows, doors, walls, columns, roofs, floor and staircases. The colors of building materials also give an interesting character to these historical buildings, Semmara, A. (2007). However, Most heritage buildings of the Medina has been deteriorated “threat of ruin” and the remaining buildings are generally susceptible to demolition, partly due to factors such as poor maintenance and improper restoration methods, and the city continues to undergo major transformations disregarding the context of the historical urban city.

Diagnostics undertaken within the actual context of the old historical buildings of the Medina, pointed up that, several factors contributed to the degradation of the urban frame of the city and the deterioration and degradation of major buildings (Local authorities report Constantine 2006). Several scientific studies and research have allowed us to express the magnitude and importance of buildings performance assessment based on the Post-occupancy evaluation (POE) studies in the field of refurbishment, renovation and preservation of architectural heritage, Barlex, M. J. (2006), Bernard. M Feilden, Baily, G.H.(2004), Preiser, W. et Vischer, J. (2005). According to E Burden (2004), refurbishment means to bring existing buildings up to standard, or to make them suitable for a new use by refurbishment as part of repair, or by restoration and renovation. In order to prevent from more accurate damages and deteriorations of the old city, buildings performance assessment based on Post-Occupancy Evaluation (POE) study could be carried out. POE can be defined as the process of evaluating buildings in a systematic and rigorous manner after they have been refurbished, restored or renovated and occupied for some time. It involves the systematic study of buildings once occupied, so that we can learn on how to improve their current conditions and to guide the design for future buildings refurbishment or restoration, Preiser, W.F.E., Rabinowitz, H.Z., White, E.T. (1988).

Buildings performance assessment and their environments have an effective role in the building process in order to assess the efficiency of designed environments. Both at the academic and professional level, the most
practical, systematic and effective feedback tool available for building evaluation is post occupancy evaluation, Friedmann, A., Zimring, C.M., & Zube, E.(1978). Therefore, it is urgent to undertake scientific research program to give a reliable interest of the existing architectural and urban historical environment.

II. Context and research progress

The historic architectural and urban heritage in Algeria is specific, unique and has precious value for the history and memory of present and future generations. This architectural heritage represents a considerable basis for a potential environment development of a social, cultural and economical context. The city of Constantine has a rich and varied picture of the historical heritage. This architectural and urban richness is manifested by a combination of the old city of Constantine the Ottoman era and the French or European city. Within the last decade, Algerian legislation concerning, the preservation and renovation of the architectural and urban historical heritage was not considered as a prime priority. Recently, the architectural and urban heritage in Algeria was recognized as a national heritage with great interest, and so it was allowed to local authorities to undertake a large program on conservation, rehabilitation and renovation of this historical architectural and urban heritage and the maintenance and protection of building values becomes a fundamental element of the architectural and urban development policy of the city. To preserve this heritage in its original condition and before it will be destroyed or modified improperly, it is basically urgent to undertake a research a program and a rigorous and systematic reflection on its refurbishment, rehabilitation and renovation. The buildings performance assessment based on POE- Post occupancy evaluation studies become a vital need to ensure the quality of rehabilitation and renovation as well as the functional and technical performance of buildings.

III. Research Process

So it seems clear that there are significant gaps in scientific input and a drastic lack of background and documentaries relating to the process of evaluation and assessment of buildings, and also to rehabilitation and renovation of existing architectural and urban heritage. It also seems that all the problems related to the quality of the preservation and renovation of architectural heritage at risk and that at the performance of the materials and techniques used have not been deeply analyzed and studied before their application. Therefore, it appears quite obvious that the development of a research program on POE, Post-occupancy evaluation related to preservation, rehabilitation and renovation of the architectural and urban historical heritage is urgently needed, and this, in order to:

a- To avoid repeating the same mistakes and gaps of buildings supposed to be rehabilitated and renovated.

b- Ensure that materials and techniques to be applied will be considered adequate, appropriate, effective and efficient.

c- To formulate an approach or a guideline on building performance based on POE carried out towards refurbished historical buildings. In addition, this framework can assign alternative operational research programs at different spaces and buildings, which could help improve existing and future conditions and find possible solutions.

This analysis and investigation process could generate an accumulation of reliable data and scientific knowledge which can be used at a first step towards a formulation and development of a support or guide for the preservation, rehabilitation and renovation of architectural and urban heritage, which undoubtedly will improve and preserve existing and future situation of the various buildings at risk in Algeria.

IV. Research program

Most of buildings representing the architectural heritage within the City of Constantine of both ottoman and French period are in disrepair or generally liable to deteriorate, mainly due to various factors such as poor maintenance and methods of restoration and renovation company that are inappropriate. Renovation or restoration of the appropriate state is considered of a minimal repair, to allow the construction to be adapted to its main objective.

Once the renovations are completed, the post-occupancy evaluation (POE) can be performed. This approach is defined as a systematic process of assessment of buildings in use, so that, this approach can highlight or target failures, errors, malfunctions and amalgams and to indicate or suggest tools or techniques needed to improve their current conditions and to guide the design and renovation of future building, Rabinowitz, HZ, and Canter, D, (1986), Bernard,M, Feilden, , (2004, ).

Actually, evaluation is essential in order that successful features can be identified and repeated, unsuccessful features can be eliminated and lessons can be learned from past mistakes and forms a sound basis to improve existing building values designs and to feedback for creating better refurbishment and renovation of buildings in the future, Guba, EG, , and Lincoln, (2006).

Thus, the objective of the research approach or a research framework is to provide a guide on the process of the post -occupancy evaluation of a building or space in use. In this order, (POE) can be applied to different
programs related to the preservation and renovation of architectural heritage at risk in Algeria. This research study on POE towards refurbished historical buildings is aimed to:

a- Identify the different issues related to possible away from different conceptual and technical characteristics compared to the expected criteria.

b- Identify possible mismatches related to the use of the building.

c- Provide a set of reliable data and information that can be used by clients, architects, experts in the field of preservation and renovation of the existing architectural building values.

V. Evaluation Frame work

In setting up any research programme, it is suggested to bear generally in mind three main steps S.S.B.R.T. (2006):

a- Identification of methods of evaluation which could be applicable for the research programme.

b- Definition of criteria and standards for evaluation.

c- Definition of the scale of the evaluation programme.

VI. Evaluation Methods

Most studies of buildings performance evaluation studies used a variety of methods examined and tested which often includes the use of measures or statements, observations, interviews and questionnaires, all these methods have a reasonable degree of validity and are generally suitable for use to assess the performance of buildings in relation to refurbishment and renovation of the historical heritage and buildings of values, Blyth, A and Worthington J. (200), Zeisel, J. (1986),. The choice of appropriate methods, individually or combined, seems to depend on the particular problems studied, the specificity of situations produced and purpose of the evaluation study. Among these methods are distinguished, Forum, walkthrough, interviews, survey, questionnaire, and observation, Blyth, A and Worthington J. (2001), Yin R. K. (1984).

VII. Evaluation Criteria

Conduction of a program of research and evaluation concerning architectural heritage and buildings values requires a clear definition and identification standards and, criteria against which the buildings or spaces being studied can be evaluated. The review of literature shows that due to the international character of Architectural heritage, it is possible to transfer techniques, norms and standards for the preservation, rehabilitation and renovation of historic heritage from other countries, but the transfer should be made by taking into account a number of factors such as cultural, religious, social and political context, this should be also combined within climate, organizational and institutional considerations Rawilson, C, (2003). However, in a first stage of the evaluation program, it is necessary to explore what criteria and technical design standards exist before starting the research program.

VIII. Limit scope of investigation

The aim of initiating a limited scope of investigation helps clarify and highlight the different aspects that are subject to evaluation research program. To achieve effective program evaluation, it is necessary to employ qualified personnel. This category of staff should not only be experienced but also specialized in the preservation, rehabilitation and renovation of buildings within the architectural and urban heritage. Although the field of investigation of the research program and initial assessment is limited, it would acquire a considerable experience on which, future programs a wider scale could be achieved in the country. This approach will consist essentially to these three aspects and may be extended to other aspects if necessary. This will be a rigorous scientific and operational research which can help to identify possible solutions to improve the situation of building values and historical building heritage in the country. Therefore, this reflection will attempt to provide a useful and reliable support for the development of a research program on evaluation post-occupancy evaluation (POE) related to preservation, restoration and renovation of the historical architectural and urban heritage at risk.

IX. Conclusion and future issues

This research project explores the importance of buildings performance of the architectural heritage of the old city of Constantine “Medina, which is part of the worldwide preserved heritage”, due to its historical and cultural value. It identifies at first, the importance of architectural and urban heritage as an important historical richness, which is a memory and a picture of the past, its role as existing historical, consisting and dynamic in community cohesion and social and cultural structure of the country. Second, this study develops an approach or a frame work of the evaluation of technical performance which is the fundamental basis of the process of post - occupancy evaluation (POE) relating to the preservation, restoration and renovation of historic architectural and urban heritage at risk in Algeria. Evaluation of buildings and their environments has an effective role in the building process in order to assess the efficiency of designed environments. Both at the academic and
professional level, the most practical, systematic and effective feedback tool available for building evaluation is post occupancy evaluation POE.

References