### ADAPTING A TRADITIONAL HOUSE UP TO DATE

Z.Sevgen PERKER\*#

Nilüfer AKINCITÜRK\*

\* Department of Architecture, Faculty of Engineering and Architecture, University of Uludağ, Görükle, 16059 Bursa, Turkey,

\*E-mail address for correspondence: <a href="mailto:sevper@gmail.com">sevper@gmail.com</a>

\_\_\_\_\_

Abstract: Turkey is a rich country within the historical cultural heritage. Traditional houses are forming the most important sequence of the mentioned physical cultural heritage of Turkey. Traditional houses have been worn out and facing a danger of vanishing in course of time. Traditional houses have to be transferred to the future by preserving them in order to obtain the sustainability of the cultural heritage. Until today; various researches carried out for protecting these traditional houses, indicate that the precondition of preserving is the adaptation of them up to date. It is known that there have been very important enterprises on the implementations of protection and maintenance of traditional houses in Turkey, yet lack of systematic approach can be observed in these implementations. Similar problems are being experienced concerning the protection of traditional houses and various preserving techniques which have nothing in common are being encountered. This study is submitting a conceptional model regarding eliminating the lack of a systematic approach. The suggested model defines the tarditional model as a system and provides the analysis of adaptation of it to present with a system approach. It is perceived that the suggested model and the techniques which are close to the correct.

Key Words: Traditional, House, Adaptation, System Approach, System Theory, Conceptual Model

\_\_\_\_

#### INTRODUCTION

It is known that the resident exists with the involvement of the sociocultural and economical features of the society and with the physical properties such as the climate, the flora and the topography and local instruments and technology. Tradditional house can be seen as one of the most significant elements of physical culture which was shaped regarding to the regional data, local instruments and past implementation techniques and principles and conditions as well as the inner culture items such as the family structure, norm, customs, beliefs. In designing the future, the most important resource are the past savings. It never seems probable for a society, who never knows to preserve th past values, to produce new values. The traditional residents found in Turkey, that has been hosting various civilizations from past to now, are of the identity elements and they reflect the traditional life style and the cultural features of the society. Preservation of traditional houses and transfer of them to future have a great role within the aspect of the sustainability of the local, national and international culture heritage. Besides, it is believed

that the traditional houses carry a pathfinding feature within the extent of designing the future's house and within the aspect that they were designed according to the psychological, social and physical requirements of the mankind and they are buildings having a high estetic value and respectful to the cultural and physical and cultural environment. Together with all the mentioned reasons; traditional houses having historical, cultural and structural values are required to be transferred to future.

### Preservation Of The Traditional House And Requirement Of Adapting It To Up To Date

The social change, which we are able to call a transmutation of the relation network between the humans and the social role patterns and the institutions inside the social system of a society, is an unavoidable process. The reasons of social changes are facing us, which we cannot control such as inventions, discoveries, technology, ideas, beliefs, industrial development and alterations, increase of the population, pressure of the population, cultural interactions, natural disasters or wars [1,2,3].

The social transmutation, which is not at the same speed in all societies, have gained an acceleration in Turkey especially after the 1950's with the industrialization movements and a rapid urbanization came in to question. The changing production relations, technological innovations and differentiations occured the network of relations among people, reflected the physical environment directly. It has become unavoidable for the residents in the areas living close to the urban area and the downtown to be reflected. It is observed that tarditional house users whose expectations and requirements change rapidly, start to leave those houses because the houses do not compensate their needs. It is seen that some of the users who cannot leave their houses due to various reasons; start to change the traditional houses physically and functionally. Since the users leave those houses, and those houses lose their authentic properties and there have been mistaken implementations, it is becoming more difficult to protect and transfer traditional houses to future. Numerous sceintific researches emphasize that traditional houses cannot reply to the needs and expectations occured according to the cultural and staminal changes and it will not be possible to realize the preservation and sustainability mentality unless those houses are adapted to today. It was experienced that the researches carried out regarding the perservation of traditonal houses, have handled the issue in one or two dimensions or have improved solution offers to those dealth with systematically in a study and what is more; it is conspicuous that there have been insufficiencies about systematic approaches in applications of traditional house preservation today. Even though there is a legal regulation about the issue of traditional house preservation; this issue is not approached with a multideimensional system. Therefore this leads the existence of various differences in adaptation processes and missing out some parameters. In a physical content; it can be seen that different sulutions are being suggested to the tradional houses having similar features and eventually the preservation of the authenticity of tradional houses is getting more difficult. For this reason; this study has a great importance within the extent of suggesting a conceptional model related to the system analysis.

## CONCEPTIONAL ANALYSIS MODEL

Within this study; a system approach has been internalized as means of model improvement in the improvement of the conceptional analysis model which will be extracted in adapting the traditional house up to date. This study intends to improve a conceptional analysis model relating to the issue and to handle the adaptation as a system and in this study the main reasons of selecting a system approach as means of model improvement are as follows; the abovementioned approach works with the principles of unity, being disciplined and science and the issue of adaptation of the house up to date is a multi – parametric structure.

### Stage 1: System Approach

Model is defined as an implement which will set up relations among targets, obligations, alternatives or criterion [4]. Analysing and clarifying a system attitude in a conceptional style is qualified as 'Conceptional Model'[5]. System is defined as an idea that has a logical integrity and consistency, a group of principles, a complement which is composed of particles in interaction and conjugate relation or a mechanism which is working according to precise rules [6].

A system has got two main features. One of them is that the system has got a target and the second is that the system is composed of particles which are interactinn each other.

- The aim of the system: Every system has got an aim to reach. Aim is the main reason of the existence of the system. Therefore; it is not possible to define a complement having no aims as a system
- Interacted Parts Forming The System: System is a complement, which is composed of parts working together to reach the defined target and interacting with each other during this interaction

Systems are divided into two groups;

- 1- Systems which are relating to the environment that they are in (open system) and
- 2- Systems which are not relating to the environment that they are in (closed system) [7].

Closed systems; are systems having no input. Closed system elements never interact with the features of the environment and never contact with the environment. If there is a relation between one of the system elements an at least one of the elements of the environment; the mentioned system is qualified as an open system.

The various forms which the inputs create by getting through a process are defined as the output of the system. In closed systems; only inner operation elements are taken into consideration while outer elements are accepted non – existent, (or although they are presumed but they are not taken into consideration in analysis and decisions) In open systems it is believed that there is an reciprocal interaction. Open systems get inputs continuously and act in a dynamic balance and they protect their balance by making necessary changes according to the alterations occured around them. Within this extent; there is always a relation of 'input – change – output' in open systems. In such occasions; an output of one system could be the input of the other system. By feedback process; open systems are provided to arrange themselves due to the changes around them. By feedback method; systems find an opportunity of evaluating and arranging their activities if necessary [8, 9, 10] (Figure 1).

System approach is derived from 'General System Theory' of Von Bertalanffy which he introduced in 1920's. General System Theory is an approach that is aiming to establish a common analytic model for all the scientific fields. The aim of the system approach is to develop a hypothetical frame in order to explain the general relations in the world [10, 11].

Basicly; system approach which was generated by various scientist in the historical process and created from the general system theory of Bertalanffy and it is actualized under the light of principles such as following a certain system and directing different point of views to the complement, considering the complement. System approaching events signify the conditions and problems under the enlightment of the system view and system attitude. System approach is to divide problems into small pieces and get the pieces together regarding the defined target.

### Stage 2: Traditional Housing System Definition

In the the improved conceptional analysis model; the adaptation of the traditional house is taken into consideration as a system. The target of the abovementioned system is to adapt the traditional house up to date and the input of the system is derived from 'Traditional House System'. Physically; Traditional house system is derived from constructional elements (basement – wall – wall spaces, floos, stairs and

other elements such as shore and roof); the locations of the mentioned elements (outer space, inner space, basement), the constructional materials (stone, wood, adobe, brick, metal, plaster) and installments (water, electricity, heating). Nevertheless, Traditional House System is formed of not only the sum of those components, but also the relation among them. In Figure 2 the distribuiton of the construction elements of the traditional house according to their locations. Regarding to the locations of building elements inside the building; the reasons of the deterioration will change, so Figure 2 is becoming more significant.

As seen in Figure 2; the construction elements only related with the outer environment; outside stairs, shore, floor layer; the elements only related with the inner environment; mid floor inner walls, inner door, mid floor coverings, inner stairs and interior architectural elements; construction element related only with basement; construction elements related both with the inner and the outer environment; the main door, window, roof; construction elements related with both the inner environment and the basement; the inner wall of the basement and basement floor covering and the construction element which is related to all the three environments is the external wall [12].

### **Stage 3: Definition Of The Subsystems**

The functional and physical ageing of the house geneates the movement point in forming subsystem of the system of the traditional house adaptation to up to date. While the physical ageing process encloses the deformations occured on the authentic construction elements and materials because of various factors; the functional ageing process is the declaration that the house couldnot meet the actual requirements. Within this extent; it can be said that the subsystems of the traditional house system are derived from the deterioration and the maintenance subsystem and new requirements subsystem. The output of the 'The System Of The Traditional House Adaptation Up To Date' is the traditional house adapted up to date.

It seems inevitable that 'Traditional House System' will go through a process of physical ageing with various reasons by time.

Physical ageing process is covering the deterioration process of the construction materials in general. The factors causing the deterioration of the construction elements are structural factors and physical, chemical, biological factors and factors related to humans are all connected to each other (Figure 3).

Additionally; changing requirements of users force to change the physical structure of the house by time and for the sustainability of the house, all the new requirements have to be an essentiality (taking the wet spaces inside the building and integrating the installment systems to the building). Sometimes; a functional change can either be seen in the house. The mentioned process could be qualified as a functional ageing process. From this point of view; traditional house is getting through a process of deterioration (related to each other) — maintenance and a process of meeting new requirements and eventually; the output of the system of the the house (adapted up to date) is reached. The evaluation after comparing the output and the input is creating the feedback [12].

## Stage 4: Definition of Senior Systems and Creation of the Model

Within the extent of the system approach; it is observed that the adaptation system of the house up to date is also effected by the senior systems when moved from the existence of the senior systems effecting each system itself. Those systems are Sociocultural, Economical and Legal – Institutional Senior Systems.

From the point of view of Sociocultural Senior System, the houses found in Turkey have been being affected by the relation between the social structure and physical structure and social, cultural, economical and technological alterations and requirements needed for new functions formed by the new actions and by the rapid change of the family structures, industrialisation; by some facts such as rapid urbanization and population increases and by the level of consciousness and education about protection of the traditional house and by the situation of quantity and quality of the human resource who will work for protection.

Within the extent of the Economical Senior System; traditional houses in Turkey are effected by the correlation of the country with the financing of its protection of the economical development model, by the economical situation of the resdient user and by the formal or civil originated economical inducements.

As for the Legal - Institutional Senior System; it is observed that traditional houses in Turkey are influenced by the problems in the control mechanism and projection – implementation relations and by the decisions of protection planning and policies aiming new conctructions. Furthermore; the Sociocultural Senior System that has been very effective on adapting the traditional house up to date and there have been relations between the Economical Senior System and Legal – Institutional Senior System.

The mentioned senior systems have been effecting the system of adaptation of traditional houses up to date one by one and what is more they heve effects on the traditional houses because the relations between them. The senior systems which have been effecting the adaptation process and the correlations among them (Figure 4). Adaptation System Of The Traditional House Up To Date And Conceptional Analysis Model seen in Figure 5 [12].

### RESULTS AND SUGGESTIONS

Traditional Houses have local, national and universal aspects of view. Traditonal houses are forming a very important stock within the extent of cultural tourism policies and residential requirements of societies. The protection and transfer of the abovementioned houses cannot be efectuated unless various upto date adaptation studies are carried out.

For the societies who cannot preserve their traditional values and who cannot take the advantage of past experiences; it is not likely to produce new values. Keeping those traditional residents alive is a multi parametric subject.

Within the extent of this study, the examined conceptional analysis model especially provided the research of the relations among the mentioned elements and evaluation of the effective elemets on the traditional house up to date with a totalitarian point of view and the subject of adaptation of the traditional house up to date.

With the proposed conceptional analysis model; it is thought that the problems which are concerning about the adaptation of the traditional houses in Turkey up to date; and the reasons causing the mentioned problems and introducing the relations among the reasons are going to form an important step in solving the mentioned problems.

Therewithal; it is believed that the conceptional analysis model which was suggested for the traditional houses found in Turkey will be able to contribute to the prreservation of the traditional houses that are found in other countries having similar problems.

It is perceived that creating 'The Adaptation System of Traditional Houses Up To Date' on a larger scale with forming the systematic approaches in local anad national scales a real system related to the Preservation of traditional houses and their adaptation up to date. The nature of teh approach of the system also requires this. It is thought that this study will be able to contribute to universal science with this aspect

# REFERENCES

Berkay, F., Mimarlık ve Sosyal Hayat, Uludağ University, PhD Lecture Notes, Bursa (2007).

Berkay, F., Sosyal Değişme ve Uygarlık Dönüşümleri. Uludağ University, Master Lecture Notes, Bursa (2008).

- Kongar, E., Toplumsal Değişme Kuramları ve Türkiye Gerçeği, Remzi, İstanbul (2004).
- Gültekin, A.B. Yaşam Döngüsü Değerlendirme Yöntemi Kapsamında Yapı Ürünlerinin Çevresel Etkilerinin Değerlendirilmesine Yönelik Bir Model Önerisi, PhD Thesis, Gazi University, Ankara. p. 37 (2009).
- Direk, Y.S. Giydirme Cephe Tasarım Sürecinde Karar Vermek İçin Bir Yöntem Önerisi, PhD Thesis, Yıldız Technical University, İstanbul. s.74 104 (2009).
- Churchman, C.W., The Systems Approach, Dell Publishing Co., New York (1968).
- Sarıaslan, H. 'Sistem Analizinin Temelleri',(2009), http://www.politics.ankara.edu.tr/dergi/pdf/39/1/5\_halil\_sariaslan.pdf)
- Bertalanffy, L.V., 'An Outline of General System Theory', *The British Journal for the Philosophy of Science*, 1950, Vol. 1. pp. 134 165.
- Mattessich, R., Instrumental Reasoning & Sytems Methodology; An Epistemojlojy Of The Applied & Social Sciences, D. Reidel Publishing Co., Netherlands (1978).
- Dinçer, Ö. 'Sistem Yaklaşımı' (http://www.enfal.de/sosyalbilimler/s/032.htm), 2009.
- Johnson, R.A., F.E. Kast, J.E. Rosenzweig, 1964. 'Systems Theory And Management', *Management Science*, 2009, Vol. 10. p. 367 370.
- Perker, Z.S. 2010. Geleneksel Anadolu Konutunun Güne Uyarlanmasında Yapısal Bir Model, PhD Thesis, Uludağ University, Bursa (2010).

#### **APPENDIX**

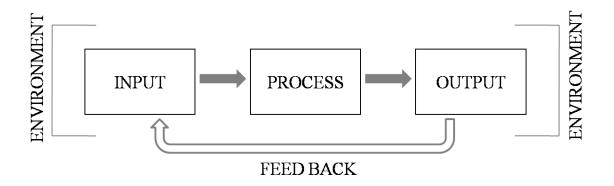
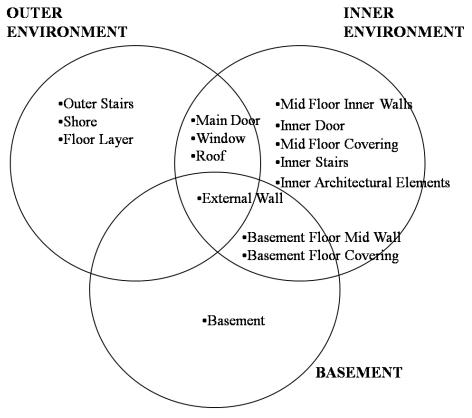
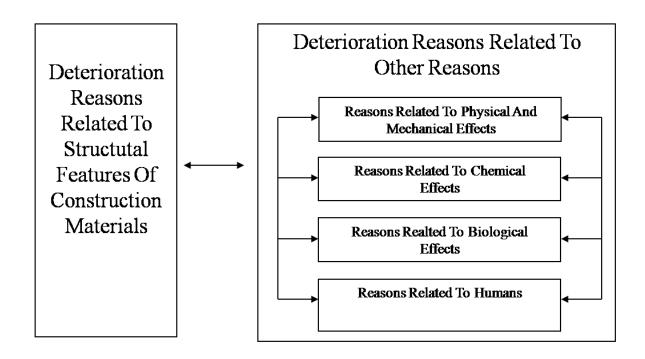


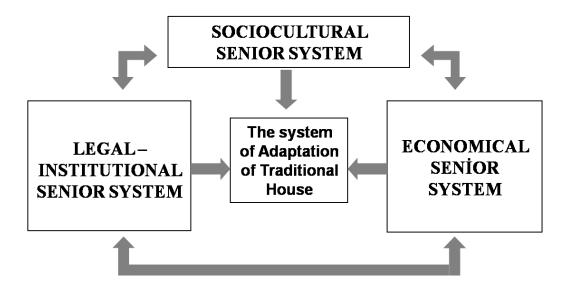
Figure 1. Open System Opreation Model



**Figure 2.** The Distribuiton Of The Construction Elements Of The Traditional House According To Their Locations



**Figure 3.** Deterioration On Construction Elements And Materials Of The Traditional House And Their Relations



**Figure 4.** Senior Systems Effecting The System Of Adaptation Of Traditional House Upto Date And Relations Among Them

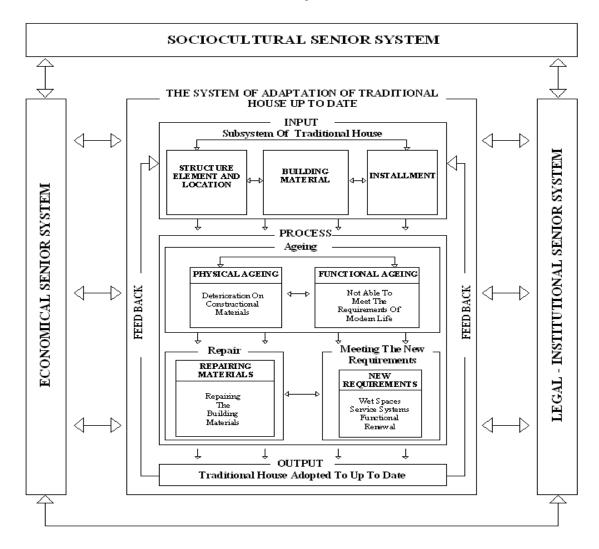


Figure 5. Adaptation System of the Traditional House up to Date and Conceptional Analysis Model