

## Building Resilience By Responding to Change: Case Study of Fes



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**Abstract:** *Intangible values of cultural heritage give life and spirit to the tangible ones within their existing environment and context. This aspect promotes cultural heritage as a living expression and certifies its irreplaceable role to be a source of identity for communities and individuals to be protected and consigned to posterity. The aim of this study is to explore the existing state of heritage buildings in Medina (old city) of Fes in order to investigate the strategies developed to safeguard its unique cultural heritage. Restoring historic house buildings by giving them new functions is a trend of adaptation to the modern life considered within adaptive re-use strategy. Most of the historic houses are abandoned and few are restored or converted into restaurants, guest houses, exhibition galleries and the like, intended for foreign visitors located in the city as a symbol of an ancient civilization within adaptive re-use aspect. The aim of this study is to explore Fes, a city of Morocco, inscribed in UNESCO's world heritage list in order to examine adaptive re-use strategy as an investment in tourism sector to enhance the economic, social and cultural resilience of communities. Expected result of this study is to discuss adaptive re-use approach in cultural heritage preservation with its link to Sendai Framework for building resilience.*

**Keywords:** *Adaptive re-use, resilience, cultural heritage, Morocco – Fes, tourism*

### Değişime Ayak Uydurarak Direnç Kapasitesini Artırma: Fes Örneği

**Öz:** *Somut olmayan kültürel miras değerleri, somut olanlara mevcut çevreleri ve bağlamları içerisinde yaşam ve ruh kazandırmaktadır. Bu bakış açısı ile kültürel miras canlı bir öge olarak ele alınmakta ve yeri doldurulamaz değeri ile toplulukların ve bireylerin korunmasına, geleneklerin gelecek kuşaklara aktarılmasına ve kültürel kimliğin oluşmasına kaynak teşkil etmektedir. Bu çalışmanın amacı, Fes Medine'deki (eski şehir) mevcut miras yapılarını örnek olarak inceleyerek kültürel mirası korumak için geliştirilen stratejileri araştırmaktır. Tarihi konut binalarına yeni işlevler vererek restore etmek, yeniden kullanım stratejisi olarak ele alınan, modern yaşama adaptasyon eğilimidir. Tarihi evlerin çoğu terk edilmiş ve çok azı restore edilmiş veya yeniden kullanıma yönelik yeni işlevler kazandırılmıştır. Eski bir medeniyetin sembolü olarak kentte bulunan pek çok tarihi konut; yabancı ziyaretçiler ve turistler için tasarlanan restoranlara, konuk evlerine, sergi galerilerine ve benzerlerine dönüştürülmüştür. Bu çalışmanın amacı; toplulukların ekonomik, sosyal ve kültürel direncini arttırmak için yeniden kullanım stratejisini turizm sektöründe bir yatırım olarak değerlendirmek amacıyla UNESCO'nun dünya mirası listesinde yer alan Fas'ın Fes şehrini incelemektir. Bu çalışmanın beklenen sonucu, kültürel mirasın korunmasında yeniden kullanım yaklaşımını, direnç kazandırma konusunda Sendai Çerçevesi bağlantısı ile tartışmaktır.*

**Anahtar Kelimeler:** *Yeniden kullanım, Dirençlilik; Kültür mirası, Fas – Fes, Turizm*

## **1. INTRODUCTION**

Cultural heritage might be considered as a creator of identity for the communities associated with its tangible and intangible values that shape it. Intangible values of cultural heritage give life and spirit to the tangible ones within their existing environment and context. This aspect promotes cultural heritage as a living expression and certifies its irreplaceable role to be a source of identity for communities and individuals, to be protected and consigned to the posterity. Transfer traditions and knowledge to the future generations and sharing the stories of our lives as memories is a crucial step in protection of cultural heritage. Indeed, its protection includes public authorities and individual works in terms of existing safeguarding strategies and conservation approaches. Some of the actions undertaken until the present might be examined in terms of their results. Currently, many heritage examples around the globe are under the risk of degradation and demolition because of being abandoned. Therefore, conservation and preservation actions are based on development of new strategies oriented to re-use in order to protect cultural heritage.

### **1.1. Objectives**

The aim of this study is to examine the present condition of heritage buildings in Medina (old city) of Fes and to discuss solutions developed as strategies to safeguard cultural heritage. Particular emphasis is given to adaptive re-use aspect used in restoration works and its link to the Sendai Framework Priority 3 - where public and private investment is encouraged in order to prevent and reduce risks - is discussed [1, p. 18]. Adaptive re-use is selected as a main strategy for protection of houses in Medina of Fes because of their existing condition that most of the examples are abandoned and few are restored or converted into restaurants, guest houses, exhibition galleries and the like, intended for foreign visitors located in the city as a symbol of an ancient civilization.

Consequently, this study raises the fact of the importance of integration between decision makers and practitioners to build resilience [2, pp.17-18].

### **1.2. Methodology**

In this study, one case is selected to be explored in order to examine adaptive re-use strategies as an investment in tourism sector to enhance the economic, social and cultural resilience of communities which is aligned with Priority 3 of Sendai Framework. Selected case study is Medina of Fes, a city of Morocco, inscribed in World Heritage List of UNESCO. In order to understand the present condition of the site and demands of its community a survey with the locals is made. Based on the literature research and case study exploration a discussion on the adaptive re-use approach in heritage sites is conducted

## **2. BUILDING RESILIENCE IN HISTORIC SITES**

The city is a living phenomenon develops during the course of the time that allows playing its role of economic, social and cultural organization. It is constantly changing under the pressure of technological innovations, the change of social practices, life style, and globalization and so on. The built environment, like the outstanding and unique natural surroundings, provides a vital link to the past, assists in celebrating achievements, and offers a vision for the future. Protecting built heritage and preserving national story for future generations presents a real challenge, a challenge that is being enthusiastically taken up by heritage councils, developers, architects, community groups, heritage councils, individuals and all levels of government [3].

Cities including historic environments where the existence of heritage buildings is a challenge for the present conservation actions need to be responsive to the change which has been brought by the modern life in respect to their cultural and historic values. City, as a living phenomenon evolves during the course of the time and its spatial and functional configuration is shaped by the transformation of social, economic

and cultural events. Therefore, this evolution process has a strong relation with the concept of resilience which is the capacity of coping with changes, even traumatic and catastrophic ones, calamities, disasters, exploitation of available resources and so on. Within this aspect historic sites have a specific place because their lack of adaptation to technological developments, accessibility, performance requirements of modern life, functional normative etc. Requirements for the improvement of performance in order to preserve historic buildings might conflict with conservation restrictions. Due to these facts a multi scale approach including environmental, economic, social and cultural aspects is an imperative for preserving historic sites and their buildings [4].

Historic buildings represent not only traces from the history, but also belong to the present of the city. A heritage building is recognized and protected for its exceptional historical, architectural and cultural aspect. Conserving heritage buildings and giving new functions according to their location, size, and potential can help to future generations to understand their roots and to the culture they belong and to strength cultural identity [5]. However, the proposed new use must be appropriate in terms of preserving the cultural significance of the historic fabric. When heritage buildings are adapted for different functions, the new use and the intervention work should preserve the originality and architectural character of the building to not give wrong or missing information for the further generations.

Today people have become more conscious about architectural conservation of built environment, so selection of new uses for heritage buildings is handling more professionally. Adaptive reuse poses quite difficult challenges for designers. Changing the function of a building introduces new regulatory conditions [6]. Deciding the new use of a heritage building is a difficult problem in decision-making process since there are many factors in the process. Finding the most appropriate function within the context is crucial in order to preserve the cultural significance of the heritage building. All the factors are taken into consideration in adaptive re-use decision-making process to find the most appropriate function for the buildings, considering the different dimensions of its new function. A successful adaptation is one that respects the existing building and its historic context and adds a contemporary layer to the heritage building rather than destroying its character [7].

## 2.1. Adaptive Re-Use Approach

Adaptive re-use of a heritage building is a challenging process since the heritage values, physical characteristics and potentials of the heritage building need to be well analyzed holistically [5]. Society is becoming more aware of ecological issues and the demolition of heritage buildings is now seen as an ecological waste and also as the disposal of cultural identity, of heritage and of socio-economic values [8]. Adaptive re-use or the act of transforming something into something else, in terms of architecture, is the adaptation of the function of an existing building to another function to meet the new requirements It can take many forms: To save an abandoned building for heritage reasons, assigning to it another function, to revise, renew any activity of a neighborhood by adapting it with any of other neighborhoods, or with the present life style, to project a new direction for a region. Re-use decision requires a preliminary study for a reciprocal adaptation between the existing building and its new use.

Protection of heritage buildings is a challenging topic in terms of ensuring continuity of the life and meeting modern demands [9, p.9; 10, p.9]. Intervening a building by alteration is called “adaptive re-use” (Brooker & Stone, 2004). Although adaptive re-use approach seems as quite recent topic in the field of preservation of heritage buildings, it can be traced in Viollet-le-Duc (1814–1879) statement: “*the best way to preserve a building is to find a use for it, and then to satisfy so well the needs dictated by that use that there will never be any further need to make any further changes in the building*” [11, p.156]. Adaptive re-use approach advocates sustainability in terms of saving energy and preservation of cultural heritage [6]. Alteration for giving new function to the buildings which face the risk of becoming obsolete is the way of

re-use. Adaptation of an existing building to its new function includes many challenges. Finding the most appropriate function within the context is crucial in order to preserve the cultural significance of a heritage building.

Cities as living phenomena are constantly changing under the pressure of technological innovations, changes in social practices, life style, and globalization as well. Protecting the built heritage and preserving cultural identity are challenges which enthusiastically are taken up by decision makers, developers, professionals and communities etc. [3, p.1; 2, pp.11-14]. Therefore, responding to change is inevitable fact of safeguarding heritage.

Adaptive re-use is the approach which highlights how built heritage can be conserved through the successful marriage of existing heritage structures and cutting edge architectural design by preserving the past and building the future. The best way to preserve heritage structures is to give sympathetic new use [3].

Adaptive re-use is considered as part of resilience to sustain the use of historic buildings in order to preserve cultural heritage. Aytac et al defines adaptive resilience as “self-organizing behavior and adaptive capacity”. Also, associates it with Holling’s adaptive cycle which is formed as infinity symbol. Cities change continuously in terms of economic, social, political and planning point of view and do not hold on their current state [12].

To conclude, adaptive re-use has a good potential to preserve heritage buildings however it needs to be limited with conservation theories and consideration of additional new loads.

## **2.2. Sendai Framework - Priority 3: Investing in DRR for resilience**

Increasing number and intensity of natural and human induced disasters bring forward the importance of disaster risk reduction in a global level. Therefore, many international agreements targeted to the risk reduction and risk mitigation are conducted and practiced. Among the prominent ones 2004 The Hyogo Framework for Action (2005-2015) can be listed [13, p. 3] as a threshold in the field of disaster risk reduction by its focus on building resilience and involving communities in order to mitigate disaster risks. Approximately ten years after Hyogo Frameworks; considering early-warning, preparedness, resilience, innovation, and risks, in 2015 Sendai Framework is adopted in an international level by having the importance of gaining global attention [13, p. 5]. The main goals of Sendai Framework can be stated as building resilience, promoting local solutions and fostering inclusion [14].

Sendai Framework is known as a 15-year, voluntary, non-binding agreement aiming at building resilience and reducing risks and losses of lives [1, p. 12; 15, p. 1; 2, p. 15]. Particular emphasis is to the involvement of all stakeholders within risk reduction such as states, private sector both in national and international levels [14].

In this paper, particular attention is given to the “*Priority 3: Investing in disaster risk reduction for resilience*” where resilience of communities and cities is driven by public and private investment in disaster risk reduction of cultural heritage (Sendai Framework, 2015, p: 18). The emphasis may be brought on the importance of integration between decision makers and practitioners to build resilience [2, p. 17 – 18].

## **3. THE CASE STUDY: MEDINA OF FES**

A study of Medina of Fes, listed in the World Heritage List (<https://whc.unesco.org/en/list/170>) is conducted as a case study in order to explore re-use as a strategy for preserving historic sites by discussing challenges due to the context and existing circumstances.

Medina of Fes (Figure 1) is located in Morocco which has nine inscribed properties [16] and seven intangible values listed in World Heritage List [18]. Fes is the former capital of the country and still it is known as the cultural capital as well. Founded in the 8<sup>th</sup> century, Fes remains one of the few authentic Islamic cities, it has preserved within its walls, the most dazzling aspects of the Arab civilization. Palaces, mosques, mansions, medersas (schools), fondouks (hotels) remain eloquent witnesses of its prestigious past [17, pp. 230 – 241].



*Figure 1. Medina of Fes [19]*

### **3.1. Cultural Heritage in Morocco**

Morocco has a rich history that began with the Berbers and has been ruled by many dynasties. Spanish and Portuguese influences have contributed to its rich cultural heritage. The kingdom of Morocco that is at the crossroad of Europe and Africa is a remarkable country with its culture and prosperous history. The country has a very strong sense of culture. Various rulers that ruled it influenced the country's cultural diversity. From the 8<sup>th</sup> century, great Moroccan dynasties succeed one another (Idrisside, Almoravide, Almohade, Merinide, Saadienne and Alaouite). Large imperial cities were built such as Fes, Marrakech, Meknes or Rabat, in a monumental and imposing architectural style.

During its rich history Morocco has faced a rush of European powers and the French in particular furthering their interests in North Africa at the beginning of 20<sup>th</sup> century. Therefore, Morocco was under protectorate until 1950.

With its large number of inscriptions in UNESCO World Heritage List Morocco has a rich cultural and historical values including tangible and intangible ones.

- **Intangible heritage of Morocco**

Intangible heritage of Morocco has a traditional expression acknowledged by many societies. Morocco has seven components inscribed as intangible cultural heritage among whose the Tan-Tan festival, the cultural space of Jemaa el Fna, the Mediterranean diet are the most known (UNESCO World Heritage List).

Tan-Tan Festival in southwestern Morocco is an annual gathering of nomads from the Sahara where more than thirty tribes from southern Morocco and other parts of northwestern Africa participate. Originally it was held annually around the month of May and it was also a pretext for various cultural expressions such as music, folk songs, games, poetry games. Since 1963 this festival has been transformed into the form of a fair which locally is called as Moussem. This fair aims at driving economic, cultural and social activities. The other well-known example of Morocco's intangible heritage, the Jemaa el-Fna square is one of the main cultural spaces of Marrakech. Having become one of the symbols of the city since its founding in the eleventh century, it offers an exceptional concentration of popular Moroccan cultural traditions that express themselves through music, religion and various artistic expressions. It is a meeting point for the inhabitants of the city, but also for people from elsewhere. Throughout the day, and late into the night, traditional food and a variety of services such as dental, traditional medicine, divination, preaching, henna (tattoos) are available. Additionally, storytellers, poets, snake charmers are performing in the square [20].

The diverse and rich cuisine of Morocco express its taste as the Mediterranean diet which involves a combination of knowledge, rituals, symbols and traditions relating to crops, gathering, fishing, breeding, conservation, processing, cooking and, especially, the manner how to share the table and consume food. Sharing the table is the foundation of the cultural identity and continuity of communities in the Mediterranean basin. It is a time of social exchange and communication, affirmation and re-founding of the identity of the family, the group or the community. The Mediterranean diet emphasizes the values of hospitality, good neighborhood, intercultural dialogue and creativity, and a way of life guided by respect to diversity. It plays an important role in cultural spaces, celebrations by bringing together people of all ages, classes and backgrounds [20].

- **Tangible heritage in Morocco**

Medina of Fes is one the places where tangible values of Moroccan heritage take place. It is known as the largest and best preserved coherent historical place in the Arab world, even in the Islamic world. In the 11<sup>th</sup> century, the Almoravids united the city within a single rampart and, under the Almohad dynasty (12<sup>th</sup> and 13<sup>th</sup> centuries), the primitive city (Fez el-bali) was already taking its current dimensions. Under the Merinids (13<sup>th</sup> – 15<sup>th</sup> century), a new city (Fes Jedid) was founded (in 1276) west of the old (Fes El-Bali) one. It houses the Royal Palace, the headquarters of the army, fortifications and residential areas. From that time, the two entities of the Medina of Fes constituting one of the great Islamic metropolises embodying a great variety of architectural forms and urban landscapes. They include a considerable number of monuments of a religious, civil and military nature which materialize a culture with multiple influences [20].

Tangible heritage in Morocco includes some monuments such as Ait Benhaddou Palace which is a striking example of the architecture of southern Morocco. Inside defensive walls reinforced with corner towers and pierced by a chicane door, numerous houses around, some modest, the others being small urban castles with their high corner towers. It is an extraordinary set of buildings offering a complete perspective of techniques. Architecturally, the structure of the habitat is in the form of a compact cluster, closed and suspended. The public spaces of the palace consist of a mosque, a public square, a caravanserai, two cemeteries (Muslim and Jewish) and the shrine of Saint Sidi Ali. The Ait-Ben-Haddou palace is a perfect synthesis of the earthen architecture of the pre-Saharan regions of Morocco. Ait Ben Haddou Palace constitutes a remarkable model of a multiscale architecture land of southern Morocco [20].

### 3.2. Particularities of Medina of Fez

The word Medina refers to the old part of a town or a city. It is typical traditional settlement including narrow streets, fountains, palaces and mosques [21].

The case of this study, former capital city Medina of Fez, is dated back to the 9<sup>th</sup> century. It includes rich cultural assets by its madrasas, fondouks, palaces, residences, mosques and fountains as tangible part and intangible values as Tan – tan festival, Mediterranean diet, argan tree, cultural spaces etc. Since 1912 the capital city was transferred to Rabat, however, Fez kept its statues of being cultural and spiritual centre with its largest Medina [19]. It is one of the ancient cities of Morocco which is considered as one of the largest and best preserved historical cities in the Arab-Muslim world. The Medina of Fez is surrounded by the city walls dated back to the different periods and spread over an estimated length of 25 km. (the belt 13.6 km, the inner ramparts 9 km, the outer ramparts “Qasbah Cherrarda” 1.526 km) [22, p. 6 – 8; p. 52 – 55].

At the end of the fifties, the medina of Fez underwent changes at various levels that influenced its traditional fabric. The abandonment of traditional houses by their owners to move towards economic activity clusters or the new cities that represent the image of modernity, with their new habitats, better infrastructure, better services and modern standards. As a result the city has been left to low-income population and deterioration of the traditional pattern and buildings were inevitable. Consequently, the site faces seriously risk of loss of traditional fabric and heritage values. However, in the last few years, there has been a new movement, which is reflected by the return of the national investors to the old houses with rather touristic intention. Different strategies are applied to safeguard Medina of Fez in governmental level, among which adaptive giving new functions to the individual buildings is one of the mainly used approaches. Another action has been done with the practical aim from the governmental level, establishing agency titled “ADER” in order to coordinate and to scrutinize restoration works of Medina of Fez. ADER is the agency of development and rehabilitation of the Medina of Fes founded in 1989 [23].

### 3.3. Site Survey

In order to better understand the dynamics of the studied Medina of Fez, and to have more information about the site and its culture, a survey was conducted accompanied with three interviews.

- **Survey**

The survey is aiming to explore interpretation of the users regarding their connection with Medina of Fes, economic condition and building quality of the site. The questionnaire is divided into four parts according to the scope of the questions such as personal information, house status, opinions about restoration strategies, options that can be suitable for the inhabitants. 160 people were surveyed and the survey language was in French and Arabic. The results and outcomes of the findings were translated to the English for being able to be used within this research.

The significant outcomes of the survey are summarized below:

- The largest part of the surveyed people (70%) is a local one lives more than 20 years in the Medina of Fez and they own their own properties (56%).
- The size of the houses is mostly between 70 – 100m<sup>2</sup> (36%).
- The reason of living here is more or less equal in terms of having family here (40%) and working as a craft man (30 %).
- Education level of the locals is basically as primary (40%) and high school (30%) and 20 % of the locals is not educated.
- 50% of the locals are employed and 49% among them are unskilled employees.
- The large part of the buildings is over 20 years old (68 %).

- Most of the population have the intention and demand to intervene their houses (53%) and most of them have not made it yet because of financial lack (45%).
- The thought about re-use is mostly related with giving new function as accommodation for tourists (27%) and the profit that can be got (27%).

As a result of the survey it can be said that most of the inhabitants have the intention and desire to convert their houses and re-use for tourism purposes, however, could not effort the expenses. In general the locals support adaptive re-use strategy and believe that it will have positive effect to revitalize their neighbourhood. According to the opinion of locals, contributed to the survey, the number of the restoration projects aiming re-uses needs to be increased. This approach will have brought reputation to the owner in society and will offer new jobs for unemployed locals.

• **Interview**

The interviews aimed at having information from decision makers, professionals and experts level about policies, and practise in restoration works in Medina of Fez. These interviews had open-ended questions about policies, practise in restoration works in Medina of Fez and generally the site condition (Table 1).

*Table 1. The frame of the interviews*

<b>Role</b>	<b>Actor</b>	<b>Aim of the interview</b>
Decision maker	ADER	Understanding the strategies of preservation of the Cultural heritage of Medina of Fes, and the legislation applied by the government to ensure the heritage preservation.
Professional	Architect	Understanding the way of intervention, and the complexities faced during transformation work.
Expert	Prof. at UIR	Understanding the dimensions of the Medina of Fes.

The main aim of the interviews is to get the point of view of the actors in the field of restoration works. The president of ADER Fes agency “Fouad Serrhini” gave information about the procedure of acceptance of restoration projects in Medina of Fes. Serrhini stated that the decision of the acceptance is dependent on the different authorities based on the fund of the project such as the prefecture, the Ministry of Culture, Habitat Ministry, Craft Ministry, community and ADER Fes Agency. The role of ADER Fes is to steer and oversee the works in terms of their legal status. He also remarked the importance of World Heritage Convention (WHC), ratified by Morocco that establishes a system of identification, presentation, and registration to the heritage list and definition of the outstanding value as well. Serrhini stated that “Although recently Medina of Fes does not get international financial support no one can deny the 80s and 90s projects funded by FADES and World Bank”.

In the interview done with the architect Kabbaj as a representative of professionals who owns the guest house restored by him, the intervention works and the challenges faced during adaptive re-use projects were explained. The necessity of restoration works of old houses as the evidences of the culture and identity of Morocco and the link between past-present and future were pointed out. He explained in detail the restoration and conversion process and works of his own house. He highlighted the importance of structural problems and provided solutions and the difficulty to find skilled craftsmanship to restore traditional ceramics and the plaster as challenges during the restoration works.

The last interview was done with the representative of scientific side, Prof. Dr. Bennani the director of UIR International University of Rabat, an expert in the field of Moroccan heritage. She has been studied the case

of Medina of Fes and is the author of a book [23] where the disastrous state of the Moroccan heritage is discussed. She stated her support to the idea of adaptive re-use strategy to preserve the heritage versus ignorance or leaving the buildings to their destiny which mostly end up with abandonment and demolition.

To conclude the interview results it is possible to say that the points of views of three different levels of heritage preservation actors is coming together in the support of adaptive re-use approach for the case of Medina of Fes when the particular condition of the site is taken into consideration.

### **3.4. Adaptive Re-use Approach and Restoration Works in Medina of Fes**

With its rich and long history Morocco has passed from two political stages such as before the protectorate and after the protectorate. Before the Protectorate, the historic buildings were maintained by two main entities which are The Habous and the Makhzen. The Habous was a public service, benefiting from a particular organization and ensuring a great independence from to other institutions. It took care of all the pious foundations, public buildings or inalienable private property. This institution had effectively contributed to the maintenance of a number of especially religious monuments, although this interest stemmed less from an awareness of the artistic or historical importance of these buildings than from the needs to following their functions. After the Protectorate, by the establishment of independency, the Ministry of Culture, called at the beginning Ministry of State in Charge of Cultural Affairs was created “following a royal decree to 8 July 1968”. It was lasted only two years and then converted to the direction for two successive ministries which currently are the main players for heritage conservation.

The ministry responsible for housing and urban planning which supports the protection of heritage at the level of three directorates: At the level of the Planning Directorate, the Service of Plans and diagrams of specific areas, included in the division of studies, takes care of the areas to be endowed with a specific arrangement including the Medinas. At the level of the Social Housing and Land Affairs Branch, the Department of Renovation and Rehabilitation of Old sites, included in the Division of Unsanitary Habitat, is responsible for historical rehabilitation of the sites. At the regional level, the management of heritage is generally delegated to local authorities who must ensure, when decisions are taken to preserve the heritage assets included in its territory. They can also propose a classification for the monuments included within their territory. Only the Medina of Fes is endowed with a specific organism for the preservation of the historical fabric: the Agency for Development and Rehabilitation of the City of Fes which is called as ADER-Fes.

ADER-Fes is an anonymous company created by the Moroccan state in 1989. The Board of Directors is chaired by the Minister of the Interior. It has the task of safeguarding the Medina of Fes. Thus the Medina of Fes is the only one in Morocco to be endowed with a specialized institution, which undertakes various safeguard actions in order to preserve the heritage richness of this historical fabric. With the collaboration of various stakeholders such as the Ministry of Culture, ADER-Fes has undertaken actions to restore and rehabilitate not only landmark monuments, including the Medersa Bouinaniya (school), Fondouk Nejjarine (hotel), old houses but also public spaces including the rehabilitation of the place Boujloud, souk R'cif, place Seffarine [20].

In addition to the technical study programs in view of improving the built frame, ADER attaches great importance to the social and economic development of the Medina of Fes. In order to do this, it has introduced specific programs such as restoration and rehabilitation of housing programs, which allows inhabitants to benefit from a material subsidy (30% of the cost of the investment); the creation of a social cell that works in partnership with neighborhood associations; also, collaboration in the development of specific programs for professionals; and the organization of international rehabilitation and restoration

workshops and sites. These actions show the importance of collaboration and contribution of all stakeholders involved in restoration works where the strategy for adaptive re-use in Medina of Fes is framed.

Another important step within the aspect of preservation works is a project has been launched in 2013 and founded by the World Bank aiming at safeguarding Medina of Fes. It consists of the rehabilitation of built heritage including assistance to the rehabilitation of housing and workshops as well as the development of tourism, and the rehabilitation of the road system essentially including the improvement of existing accesses, the development of parking and the development of an emergency road network.

#### **4. DISCUSSION**

The Medina of Fes as the listed historic site facing many challenges to be preserved and meet requirements of the modern life like with the other medinas. Although being a former capital of Morocco and now still keeping its importance as a cultural centre its glory is shaded by the low income population and uncontrolled growth of the new comers and tourists. The fact that the owners of the buildings have an intention to leave Medina of Fes in order to find more modern life and immigration of the countryside low-income people with a hope to find a job in the city has brought serious problems to the site. The change of local profile and abandonment of the buildings are the main reasons of preservation problems; as well as old infrastructure and its limited capacity.

Expected result of this study is to discuss adaptive re-use approach in cultural heritage preservation of Medina of Fes. Additionally, the critical thinking for the future works is associated with the link to Sendai Framework for building resilience.

One of the main drivers of adaptive re-use in Medina of Fes is potential of tourism in the site or individual building which will bring income to the locals. However, the use of tourism as a tool of preservation may be critical for the heritage site itself. Control the increasing number of the site's population has a vital role for infrastructure and capacity problems. Therefore, planning of adaptive re-use with all its positive and negative effects is crucial.

The proposal of improving the existing strategy for adaptive re-use in Medina of Fes is framed as setting criteria for evaluating the existing buildings as an integrated approach and their relation with the stakeholders. The idea is to increase community involvement by raising awareness about resilience and how to contribute to the system and how to deal with historic buildings, particularly residential ones.

Table 2 gives criteria need to be documented for each individual case in order to evaluate and compare the existing condition with the new proposal. These criterion are developed during this study. Particular attention needs to be paid to the new number of the users to see the impact to the infrastructure. This evaluation has a critical role to estimate the level of the impact of adaptive re-use work in order to ensure preservation of the individual building and its heritage context.

Table 2. Criteria for evaluating the existing buildings

Criteria		Existing	New proposed
<b>Budget</b>	Personal		
	National support		
	International support		
<b>Function</b>	Residential		
	Guest house		
	Public		
<b>Context</b>	Residential neighbourhood		
	Commercial neighbourhood		
	Mixed		
<b>Comfort level</b>	Traditional life style		
	Modern life style requirements		
	Universal design criteria		
	Water management		
	Energy consumption		
<b>Impact to the infrastructure</b>	Electrical energy		
	City sewage system		
	Communication system		
	Other technologies		
<b>Number of the users</b>			
<b>Stake holders</b>	Owner		
	Decision maker		
	Professional		
	Expert		

The decision and evaluation need to be proceeded by integrated design approach (Figure 2). By this way all the parameters and their role in the decision making will be considered. Figure 3 shows a proposal of a committee that work on the adaptive re-use projects.

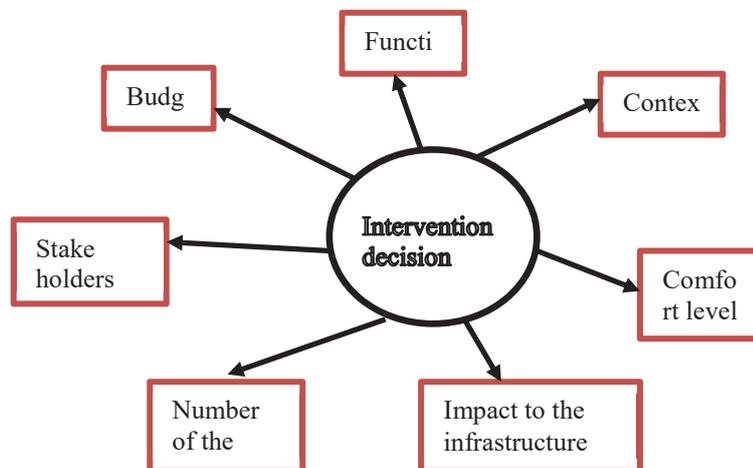


Figure 2. Intervention decision

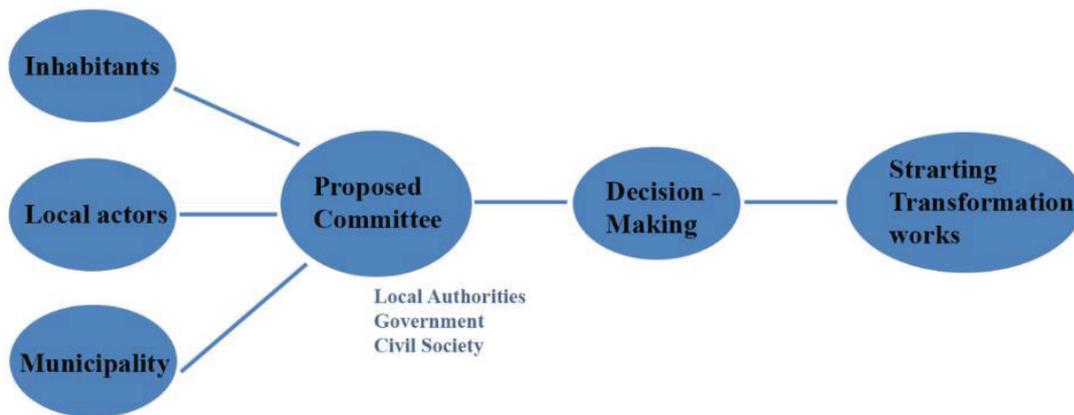


Figure 3. Proposed committee

As a result of the discussion about adaptive re-use approach applied in Medina of Fes it can be stated that adaptive re-use as a more recent and trend strategy which has brought the attention of the owners and has created a reason to go back to the Medina of Fes. Particular interest is given to the tourism potential which includes positive and negative effects. Therefore, the urgency and priority to its consequences are pointed out in this study.

The establishment of ADER as a stakeholder has a very important role in terms of legislation of the restoration works and to help in technical issues. The population of the Medina of Fes is constantly decreasing between 2000 and 2014, the decrease of 24000 is registered, which represents almost 25% of the total population. This regression is mainly due to the fact that the Medina was devalued and undermined. However, since 2014 the population started increasing and this is strongly related to the new refurbishment plan made by the government and ADER association which has brought many locals back to the Medina due to the new opportunities of work, and also restoration works for the houses threatening ruins.

Guesthouses, a recent phenomenon in the Medina of Fes are one of the new trends as part of adaptive re-use approach. Converting historic house buildings into guesthouses has an excellent ground regarding the development of a new type of accommodation and the transformations of the traditional built environment. Guesthouses refer the notions of rehabilitation, renovation or preservation of the architectural and urban heritage. This type of accommodation presents some major benefits such as personalized attention, healthy and homemade food, quietness, inexpensiveness, and meeting modern life requirements. Table 3 shows the fact that guesthouses in the Medina of Fes are increasing due to the high demand of tourism. The guesthouses represent a chance for the preservation and protection of the Medina of Fes and the development of tourism.

Table 2. Evolution of the number of guesthouses in the Medina of Fes

<b>Year</b>	1997	2000	2002	2004	2006	2007	2008	2009	2010	2011	2013	2014	2015	2016	2017
<b>#</b>	1	5	10	18	35	49	64	75	94	103	110	111	112	125	

Source: Charai, Z, 2017. Les Effets du Tourisme sur l’identitéculturelle :le Cas de la Medina de Fes (Fr).

This increase can be linked to the Priority 3 of Sendai Framework which is focused on investing disaster risk reduction for resilience. In the case of Medina of Fes the main risk is the increase of number of the tourists and its affect to the infrastructure. Adaptive re-use works must be controlled by decision makers in order to control the negative effects and to balance positive results and negative impacts of restored buildings and their use.

It is obvious that the achievement of best practices and good solutions cannot be possible only by leading of governmental level. The key of success is based on the involvement of communities or civil societies and all other actors, stakeholders as well.

## 5. CONCLUSIONS

Adaptive re-use strategy, giving new use to a building is not only saving and anchoring it in contemporary life, but often savings in terms of land, networks, and materials. It is also to preserve the identity and the memory of a place, to reclaim it and to ensure the transmission of an inheritance. Thus, reusing a building can be part of a sustainable development process and part of resilience work frame of a historic city. The increase of the transformation operation of traditional houses into new functions, particularly those related to tourist infrastructure equipment (accommodation, restaurants or commerce) will enable, avoiding the fragmentation of homes by a low income who has invaded places after the departure of wealthy families to the modern city, revitalizing and preserving the crafts in danger, and, promoting the economic level, Offering a typical traditional accommodation for foreign tourists, offering new job opportunities for the locals. Although adaptive re-use strategy has some disadvantages such as the land speculation, the lower income population living in the houses targeted for transformation will have to leave the premises and find new housing in often disadvantaged neighborhoods, and the overexploitation of spaces and the use of new materials can have adverse effects on the structure. Also, the revival of the zones affected by the transformation can cause an imbalance at the level of the traditional fabric.

Adaptive re-use approach, as a strategy of preservation, attracts interest of investors more and more in Moroccan cities such as Marrakech, Essaouira and Fes whose first objective is participation to tourism development. The way of contributing tourism development is to revitalize historic sites and cultural assets. However, these intentions have created their new dispute, dilemma and discussions. To encourage re-use and increase of tourism potential in one hand seems as an advantage, on the other hand, if it is not limited it may cause serious infrastructure and life line problems and dramatic loss of traditional pattern. Consequently, it may end up as a disaster.

Heritage dimension of Medina of Fes represents an identity and cultural value likely to become, through cultural tourism, an essential vector of development in a context of globalization. Adaptive re-use process positively effects the social and cultural environment by maintaining heritage significance of buildings and ensures their survival. With a special focus on traditional old houses, the process of adaptive re-use is part of a move to adapt the built environment to a contemporary lifestyle. Even though adaptive re-use strategy may be a backbone for preservation of cultural heritage and ensures protection of tangible values it increases tourism industry as a key economic driver and needs to be managed thoroughly. In this sense, the way of collaboration of public and private stakeholders in order to enhance resilience and to control tourism impact is critical.

Adaptive re-use process positively effects the social and cultural environment by maintaining heritage significance of buildings and ensures their survival, and supports the resilience approach as well. With a special focus on traditional old houses, the process of adaptive re-use is part of a move to adapt the built environment to a contemporary lifestyle. Even though adaptive re-use strategy can be a backbone for preservation of cultural heritage and ensures protection of tangible values it increases tourism industry as a

key economic driver and needs to be managed thoroughly. In this sense, the way of collaboration of public and private stakeholders in order to enhance resilience and to control tourism impact has a critical role.

Adaptive re-use strategy is a valuable way to preserve heritage buildings in Medina of Fes as the listed property in World Heritage List. This strategy has three main inputs to the city. The first one is taking back the glory of the place by the back movement of the owners, primary actors in heritage and cultural identity preservation. The second one is to create new opportunities for unemployed people. The third one is increase of tourists. However, the consequences of these three seemingly positive inputs need to be considered in a holistic way within resilience of the cities.

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