

Cultural Identity Expressions through Visual Analysis in Post-Disaster Housing

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Abstract: Problem statement: The incidence of natural disasters as well as followed human beings' efforts for reestablishing life is considered as unavoidable essence of nature. Whilst, the interdisciplinary theme of post disaster recovery and reconstruction has been researched worldwide in order to examine its different aspects. And within architectural interests, evaluating the housing reconstruction programs would lead to beneficial clues through which useful lessons may be learnt in terms of reconstruction management while facing such unexpected challenges. **Approach:** This study aimed to present the visual results of the field work survey based on the mixed method research regarding post-Bam 2003 earthquake housing reconstruction efforts. In fact, the whole study was designed to find out the relation between the attitude of survived households toward their new built homes and the degree of their participation in housing reconstruction process. The focus was on analyzing the selected captured photographs provided to support the findings as documentation of research observations. **Results:** Accordingly, photographs were organized in to certain categories used as a mode of interpretation within the structure of visual research method analysis. The results indicated that despite different meanings of home to households, their active participation in new housing would accelerate the recovery process from sense of loss caused by catastrophes. Besides, hereby the visual and abstract tools and objectives used by households in order to express their feelings and attitude toward new built homes was addressed within defined method. **Conclusion:** The results indicated that despite various limitations causing change in local housing pattern following Bam earthquake, residents have attempt to express their cultural identity in some degrees as linkage to lost settings.

Key words: Bam earthquake, cultural identity, reconstruction, catastrophic disasters, social anthropology, interdisciplinary study, post-disaster housing

INTRODUCTION

The city of Bam, located in the southeast of Iran was hit by a destructive earthquake of 6.6° magnitude in December 2003. The casualties of this quake made it as one of the catastrophic disasters in the recent history of the country. Due to the quake almost one third of the population were killed and the physical fabric of the city was vastly damaged and demolished. And people were affected in many aspects of economic, social and psychological terms. Besides all casualties, the ruination of more than ninety percent of residential buildings was a real challenge for survivors after the shock.

Regarding the high range of emergency and relief aid, many people from all around the world participated in respond to people's needs. Also different nongovernmental international organizations were involved in the reconstruction programs following

temporary phase of the recovery process. Housing Foundation as the official governmental agency was regarded as the coordinator of post-Bam quake reconstruction efforts. Accordingly, the city was divided to different zones and the branches of Housing Foundation organized within financial and administrative supports of other provinces of the country were involved in the initial stages of housing program. Households were assisted to prepare needed documents and they were introduced to registered consultants and contractors to start the housing process. Monitoring engineers were following up all stages to ensure that the physical structures of new houses are based on approved building codes and standards. And households could receive allocated loans and grants gradually due to the approval of Housing Foundation.

Through the reconstruction strategy residents were able to select their preferred design among prepared drawings or to order for their desired plan which had to

pay additional fees for it. However, most residents had chosen available designs due to the time table limitations for receiving loans and grants. Also, the difficulties of living in temporary houses forced them to start reconstruction as soon as possible while ignoring the significance of design selection. Today, almost seven years after the earthquake, the new Bam is reconstructed and residents experience living in an environment differing from their lost setting. Addressing the home loss challenge following the disaster, this study aims to evaluate cultural identity expressions through visual analysis of new built houses as a means of coping skills within holistic rehabilitation and recovery process.

Literature review:

The significance of home place and cultural concerns: Human being tends to establish roots in the place and home is regarded as the best context to fulfill this deep demand. Hence, despite his ability to move and live everywhere, he may feel devoid of life's meanings and essence (Ralph, 1976). Chow and Healey (2008) remark that housing as a complex entity not only is derived from cultural, socio-demographic, psychological, political and economic factors of the society, but also defines mentioned items. Thus, he concludes that it contains a personal meaning which means different to each person at different times and in different context. Accordingly, Ralph (1976) suggests that same place may mean and seem different to individuals due to their personality, memories, emotions, imaginations, experiences, situations and intentions.

Also home place encompasses certain symbolic characteristics within self identity, continuity, effective anchor, personalized place and sentimental values. Whilst, it could also be regarded as the source of some pragmatic factors such as privacy, protection, base of social network and place of family relations addressed in psychological implications (Arie, 1997). And Lawrence (1987) has categorized cultural dimensions of house in following arrangement that successful combination of these terms with social and psychological dimensions would provide the definition of the home:

Cosmic image, Kinship norms and rules, House layout and orientation, House construction method, Domestic life style, Language [clean/dirty, front/back, public/private], Social and domestic rituals, Implicit rules [convention/norms], Explicit rules [building regulations] and Shared values [extant and historic].

On the other hand, places have great capacity for influencing on people's characteristics and shape their behaviors toward the environment in long and short

term periods as well (Steele, 1981). Thus, he suggests two aspects of "Sense of place" as the experience of people in a setting and "Spirit of place" as the characteristics which leads to a special feeling in a setting as definition of a particular place. Moreover, Jabareen (2005) highlights the significant role of home place in defining both personal identity and bonds with community for residents all over the world. Also Steele (1981); Hay (1998); Gustafson (2001); Stedman (2002); Mitty and Flores (2009) and Knez (2005) are among scholars who have presented definitions regarding the sense of place theory and discussed about associating variables and measures. Reviewing related literatures lead this study to examine place identity as the main means of cultural expression in new built houses of research context.

Home loss challenge and holistic reconstruction efforts: Arie (1997); Barnes (2006); Cox (2006); Carroll *et al.* (2009); Barnes *et al.* (2009); Kamani Fard *et al.* (2010a) and Lyons (2009) are among many researchers who have addressed the global challenge of home loss after disasters. Investigating on different aspects of residents' lives, they have analyzed the conflict of housing reconstruction following relief phase. However, the main patterns of sheltering and housing are similar around the world and almost same challenges face to disaster victims (Quarantelli, 1995). And the wake of tragedy followed by architecture is regarded as one of the contents of the universal pattern of shelter provision after disasters (Davis, 1978). Thus, it is observed that survivors tend to behave and react to disasters in a uniform pattern historically. And comparing different cases, Davis (1978) has concluded that the rate of temporary houses in the list of survivors' preferences is very low.

Deeper impression of social values and culture in coping process is discussed by Oliver (2006); Gaillard (2007) and Saeng-Ngam *et al.* (2009) as the clue in the future life of communities. Besides, Geipel (1991) and Passerini (2000) have argued about the role of optimistic attributes associating with home loss cope toward the windows of opportunities by reconstructing desired buildings. There are also some models in disaster recovery projects suggested by Lindell and Perry (2000), Sorensen and White (1980) and Hass *et al.* (1977) through which the adjusting attributes of survivors and the impressive social and personal factors are defined within examined frameworks. Whilst, El-Masri and Kellett (2001); Shaw (2003); Davis (2006); Davidson *et al.* (2007); Baradan (2008) and Lyons (2009) have highlighted the role of survivors' participation in housing reconstruction after disasters. It is argued that

such involvement would accelerate the recovery process from sense of loss through expressing desires and seeking for their perceived home place.

Linking the vulnerability factor to existing livelihood conditions through characteristics of society and its culture is regarded as an urgent matter (Mubarak, 2007). Therefore, cultural and ecological considerations are the main issues in both pre and post disaster management plans (Chang *et al.*, 2006). Whilst, two considerable options are modified in disaster reconstruction process: building the city as it looked before or to use this opportunity and meet future visions through creating a new place based on cultural values of affected people.

Moreover, three different theoretical frame works are modified concerning resilience and vulnerability of traditional societies within the respond to natural hazards (Gaillard, 2007). Accordingly, survivors' capacities and attitude toward external aids would determine the degree of cultural consequences after disasters. Accordingly, while resorting on external acculturating aid, the community may face two main situations: Catalyst of pre-existing change or even cultural change. On the other hand, temporary socio-cultural adjustments would lead to achieve the cultural continuity. Thus, due to the significance of home place in manifesting and protecting cultural values, present study attempts to examine such expressions regarding new built houses following 2003 Bam quake reconstruction project as well.

MATERIALS AND METHODS

Evaluating post-Bam earthquake reconstruction program, residents' efforts within cultural identity expressions in their new built houses is studied through visual analysis. Based on Rapoport (1981), identity is defined through distinctiveness that means the condition of being one thing and not another. Accordingly, as people establish their own differences with others and realize their presence, they tend to be understood through some environmental cues. Communicating and presenting mentioned cues to intended receivers of their own local community (self identity) and others (social identity) is called expression. Thus, settlement pattern, landscaping, dwelling and semi-fixed elements are regarded as means of expression.

Accordingly and due to the research objectives within studying residents' efforts through cultural identity expression, four main set of features are modified to be addressed (Mustafa *et al.*, 2010). Thus, examining the signs of continuity in both exterior and

interior of post-disaster built houses, mentioned features are defined as façade, interior setting, decorative and memorable items and garden.

For instance, visual records generated by camera are used as means of research documentation. Developed by social anthropologists, recently researchers from different fields of environmental, science and interdisciplinary studies have also been interested in visual enquiry. Emmison (2004) has highlighted the significance of direct observation as valuable efforts to explore social and cultural aspects of life. In fact, visual materials are source of data for analysis process based on research objectives rather than a mode of presentation.

Hence, three hundred sixteen photographs were captured from one hundred twenty houses in different parts of the city. The target samples have been selected from owner built houses who had more opportunity to participate in reconstruction process. And photos have been sorted based on the modified categories due to the research objectives for further analysis. Certain photograph examples representing majority of observed cases would be included in this manuscript.

Sampling procedure was based on the studies of Kuwata *et al.* (2005) on distribution of damages and causalities in Bam region following the disaster. Mentioned survey presents map and documents through which three zones are defined due to the level of residential destruction. Thus, a stratified random sample selection of our study has provided same probability to analyze forty houses from each zone. In fact, such selection would enable us to study the efforts of different groups of residents who had lived in various types of buildings regarding their house strength, style and location.

RESULTS

Built environment could be regarded as the demonstration of the way through which people have established and protected their cultural identity. As stated by Rapoport (2000), such expressions in recent buildings are more complicated in comparison to traditional types. Thus, nowadays different people are more concerned and sensitive about personalizing their homes. Categorizing different aspects of post-Bam quake housing reconstruction efforts in following terms, residents' approach to their new houses would be explained.

Façade: The façade of the house is regarded as the immediate sign of self and social identity expression visible to others. Representing symbols and hidden

meanings, geometric shapes have been rather than tools to create places in traditional architecture (Ardalan and Bakhtiar, 1973). However, the shapes and forms are simplified in new built houses following the disaster (Fig. 1a).

Moreover, some of the fundamental elements (e.g., porch) as the main feature of lost dwelling style are neglected in new designs (Fig. 1b). This part, playing an important role in social contacts of residents with neighbors and friends, was also considered as a favorable place among local people (Kamani Fard *et al.*, 2010b). Family members were used to sit and watch the garden while doing their daily activities there as well. And performing as a semi-open space, porch was an essential element as shade provider protecting windows from heat.

Due to the climate condition and local architectural styles in this region, bricks have been traditionally used as the main material of façade as signs of local styles' continuity. Besides, traditional housing had been successful in terms of providing convenient thermal condition for residents through using appropriate natural cooling systems and local materials. Although brick is still the most common used material in majority of new built houses, there are also few cases observed using some new materials (e.g., glass) ignoring climate condition (Fig. 1c).

New materials such as cement plaster that may not be based on cultural housing style are also observed in some cases (Fig. 1d). And the additional motifs are regarded as imported features while housing reconstruction. Mentioned styles and features present an obvious change in local patterns of housing and residents' preferences.

Interior setting: Although general design of most houses look like each other due to the similar interior and exterior layouts, each house presents a different image. Hence, living rooms containing furniture, pictures, family photos and valuable or decorative objects as modes of expression would provide clues to understand residents' cultural concerns. In other words, interior arrangement of living rooms presents an overview of family life.

On the other hand, personalization could be regarded as the manifestation of residents' strong sense of attachment to their homes. Accordingly, despite almost similar designs of house layouts, using various interior arrangements and styles presents different views of the houses (Fig. 2a). As a matter of fact, for some people rebuilding the house was an opportunity to access modern facilities and a more comfortable life (Fig. 2b).

They also tend to arrange the interior setting based on their taste using different styles of furniture and decorations. However, some other have not accepted the change yet and tried to adapt new designs with their cultural values. For example, some ladies prefer not to be seen by guests while working in the kitchen and due to cultural concerns. Thus, they use mobile partitions separating open kitchen from the living room in certain occasions (Fig. 2c).

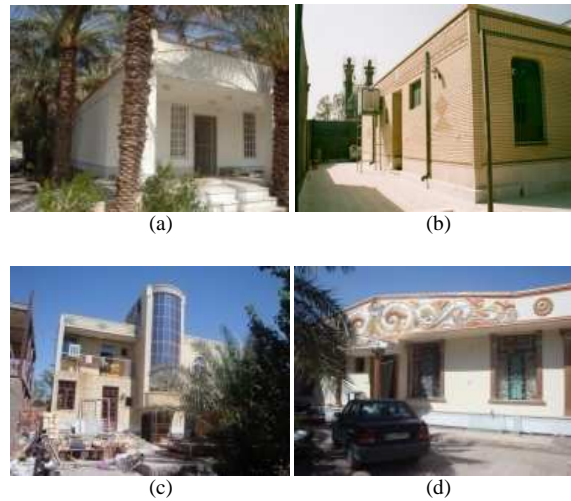


Fig. 1: Façade



Fig. 2: Interior settings

Besides interior layouts of the house, the impression of new settings' size on life style of people must be considered as well. The notable change in the size of new built houses which is due to financial limitations seems to be a real challenge for resident. Traditionally, local people have been used to live in large houses which might be built gradually within years. Thus, dealing with small spaces and managing daily activities as well as social relations is a serious issue while trying to divide small space for certain purposes (Fig. 2d).

Photos of lost family members on walls are the other common view observed in most of the houses. It makes residents feel connected to the memories of past (Fig. 2e). In addition, the tendency to live in an exactly same interior setting with lost home is observed (Fig. 2f). Due to residents, to live in such setting with similar furniture arrangement would provide a familiar place leading to the sense of continuity.

Garden: Due to the climate and cultural context of Bam, gardens have been traditionally well concerned in this hot and dry climate. Considered as the most favorable part of the local houses, many of daily activities have been traditionally done in green environment of the gardens. In addition, the presence of palm dates in many aspects of cultural and economic life of residents has led to establish their deep sense of attachment among them to nature (Fig. 3a). Also the spatial arrangement of building and garden was providing beautiful views in the lost houses.

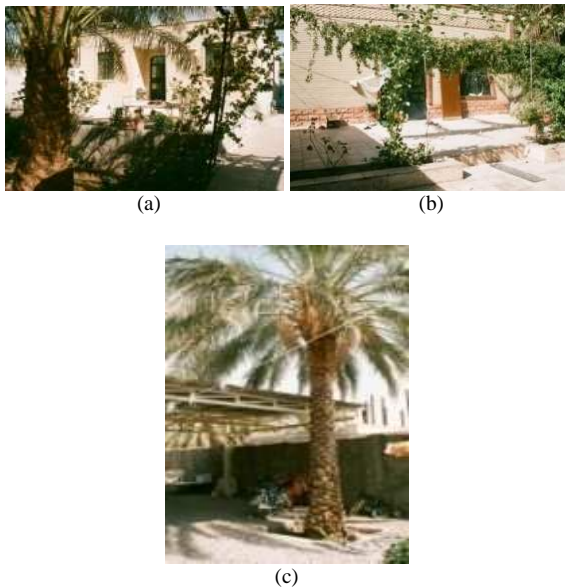


Fig. 3: Garden

Trying to remind familiar views and nice memories of lost homes, some of the residents have special concerns about garden setting (Fig. 3b). In fact, such attempts would recreate the sense of attachment to their new house. However, in majority of cases expected attention was not paid to gardens due to the financial limitations (Fig. 3c). And despite residents' awareness regarding its great positive role in provision of vitality and good sense, garden is the neglected part of most of the house.

Memorable and found items: Recreating similar interior settings with lost homes is an attempt to provide the sense of continuity in new built houses. Accordingly, memorable and valuable items found among ruins of lost homes are also considered as a linkage to the past. And despite the fact that some people prefer living in totally different settings to forget sad memories of past, others tend to use reminder signs of lost homes.

Most of Persian families would like to keep different types of favorite dishes or carpets as decorative objects in their homes. Asking the residents about found memorable items, some happily point to certain objects treated carefully in new setting (Fig. 4a). Such items are valuable to them regardless their condition and price reminding past days (Fig. 4b). In addition, those who were not able to find nothing have expressed their deep sorrow while being requested to show found items.

Decorative items: The geographic location of the country besides the symbolic meaning of light in ancient beliefs of locals have made them highly sensitive to light, shade, shadow in buildings (Ardalan and Bakhtiar, 1973). Additionally, people are well concerned about colors as the result of light reflection. In fact, they tend to express such symbolic meanings through every detail in art and architecture. It could be observed in miniatures, carpets and also tiles as seeking for unity through light polarization.

Despite differentiations in terms of decorative objects used in new houses-as mentioned previously within interior setting section-, various features are used as means of cultural expressions. Decorative gypsum works (Fig. 5a) and colorful tiles containing traditional miniature paintings (Fig. 5b) are of such examples.



Fig. 4: Memorable and found items



Fig. 5: Decorative items

DISCUSSION

Containing the local values buildings express traditions through both symbolic and formal language (Oliver, 2006). Such expression would provide the sense of continuity by linking past to future. This issue would be more highlighted while rebuilding houses following the destruction caused by disasters. For instance, housing is considered as the cultural resuming means of local communities while transmission periods (Rapoport, 2000). However, “cultural issues relating to the provision of housing, reflecting family size and structure, hierarchies, religious beliefs and values, customs and traditions that are essential to specific cultures are frequently overlooked in temporary, as well as permanent, post-disaster re-housing” Oliver (2006).

On the other hand, new materials, construction techniques and survivors’ expectations are regarded as factors interrupting the cultural continuity in housing. Whilst, considering safety standard besides varieties of local cultural values would lead to achieve holistic solutions (Alexander, 1989). In the words of Oliver (2006), “Under the suffering and stress of a major disaster, people can react in ways that may reject or accept all help, including post-disaster housing. Subsequent reactions may appear perplexing, even irrational, but they can reveal the persistent values by which a culture reclaims its identity”. In fact, physical, cultural and perceptual factors affect the degree of significance of certain features in form, structure, space use, or detail in buildings which may change over time due to the innovations or different accepted norms.

CONCLUSION

Almost all over the world house is considered as an important part of one’s asset. In other words, house is the main source of sense of belonging for most of people. However, it may take many years to own a house depending on the economic, social and even

political situation of each community. Thus, its destruction following a disaster is a real challenge faced by survivors. This conflict not only affects the physical structure and economy of cities and communities, but also may change the socio cultural and psychological norms.

Supporting the reviewed literature, this study confirms that changes in housing patters are unavoidable due to overall conditions following disasters. However, regarding post-Bam quake reconstruction, residents’ efforts within reestablishing cultural values are observed as signs of continuity. Accordingly, despite similarities in designing layouts of the houses, residents have left their individual stamps on the houses expressing their identity. Beside, such expressions could be considered as significant linkage to their lost settings. In addition to personalizing both exterior and interior of living spaces, residents have also taken some adaptation modes while dealing with new settings.

As a matter of fact, there are parallel benefits and advantages for architecture itself while seeking the most appropriate solutions within post-disaster housing programs. Hence, it is argued that this challenge could be regarded as an opportunity not only for the affected community to attain better facilities, but also for designers to achieve more holistic house types associating in recovery process.

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