The Significance of Implicit Socio-cultural Values in Self-built Housing Transformation

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ABSTRACT

Households' spatial needs change along with inhabitation. At certain points in time, these needs may reach a critical point when households decide to make changes in the usage of space. Moving or transforming are the two basic options. Studies show that irrespective of location or context, scale or affluence, users prefer transforming instead of moving. Moreover, transformation can occur more than once during inhabitation. Besides being identified as economicaly a more sustainable option, there are several explicit reasons behind the preference for transformation. But this study goes deeper and investigates the impact of implicit values behind those explicit reasons through intensive ethnographic method and participant observation. Analyzing more than 200 transformation incidents in 63 self-built houses in the urban context of Dhaka, where these transformations takes place in abundance, this study finds that implicit socio-cultural values are indeed very significant, and that explicit reasons tend to cover for them. The study also indicates that besides being economicaly sustainable, transformation also preserves social and cultural values that are necessary to achieve a socially sustainable system.

Keywords: *Transformation, Housing, Socio-cultural Values, Implicit Values, Dhaka, Sustainability*

1. INTRODUCTION

Spatial transformation in houses is an inevitable outcome of inhabitation. Households encounter demographic, economic, social, as well as personal changes over time. Stress builds up on the households to transform spaces or to transform the usage of spaces in order to adjust to these changes. There are two options: either to transform the house or to move out, depending on the tolerance level of the household. If they cannot afford either one, they need to raise their tolerance level (Michelson, 1977). However, if the tolerance level reaches a critical point, they have to choose one of the options. If they have authority, they may decide to transform the space. If not, they have to move to a new house that can meet their needs. If both options are achievable, households usually choose to transform (Seek, 1983). It not only allows them to reduce the physical hazards of moving, but also costs less (Tipple, 1999). Hence, transformation can be considered as a more economically sustainable option to deal with housing stress. Therefore, transformation is regarded as a very significant phenomenon in housing. In this study, transformation is operationally defined as an action that involves construction works and results in a change in layout or change of usage of space.

In their study on government tenant houses around several cities in the world, Tipple et al (2000) showed that there are certain physical patterns of transformation. However, Khan and Jia (2006)

argued that owner-users have more authority to transform than the tenant-users. Khan et al (2010) also showed that the physical patterns of transformation have more variety in owner-users' houses. These studies also identified several key explicit reasons behind those transformations. However, empirical evidence shows that explicit reasons are often used to cover for some implicit reasons users are not always ready to disclose. This is the point where this study starts. After a rigorous ethnographic study on 63 owner-users' houses and more than 200 transformation incidents over a span of four years, these authors find several key socio-cultural factors that implicitly regulate the phenomenon of transformation.

2. BACKGROUND AND CONTEXT

Carmon (1987) showed that self-built houses, which are informally initiated by owners, have more incidents of transformation than those constructed formally by developers. Moreover, middle and low-end owner-users transform more than high-end owner-users. Thus, studying transformation in houses informally built by middle and low-end owner-users may provide more opportunity to explore the phenomenon of transformation. The city of Dhaka provides an excellent platform as self-built houses are in abundance (DCC, 2011). Figure 1 shows a glimpse of the neighborhoods that comprise self-built houses.

Figure1:
A glimpse of the neighborhoods that comprise self-built houses. Source: Author

Usually transformed from agricultural land in the fringe areas to become urban land, these neighborhoods comprise of complicated street networks with very little or no car access at their deepest ends. Narrow width and stiff turns also make vehicular movement very uncomfortable. Walking and riding on three-wheeler man-paddled rickshaws are popular modes of transport inside the neighborhoods. In many cases, rickshaws are not allowed to run on the major streets. Not many people inside these neighborhoods own cars. A not-so-efficient public transport system implies that people living inside these neighborhoods virtually live inside small islands, separated by major roads.

The average income of the owners is at the threshold between lower-middle and middle-income groups (Table 1). The educational level of household heads is not very high, with less 12% graduated from primary school. The household number reflects the current situation, and married children who do not live with parents are not counted as current family members. The households are mostly in post-mature family state[1]. The current age of the head of household is 68 years. Construction started when the head of the household was 46 years. Construction was not finished at one single stretch, but went through several phases of transformation.

3. EXPLICIT REASONS BEHIND TRANSFORMATION

Housing stress is regarded as the push factor behind housing transformation. However, many researchers have tried to identify particular reasons behind this universal phenomenon. Accumulating from existing literature, they are categorized in Table 2.

Tipple et al (2000) pointed out demographic factors as significant reasons behind transformation. Increase in the number of family members, addition of extra family member (for example, grandparents), or marriage of children who continue to live with parents, are some of many different demographic factors that influence transformation.

More rental units bring in more income. Khan et al (2010) identified that this issue is one of the significant reasons behind transformation. However,

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[1] The stages of family are new couple, young family, mature family, post-mature family, old couple, and extended family (Seek 1983). More deails in Table 2.

Table 1: Characteristics of Households in study area

Dwellings	
Number of Dwellings	63
Average lot Sizes (m^2) (Median)	195
Average GF Area (m^2) (Median)	139
Average No. of Story (Median)	4
Dwelling type	Permanent Construction with RCC foundation and Roofing, with brick exterior and partition walls
Service Provided	Piped water and gas supply, sanitary toilets, conventional electric supply
Tenure (Median value)	Owner occupying a floor, and renting out the others
Occupants (Owner's family)	
Median Household Size (Median)	4
Monthly Income per person (Median)	US$ 90*
Monthly Household Income (Median)	US$ 90 X 4 = 360 (= Approximately 25,000 BD Taka)
Income level**	Just around the threshold between Lower-middle and Middle income group
Employment of the Household	Only on rent 32, Other business 25, Service 5, Others 1
Educational level of the Head of Household	Below Diploma 27, Diploma 24, graduate or more 12
Household Characteristics	Mature family (56), Post-Mature family (7)#
Age of the Head of Household (Median)	68
Age of Head when constructed started (Median)	46

* 1 US$ = 80 BD Taka (Approximately)
**Monthly income threshold for Low: 83 US$, Lower-Middle: 333, Upper-Middle: 1000 (WB 2011)
#Mature family: At least one child is above 18 years old. Post-mature family: At least one children is married out (Seek, 1983). Source: Author

the rental units might be for residential as well as for commercial purposes. Tipple (1999) also showed that users may transform in order to accommodate home based enterprises. Another reason of later transformation or constructing in phases is to allow savings to grow enough in order to meet the expenses. All of these can be categorized as economic factors behind transformation.

Tipple and Salim (1999) underlined that anyone would extend his/her house, if there were space to do so. It is true even if construction is legitimate or not. For example, tenants living in a government house may not have the legal authority to construct beyond the original footprint of the house they have been provided with. However, households exploit some loopholes in existing bi-laws and extend their

houses. Another reason identified by Khan and Jia (2006) is that change in bi-laws or change in physical development of a particular area can also instigate transformation. For example, let us consider a situation where the access road of an existing plot has been widened. This gives the owner the opportunity to add an extra room at the top floor as the new width permitted extra height. Another example can be drawn from a situation caused by urban redevelopment. Let us say one owner had only one access road at the beginning. New urban development allowed another road at another side of the lot. That encouraged him to open shops on the new road. Yet another special situation can be discussed. New construction materials or techniques often allow quick and less costly construction. Therefore, owners may be tempted to do some transformation even though there was no urgent need. All these are categorized as external factors.

Last but not the least, change of ownership can also be a reason for transformation (Tipple, 1999). While a new owner would definitely choose to move in only if it fits with their current household needs, however, a perfect match is unlikely. Therefore, some sort of transformation is likely at the beginning of inhabitation. The following table sums up these explicit reasons.

4. SEARCH FOR THE IMPLICIT

After finding the explicit reasons, many studies started concentrating on the architectural qualities of the transformed layouts as well as the consequences of transformation. Tipple (1999) summed up with a list of consequences including variety of tenure, variety of occupants, improvement in living quality, sustainable approach of living, all of which add to the significance of studying transformation. However, during our study, it appeared that users might be trying to use the explicit reasons to shield something more sensitive. Being privileged with living in such houses and in neighborhoods consisting these of houses, the author decided to carry out an ethnographic method of study with long open-ended interviews arranged in different informal settings, for example, walking with the interviewee while shopping together, chatting in the mosque after prayer, attending home parties hosted by interviewees etc., with no time restriction. In most cases interviews took more than one session, and searched for the 'thick' information (Spradley, 1980; Geertz, 1973). The result was unique. The vignettes disclosed many stories that might have been untold in case of formal structured interviews. Each vignette appeared to have enough potentiality to be significant in some way, and following the norms of

Table 2: List of Explicit reasons of transformation extracted from existing literature

Factors	Examples
Demographic	Increase in number of family members (birth) Growing up of children Marriage of children who continue to live with parents Addition of family member (other relatives or close friends) Change of Stage of family (young to post-mature)
Economic	To increase rental income To accommodate Home based enterprises To wait for savings to grow enough to meet the expenses for further construction
External	To make use of available land/space To respond to changes in bi-laws To respond to physical change in surrounding urban area
Change of ownership	

Note: Young family: Parents with minor kids; Mature Family: Parents with at least one adult kid; Post mature family: Parents with at least one child married away; Extended family: Parents bringing in their own parent(s), or married children continue to live with parent. Source: Author

qualitative investigation, apparently trivial findings were not left out (Groat and Wang, 2002).

The challenge was how to interpret all those qualitative data and come out with themes that can correspond to existing explicit reasons. Therefore, a systematic method was used. (Fig 1) At first a context specific list of explicit reasons was recorded. Then immersing into the thick descriptions inside the vignettes, a new list of implicit values was carefully constructed. Each was carefully matched with a corresponding explicit reason. Two sets of themes were created, one with explicit reasons (S1), and the other is with implicit values (S2). Here, themes represent both explicit reasons and implicit values. In an ideal situation, one explicit reason (ex. $T_{S1}1$) could uniquely match with one implicit value (ex. $T_{S2}1$). However, it is found that in reality, things are much more complicated. Obviously the number of themes on both sides was not equal. Moreover, one particular explicit reason could be traced back to one or more implicit values and on the other hand, more than one explicit reason can contribute to one particular implicit value. In order to generalize, domains (ex. $D_{S1}1$ or $D_{S2}1$) were identified on the implicit set, which housed several values. The domains in the explicit set (S1) were not considered any more as the study focuses on the implicit values. Then these domains were verified by triangulation method (Fetterman, 1989) and peer involvement (Ely, 1997) by returning to the field time and again.

5. THE IMPLICIT VALUES

5a. Struggle for Territorial Control

Habraken (1998) states that any actor legally bound to exercise control within a designated territory inside a particular level defined by actors at the upper level, can or try to re-define it depending on the tolerance level of the actor at upper level. In an urban setup, the users remain at lower level while the local building authority remains at upper. A continuous struggle is always noticed with the users trying to redefine their territorial boundary struggle not only against the actors at upper level but also against other users at the same level.

Example 1: Extending balconies beyond the mandatory setback area is considered illegal, but if local government is tolerant, users redefine their territorial boundary by suspending their balconies. Moreover, if authorities still continue to tolerate the suspension, these balconies later on transform into habitable spaces if they are spacious enough. (Fig. 3b) So, what apparently appears to be maximizing usage of left over spaces is in fact a struggle against actors at upper level to gain or re-define territorial boundaries.

Example 2: Balconies are usually located at front or back. However, floors suspend on sides too in order
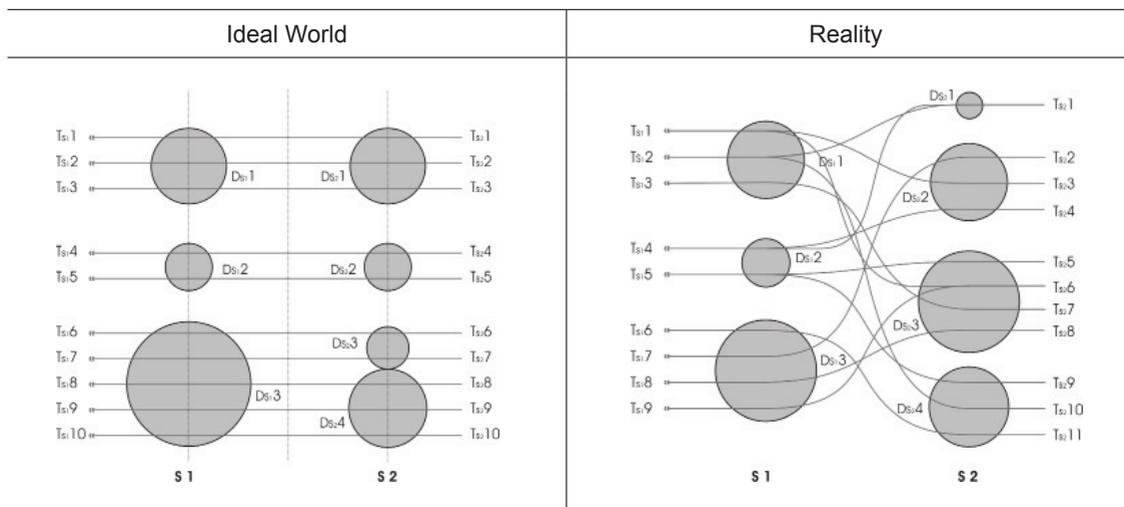

Note: T= Theme, D= Domain of themes, S= Set

Figure 2: The complicated nature of interpreting implicit reasons. Source: Author

to gain extra space at upper floors. One significant finding is that they do it not only because they get more space, but also to make sure that neighbors do not get more advantage if they do not. For example, one owner suspends his upper floor and subsequently blocks the neighbor's sunlight. In turn, the neighbor also suspends his floors towards it to return the favor. (Fig. 3a) Thus, maximizing space usage may appear to be the explicit reason, but it is in fact a struggle to gain territorial control not only with actors at the upper level, but also actors at the same level.

Example 3: Buildings have a height restriction. However, temporary constructions on rooftops are not uncommon. On one hand, they allow more space hence more rental income, and on the other hand they also there is a loophole in the regulations as temporary construction is not disallowed on rooftops. However, to make sure that it is not too provocative to authorities, these constructions are usually located at the backside of the roof, therefore less visible from access road. (Fig. 3c) Increase in rental income is the explicit reason, but again, struggle for territorial control with authorities at the upper level remains the implicit one behind.

Example 4: Construction often oversteps the road. This is especially common in houses with frontage on major roads and where ground floors are transformed into shops. Here, gaining some extra space from the road reveals the struggle to gain territorial control over actors at the upper level, and dominating the explicit reason of making use of available land at the front. (Fig. 3d)
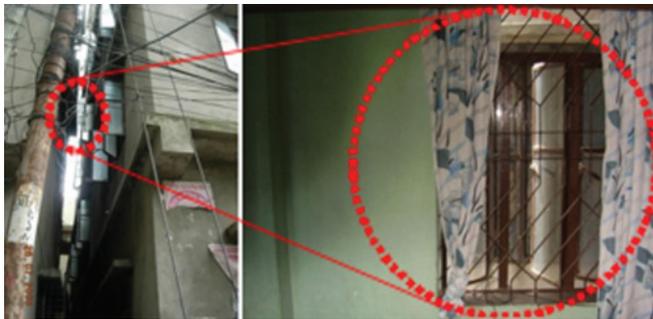
The close face-to-face neighboring windows

At first balcony is suspended, then transformed into a room

Examples showing rooftop additions usually occupying rear part of the roof, away from the access road (circle)

The width of the access road is reduced as shops oversteps the road

Figure 3: Examples of exercising power and control. Source: Author

5b. Owner-management

There are three basic stages of developing a building: design, construction and maintenance. Professionals manage all these three steps when developers are engaged. However, in self-built houses, usually no professionals are hired at any of these stages. In all stages, 'emergent knowledge,' (Cavallo, 2000) that is trust-based knowledge emerging from interaction with the parties involved, remains the main source of knowledge. In all stages, owners consider two basic issues: Money and Time. Owners delay in making design decisions in order to get it as cheaply as possible. Moreover, they apparently never have the money to build the whole building at single stretch. Therefore there are many phases in construction. In most cases, the construction is suspended after the completion of the ground floor. Subsequently one or two floors are added later on. Apparently, additional floors are built when savings allow. As Tipple and Salim (1999) pointed out, savings are quite substantial relating to their level of affluence.

This study finds that owners are therefore quite cautious with spending money on any of the three stages, and especially during the construction phase which is the most expensive one. So, the construction process continues for many years. For maintenance, emergent knowledge continues to play a big role and actual actions are delayed until it matches with their leisure time. The major finding is that households mostly try to meet needs of immediate present rather than a long-term future, and manage money and time according to their own convenience.

5c. Family Values

There are obviously different types of spatial needs at different stages of the family, starting from young to post-mature. A mature family certainly needs more space than a young family. Whatever demographic issues might appear to be the explicit reason behind transformations, this study shows that tensions inside the family are the driving factors behind many transformations.

Example 1: In an extended family, the father provided his son with a separate toilet when the son got married, but there still was only one kitchen. This apparently indicated that the father was in control over the house rules. However, in a couple of years' time when one grandchild was born, he had to add a separate kitchenette for his son's family, as his son threatened to move out as a result of a tussle over the kitchen. The addition of a family member was the explicit reason. However, the implicit reason was to keep the extended family integrated under the same roof while the authority in the house had already started to gradually shift. (Fig. 3a)

Example 2: The previous example shows an attempt to keep the extended family integrated. But, not all families end up like that. Several examples show that married sons move out as a result of family tussle, and thus the family disintegrates into post-mature family. The needs of post-mature family are significantly reduced. As a result, some transformation occurs. One such example showed how the owner divided his unit into two units and subsequently rented one out. Apparently, the need was to increase rental income, but behind the scene, was the reduced need of space that led to the transformation.

Example 3: On the contrary to a son's marriage, a daughter's marriage appears to reintegrate family bonding. In one example, three daughters moved out after marriage. But they often visited their parents with their own families. To meet the demand, the parents extended their unit and provided two extra bedrooms. These rooms were vacant during most of the year, but were used merrily during holidays when the daughters visited. A double bed in the dining room also transformed the room into a multi-functional room whenever daughters used to visit along with their families. (Fig. 3b)

Example 4: Another example showed an addition of an awkward looking room hanging from the bedroom at a split-level. In this case it was to accommodate a study room for the elder son on his demand when he entered university. (Fig. 3c) Apparently it appeared that the front space of the building had been utilized. However, behind this, there was the urgency to meet the demand of son.

Therefore, the study shows that it is not just an increase in number of the family members that is behind the transformations. When the children grow up, their authority grows up as well. After marriage, if they continue to stay, they develop more authority under the same roof. Therefore, the parental authority is gradually reduced. However, marriage of a son and daughter has different implicit impacts. Again, some marriages disintegrate the family while other can reintegrate. Many interesting transformation solutions may occur, which often

The original kitchen was divided into one kitchenette and one bigger kitchen at the demand of son's family's needs
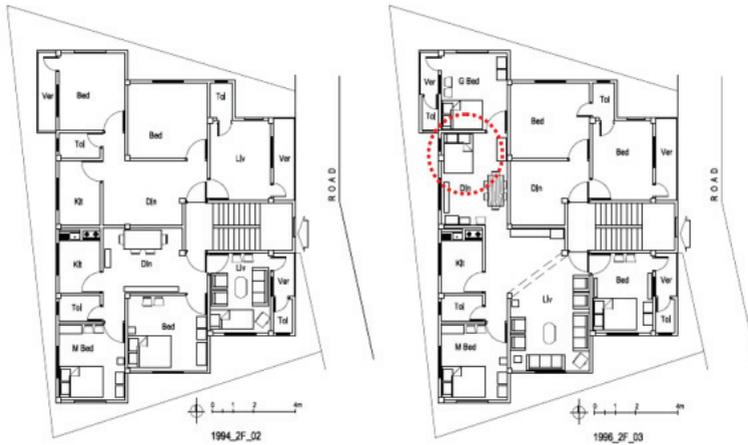
Though the number of family members were reduced after the three daughters were married out, the owner had to expand his unit in order to accommodate occasional visits from daughter's families, beds were put at all possible places (in this case one was in the transformed dining room)

The owner had to add an extra room rather awkwardly at the front of the building at the demand of his grown up son

Figure 4: Examples of households' strive to keep family values intact. Source: Author

do not conform to existing space standards. But interestingly, enormous thought process and discussions occur for even trivial transformations.

5d. Owner's Experience

If emergent knowledge is one big source of knowledge behind transformation decisions, the owner's experience is not less significant either. In fact, whether emergent knowledge is there or not, the owner's experience can still hold the key in making decisions. There are numerous examples of that.

Example 1: In many of the rooftop additions, owners built temporary tin-sheds at the top. It was correlated with their previous experiences of staying in tin-shed houses, usually during early stages of their lives. A tin-shed at the rooftop may not be aesthetically matching with the concrete building, but they seem to be adjusted with that. Increase in rental income, or using available space remains as secondary reasons. Moreover, it goes parallel to another implicit reason of struggling for territorial control over authority mentioned before.

Example 2: There is also a practice of renting out one unit to more than one family. Usually in those cases, each tenant occupies one bedroom, and shares the toilets and kitchen. (Fig. 4a) It is also found that owners who had similar experience are fine with this kind of solution.

Example 3: Owners often have some long-cherished elements or cult they try to incorporate in their house.

One owner built an extra staircase inside the dining room that ends to the roof. He wanted to live in a duplex at some point in his life, as it appeared to be a dream to him. But since he did not need that extra floor, he had cast the roof on top of it. (Fig. 4b)

Example 4: Owners often search for self-esteem through their buildings, and try to express it in its outlook and in its layout. Some of those works appear to be very trivial if we compare with professional solutions, but owners seem to be too proud of their designs. For example, one owner solved three-units at the ground with the kitchen and toilet for one unit quite far from the bedroom. (Fig. 4c) However, the owner felt proud about his own solution.

6. CONCLUSION

Conforming to the essence of the ethnographic study, the number of themes can vary or even increase depending on the level of involvement of the researcher. Also, it can be argued that the findings from the implicit themes are context specific and cannot be generalized. However, up in the hierarchy, the four selected domains were carefully derived in a way that they can have a wider acceptance. For example, transformation due to succumbing to family pressure is a more important issue than the exact nature or the degree of the pressure. At this point, even the nature or the physical pattern of the transformation becomes less significant.

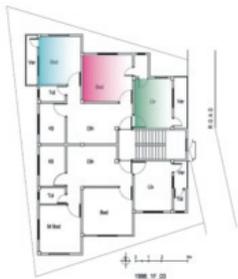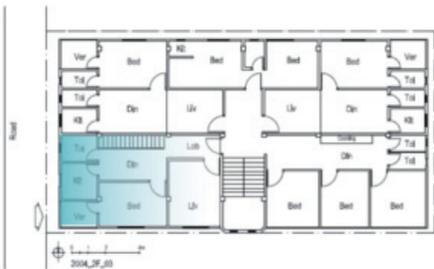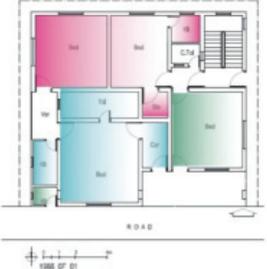In essence, these implicit values appear to be in line with the established dimensions of social

The three families live in three bedrooms and share toilet and kitchen	*The staircase at dining is currently useless, as it was planned for a duplex*	*The kitchen for the green unit is accessed from outside*

Figure 5: Examples of learning from own-experience. Source: Author

sustainability described by WACOSS (2012). This study implies that implicit values are more powerful that explicit ones. Therefore, it is more important to identify them and take care of them in order to maintain social sustainability.

This study started with considering transformation being an architectural phenomenon, with its significance as an economically sustainable option. At the end, it enforces that the implicit social values behind transformation are also very significant, and transformation can be regarded as a socially sustainable option as well a way to recover from housing stress. In a country where the urban built environment is dominated by self-built houses, transformation can thus play a major role for both economic and social sustainability. Future studies may be focused on how these transformation incidents can be regulated so that they can contribute to a healthy growth of urban development.

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