TRANSFORMATION OF SPATIAL PATTERN AND DECLINING OF SOCIAL CAPITAL IN DHAKA CITY, BANGLADESH

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ABSTRACT

In human settlement, there is a strong link between spatial quality and societal values. A space has two facts: physical phenomenon and a mental arena. Both of them are influenced by the social process (Sheikh, 2006). Nowadays in our country, we are experiencing rapid unplanned urbanization due to the pressure of huge population and globalization. In course of time urban areas are developed for business, education, and administrative purposes. People are coming to urban area for livelihood. To accommodate the huge population, there occurs lot of changes in their living space and pattern. Our traditional living space is being demolished. In the past, people lived in horizontal space but now people are living in a tight and congested area where the traditional space is not respected. The community space, interaction spaces are very rare there. So social bonding is being destroyed. They are living like a machine which is very much contrary to our culture (Sheikh, 2006). This trend is destroying our social capital. This paper aims to study how transformation of spatial pattern affects our living style and turns our social capital (focusing on community network, trust, dependency and cooperation) towards the declination. It also aims to give some recommendations to make this transformation of spatial pattern organized and planned to prevent the declination of our social capital.

Key words: Transformation of space, sustainable development, social capital. Social space.

I. INTRODUCTION

Every society has its mode of action to produce its own space. The needs (social, physical and psychological) vary from place to place, character of spaces and image of an urban area differs from region to region (Mowla, 2003). So understanding of local context is an important issue. To understand local culture, "local community" is an essential element. The process of development should be evolved from the context (Sheikh, 2006). Dhaka city has gone through a long historical evolution of urbanization for over four hundred years. It has already gained the status of a mega-city. Dhaka city is now experiencing a new socio-spatial organization which is different from its traditional socio-cultural environment. Enormous Pressure of huge population and limited supply of urban land has forced to divert it from horizontal to vertical and congested type of urban settlement. In this tight situation, people cannot interact and communicate with others which has become a cause of declination of our social capital.

II. STUDY AREA AND METHODOLOGY

Some apartment buildings in *Shantinagar* area in Dhaka city have been taken into consideration to study the present trends of spatial arrangement and social living quality of the dwellers there. The dwellers of *Karnaphuly Garden city, Eastern Point, Al Amin tower, Twin Towers* are studied to know their life style. The study buildings are completed almost in the same decade, all are developer built high-rise buildings, have community floors (as per Buildings construction act) and almost same economical status of dwellers. A questionnaire survey was conducted following a Random sampling technique. Information was also collected from developers and designers. Literature review helped a lot to develop the guideline. Comparison with the indigenous spatial pattern and social living quality with those of present urban life helped analyze the issue.

Table 01: General information of apartment buildings in the study area

Name of Apartment	Year of comple-tion	Developer	Building Type	Number of tower	Number of floor	Number of unit	Community space	Social status
Eastern Point	1993	Eastern Housing Limited	Residential	4	12	160	yes	Higher middle class
Karnaphuli Garden City	1999	Karnaphuli Limited	Mixed use	1	20	60	yes	Higher middle class
Al Amin Tower 1	2000	Neptune Properties	Residential	1	13	47	1-seperate	Higher Middle
Al Amin Tower 2	2000	Neptune Properties	Residential	1	13	47	1-seperate	Higher Middle
Al Amin Tower 3	2000	Neptune Properties	Residential	1	12	24	1-seperate	Higher Middle
Twin Towers Concord	2000	Concord Construc-tion	Mixed use	1 (A+B)	22	180	Yes	Middle+ Higher middle

Source: Author

Figure 1: Area image (Shaninagar), Present trend of development;

Source: Author

Findings:
i.   The indigenous spatial pattern has changed in Dhaka city due to enormous pressure of urbanization and population growth
ii. The transformation of spatial pattern has a large impact on the declination of social capital.

III. BACKGROUND STUDY

Currently, the world's urban population is growing 2.5 times faster than the rural population (Habitat Press Release)[1]. The population in Dhaka city is much higher in proportion to its land area. Table-2 shows the population increase in Dhaka city. Low-rise buildings are a common feature all over Bangladesh. For scarcity of land, it has now become really very difficult to solve the housing problem through horizontal expansion; people are going or rather forced to go for vertical and congested development. This does not cater to their social needs nor is it compatible with our traditional culture. To accommodate the large number of people, high-rise apartment and compact buildings have become a necessity. Some of these buildings are just for living; they are not in tune with our traditional culture. There is no interaction within the neighbourhood. They do not even know the next door neighbour. Children cannot go outside; they are growing alone inside their house. This makes them isolated and self-centered and strips them of social values and social responsibilities. So this transformation of space has a great impact on the quality of life of the city people. Having no other alternative, people are trying to get themselves accustomed with the new approach of life by forgetting about the old

[1]http://www.un.org/Conferences/habitat/unchs/press/500 home.htm accessed on September 26, 2010.

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practices. Sometimes there is a consideration to keep open space for social interaction in these urban built. However, the question is whether this attempt is enough to make the urban life style harmonious with the Bengali culture. So it is important to work out the essentials, which can make these urban living spaces more sustainable and more harmonious with the people's culture (Sheikh, 2006). An initiative is essential.
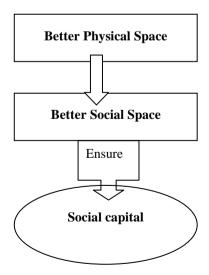
Table 2: Population increase in Dhaka city by Decades

Year	Population	Area (in sq.mile)	Density (popn/sq. mile)
1951	335,928	28	11,997
1961	550,143	35	15,718
1974	1,607,495	125	12,860
1981	3,440,147	155	21,935
1989	5,500,000	155	35,484
2001	8,400,000	155	54,194
2025	20,000,000-30,000,000 (Assumption)	200-300	100,000-120,000

Source: Islam, 1996; Parvin, 2002, p.59;

Conceptual frame work

If there is better quality physical space respecting indigenous spatial pattern which developed from the tradition and culture of a particular context, it will help to provide better social space which will ensure social capital.

IV. STUDY DESIGN AND THEORETICAL FRAMEWORK

Spatial order and built environment

Spatial order is a part of culture. According to Rapoport (1976), spatial organization is the most important and significant characteristics. Space is the most fundamental property of the built environment than form, material and so on.

A spatial hierarchical organized housing area always contains private, semi-private, semi-public, and public spaces. This spatial structure strengthens natural surveillance and helps the inhabitants communicate. According to Indian famous architect Correa, (1989), in the tropical region there are usually four major elements in the hierarchical space organization which is very similar to our culture.
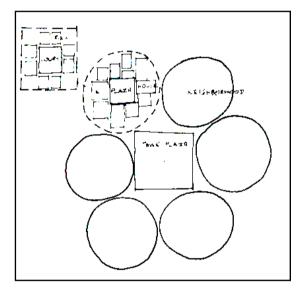

Figure 2: Organization of Space
Source: Rapoport. a. 1977, p.11

a) Space needed by the family for exclusive private use such as cooking and sleeping,
b) Areas of intimate contact. i,e, the front door step where children play, people meet your neighbour etc.
c) Neighbourhood places- the city water tap- where people become part of their community.
d) The principal urban area- the *maidan* (open space) used by the whole city.

According to Correa, almost 75% of our essential functions can occur in a private courtyard for at least 70% of the year (Correa, 1989, p.48).
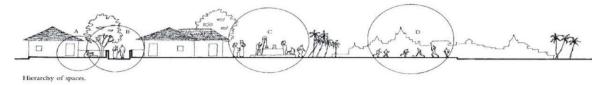
Figure 3: Space organization at several scales,

Source: Correa, 1989. P.48

Spatial structure in the context of Bangladesh

A house form is a complex phenomenon that represents the vitality of a society with all its external and internal forces transformed through a long path of tradition (Islam, 2003). According to Rapoport, 'culture' is the primary determinant of house form. Building a house is cultural phenomenon; its form and origination are greatly influenced by the cultural milieu to which it belongs (Rapoport, 1969, p. 46-48). He also thought a house is a human fact. Besides 'culture' there are also close relationship with other socio-economical factors such as- family composition, value structure, social meaning of space etc. At the core of each culture there are shared values. A built form can be considered as an artifact for any given culture as well. Thus the social practice of this value structure, evolved through time, leading to the creation of 'arche-type' for a particular culture. According to Imamuddin (1982) and Islam (2003), the organizational model of contemporary Bengali house (formal-informal zone, male-female zone, inner-outer zone, physical, social and climatic consideration and hierarchy of spatial pattern) strongly shows the Bengali value structure.
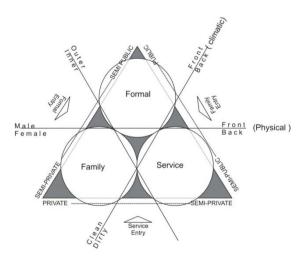
A typical Bengali house can be understood properly through a study of the social structure and its position in the settlement system. The nuclei of rural social structure are the *ghar* (house hold) and *bari* (homesteads). Bengali house is the grouping of some *huts* (rectangular rooms) around an *uthan* (court). Physical manifestation of different level outdoor activities such as gathering family members, different festivals, and children playing etc basically gave rise to *uthan* (courtyard) (Mowla, 1999). The basic layout of a traditional Bengali house has basically two zones (Islam, K, 2003, p.24). Activities also generate depending on these zones-

1. Formal zone (male, outer part of the house)
2. Informal zone (female, inner part of the house)

Formal Zone

Informal zone

Figure 4: Organization model of contemporary Bengali housing; *Source: Imamuddin, 1982, P.2.30*

Figure 5: Indigenous physical and social space
Source: Kausarul, 2003

These zones have been organized on the basis of social, cultural, religious and climatic considerations, which represent a 'Bengali' society. The formal zone is the outermost part of the house. The Informal zone is the innermost part of the house. All of the internal functions such as sleeping, cooking, washing, taking care of children and rice/crop preparations are included in this zone. Female members usually occupy this zone. A central and introvert courtyard plays a vital role in keeping the family bondage more strongly. So it also has some special symbolic values rather than functional aspects.

Besides household activities, the inner court also in used for different family activities such as family gatherings, children playing, etc. In the urban area, rapid urbanization and scarcity of land do not allow keeping the traditional space organization (Sheikh, 2006).

Social capital

"Social capital" consists of the stock of active connections among people: the trust, mutual understanding and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible" (Cohen and Prusak 2001). The form of cities and buildings can lead to major change in behavior, increase happiness, increase social interaction and so on. Built environment can be seen as a setting for human activities. All human activities take place in spatial framework.

'Culture, values, world view, etc embodied in lifestyle which may be a key element in understanding how cities operate and how people make choices and behave in them. Activities may help in understanding lifestyle and through it more global concepts such as value, worldview and culture and how they interact with the built environment.' (Reporport. 1977, P.20)
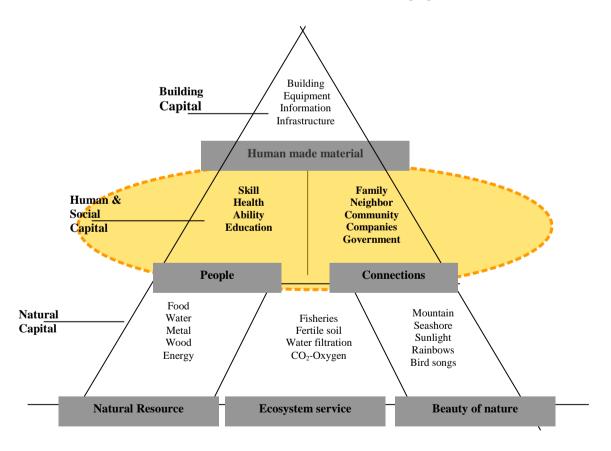

Figure 6: Community Capital

Source: Hart, 1999, P16

There are six sometimes overlapping dimensions of social capital (Nora D, Kathleen K, Veronica N. J, Michael W, 2006) 1) Groups and networks, 02) Trust and solidarity, 03) Collective action and cooperation,04) Information and communication, 05) Social cohesion and inclusion and 06) Employment and political action.

Social space

Social space is found to reflect its particular values, preference and aspirations. In Lauwe's view "social space is a spatial framework within which groups live, groups whose social structure and organization have been conditioned by ecological and cultural factors (Lee, 1976, p.165) social space commonly emphasize corporate and neighbourhood oriented activities. (Ley, 1983, p.102)

V. SOCIETAL STRUCTURAL CHANGE IN THE CONTEXT OF BANGLADESH

Family composition
Family is the basic module of society. Family is the first introduction of society and culture. Family is a universal social institution; there is not a single culture where this institution is absent. In Bangladesh, we have three types of family, Joint family, Extended family, Nuclear family (Imamuddin, 1982, p.3.6). The relationship between the 'family structure' and the 'spatial structure' is quite obvious in our rural settlement.

However the picture is changing day by day in the urban settlement. The family consumption and physical manifestation of its needs through space and forms are more complex in urban setting. In urban area, the built forms are not enough flexible to attain the traditional form of joint family structure. In urban area the family is getting smaller, joint and extended family is almost disappearing. As 'family' is the core element of our society, our living pattern is usually shaped by the attitude of social and family bondage. As family bondage is declining, the chances of connections among individuals are reducing. Thus we are losing our trust, mutual understanding, shared values and behaviors.

Neighbourhood
In Bangladesh, the degree of interaction and interdependence of social and physical order within the society varies significantly according to the settlement pattern. In the indigenous settlement pattern the places of social interaction within a '*mohollah*' (neighbourhood) were traditionally defined by hierarchy of socio-spatial units which leads to a natural outcome of socialization space such as -*uthan* (court)*, gali/ Lane, chouk*(square) and *bazaar* (urban space) (Mowla, 1999). This represents a strong spatial order and social bonding within the society in the past.

This spatial order and social bonding is now damaging. However, the *moholla based* community still exists in the older part of the Dhaka city. However, in the other part of Dhaka city we cannot see this type of spatial order.

VI. COMPARISON STUDY OF TRADITIONAL AND PRESENT SPATIAL ARRANGEMENT

General characteristics of physical form in the indigenous cultures were mixed use of spaces and well integrated indoor and outdoor living. In our context, the image of the traditional city would probably be that of the self contained community with relatively undifferentiated society and mixed land uses; compactly built low-rise building along narrow streets. irrespective of cultural attachment of the settlement population, the segregation of private *uthan* (court) from public *chouk/ morh* (square) within the city and female area (inner court) from male area (outer court) within the house are probably the key concepts in the organization of indigenous urban entities in our region (mowla,1999, p.183). Now here the horizontal space is transferred to vertical space. It seems that the early bondage within a *moholla / para* (neighbourhoods) has almost been lost.

The traditional spatial organization is transforming into high-rise apartment and compact buildings. Traditional wide open spaces have been transformed to congested narrow spaces. People have less scope for interaction and connection with each other. If we see the indigenous spatial pattern we will find a very good hierarchy of space and good harmony. However, in the urban scenario, this hierarchy of space is totally lost. The compact development never tells the tale of that indigenous spatial organization. Indoor spaces are also the same. Between an urban and a basic rural house, no similarity will be found. The interior of an urban house is very tight with no reflection of bengali culture and tradition. All are concrete jungle. People are living in a pigeon hole.

Looking at the urban dwellers social life, we will find no social gathering; no community bonding. People don't even know who is living his next door. It is true that some initiatives are being taken to make urban built environment better. Among them, *Eastern Point*, *Karnaphuli Garden City* etc can be mentioned. However, these efforts are really very insufficient. Very naturally, no social bonding, no feeling for the neighbour, no community bonding and no sense of belongings are there. Children are playing inside the built form or in between the towers instead of green play ground. Majorities are not getting even that space and this is the common and big picture of Dhaka dwellers. So people are just living. Result is decay of social capital.
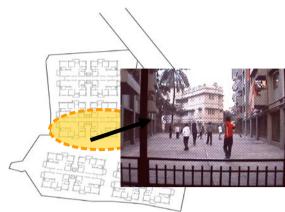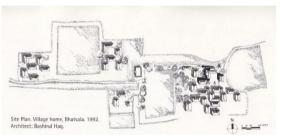

Figure **7:** Eastern Point, Shantinagar Children are playing between two towers
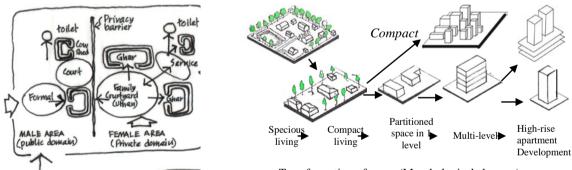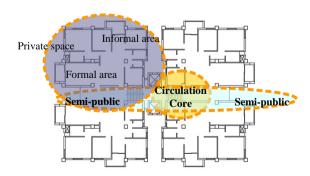Source: Sheikh, 2006

Traditional spatial pattern, Source: Bashirul Haq

Present development, Source: Google Map

Transformation of space (Morphological changes)
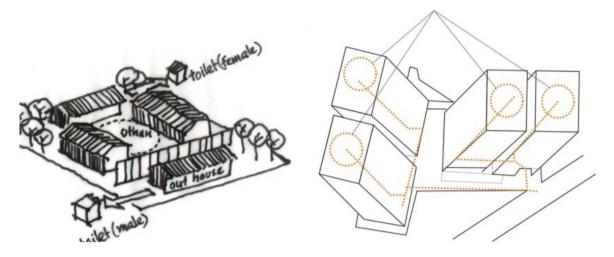Source-Sarma and Mallick, (2005) Sheikh, 2006

Figure 8: Transformation of internal arrangement: Basic arrangement of a Bengali house and Present arrangement of an apartment building (*Eastern Point, Shantinagart*)

Source: Mowla (1997, Islam. K.(200), Sheikh (2006)

VII. SOCIAL CAPITAL DECLINATION IN THE PRESENT CONTEXT DUE TO SPATIAL CHANGE:

According to Putnam's definition, social capital referred to as networks and norms, always hint toward a much broader, diffused, understanding of the social ties that might produce co-operation and trust (Talja B, Mike S.).

Applying the dimension or aspects of social capital on the dwellers living in the present trend of apartment house it can be found that majority of apartment buildings have cooperative society. However, they are not so active. The dwellers have a little attitude to build internal networking. People are saying, this is because of not having gathering space inside their apartment building or even outside their living space. In the building code there is a rule for keeping community space in apartment building. However, this is not enough to meet social gathering of Bengali culture. This open space is ether in the parking space or on the roof or even in the basement.

In the present day living style, people don't even know their next door neighbor. So there is no question about the trust or reliability or dependency. New generation people just say "hi" or "hello" while they pass their neighbor in stair or elevator.

"I *know very few people in this complex*." (Resident of *Karnophuli Garden City*)[2]

Very few examples are there about collective action and cooperative. If there is any problem people just ignore. However, in the traditional built environment people often meet together and do community works. In traditional life style, social cohesion and inclusion is very strong. People in their community like to do several activities such as – football match, cultural program etc. The study found these types of activities rare in present day dwelling units.

So it is noticeable that Social capital is losing its specificity. Lefebvre's (1990) argued that social relations are produced in and through the organization of space. Again according to Wellman's account of "community lost", it was assumed that if one could not find a vibrant face to face neighborhood community then community itself was lost. If within a spatially bounded area people seem to be deprived and where little support among neighbours can be measured, the "neighbourhood" is said to lack social capital.[3]

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[2] A resident who is living in Karnaphuli garden city more than three years -Field survey, 2006
[3] chapter 01 : social capiatl and networked urbanism- http://www.ashgate.com/pdf/SamplePages/Networked_Urbanism_Ch1.pdf

Table 03: Social Capital analysis (groups and networks, Trust, cooperation, Social cohesion and inclusion)

	Aspects	Easter Point	Karnaphuli Garden City	Al Amin Tower	Twin Towers Concord
Groups and networks	Formal/ informal group (co-operative society)	Yes	Yes (very weak)	Yes (very weak)	Yes (very weak)
	Group activities	Sometimes	Never	Seldom	Seldom
	Leadership/ mobilizing role in the community	Yes	No	No	No
	Number of people bring together	Many	Very few	Very few	Very few
	Aims of exchange (meet basic needs, meet basic social obligation, maintain or extend relationship)	Sometimes	Not really	Seldom	Seldom
Trust	Cultural and social norms of interaction (within the building, block, neighborhood, larger community)	Sometimes	Seldom	Seldom	Seldom
	People share their individual or family problem	Seldom	Not really	Not really	Not really
	People rely for different kind of assistance (goods, labor, cash)	Seldom	Not really	Not really	Not really
Co-operation	Collective actions taken place in the community	Sometimes	Not really	Not really	Not really
	Willingness to work together	Sometimes	Not really	Not really	Not really
Social cohesion and inclusion	Community events (wedding or funerals, cultural program)	Sometimes	Sometimes*	Sometimes*	Sometimes*
	Sense of collective consciousness	Sometimes	Not really	Not really	Not really

(*Just using the space, it does not mean good social bonding)

Source: Author

VIII. RECOMMENDATION

It is true that we cannot deny our land shortage and huge population. We have to accommodate this large number of population within this limited space. However, without considering our tradition and culture we are moving on a wrong truck to do the job. To me the following proposals can do something to protect our social capital.

A. Productive research

More study and research are required about traditional living style to find out the inner spirit of that spatial organization. The civil society should take the responsibility of this task so that the Public sector, private sector, NGO's, the professionals can take help from these researches for the future city planning respecting the traditional living style which will nurture our tradition and culture. Thus we can ensure our social capital.

B. Improvement of administrative framework and partnership

Government can play a key role in facilitating the movement towards sustainable community (Parvin, 2002, p.180). The combination of spatial and social dimension in urban planning can be a central issue to encourage social capital in the city. Not only the government, but also the private sectors, professionals, NGOs and others should play active roles.

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C. Policy Implementations

We need to take policies targeting the following issues.

- High quality space inside and outside
- Improved quality of life
- Social interaction and vibrant neighborhood life
- Sense of belongings and attachments
- Safe and secure living environment for life and property.

The traditional space organization is very much spontaneous and self sufficient. It can be easily assumed that if the essence of traditional space is incorporated in the future development pattern, it will obviously ensure the above criteria.

D. Provision for citizen participation in planning process

Citizen participation can help planners, designers, managers in designing and decision-making process. People in the community know best about community's need. It is sure that if citizens can participate in the design process of their residential area, they will obviously help those professionals to understand fully the social context, to identify their needs and general concerns of the community. Community participation can ensure a successful neighborhood space. So if there is a provision in legal framework for public participation, the planners and designers will collect citizen's views and opinions before starting the planning and designing process. It will help them to perceive the community and collect more ideas about their tradition and culture. The design will be more related to social criteria.

E. Ensure more open space for social interaction

While planning the city emphasis is to be given to ensure more open space as park, play ground, recreational and gathering space for social interaction. There should be a proper attempt to keep social space from the very micro level (individual residence) to macro level (whole city) respecting our traditional hierarchy of space. People from every field should be aware of this aspect.

F. Large complex with common community space for social interaction

Dhaka is characterized by scarcity of space and huge population. Instead of going for a single structure, the multi-storied buildings in a large piece of land can help share better quality community space for social interaction. According to the by laws, every separate building has to keep some setback area and some space for community space. However, practically, there is no better quality community space. If more buildings combine their setback area and space allocated for community space, they can make a larger community space. Government support and participation of all types of stakeholders are really crucial in this respect.
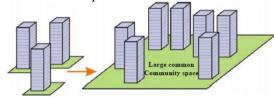

Figure 10: Conceptual large complex with common community space;

Source: Sheikh (2006), p-159

IX. CONCLUSION

For accommodating vast number of people, we already did lots of unplanned and unorganized urbanization. We agree that our land is limited comparing to our large population. In providing accommodation for this huge number of people, it is not possible to make urban space organization exactly like our traditional space. We need to understand the inner spirit of our traditional space and culture and then relate them to our people's need so that they can interact with the space and other people as well. Otherwise, it will be too late to turn back. Society without social capital can never make a developed nation. So, to make our living space livable for the new generation the transformation of spatial pattern should be compatible with our Bengali culture and tradition which will at the same time nurture and represent our social capital.

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