

Linkage Between Traditional Architectural Elements Representing Regionalism and Achieving Salutogenesis

Ishita Mouri Rahman

Abstract— Cultural inferences are lost in the context of city, which can be reestablished with conscious design decisions by the architect and conscious house dwellers. Delving into those regionally established architectural elements found in Bangladesh or in the South East Asian climate, connections are found which are crucial to achieve the modern green building. Traditional architecture addresses sustainability. Salutogenesis is an approach coined by Aaron Antonovsky focusing on factors that support human health and well-being. This study draws the linkages between traditional architectural practices and achieving salutogenesis.

Rundown phrases— Green building, regionalism, salutogenesis, traditional architecture

I. INTRODUCTION

The architecture of a place adorned in regionalism expresses the identity of that region, culture and people. It can be stated, the more architecture loses its regional touch, the more it is deviating from its identity. Intervention of the architect can play an effective role in creating harmony in chaos, conformity in discord within the urban cacophony. Adopting climate-responsive design, use of local and sustainable materials and water harvesting techniques ensure the long term well being of the dwellers. This study aims to establish the fact that the salutogenesis concept coined by Aaron Antonovsky, the green building principles and incorporation of traditional architecture principles of the region concerned whichever may that be, are all unanimously creating better built environments.



II. METHODOLOGY AND METHODS

Primary data is collection through Questionnaire formation and survey of dwellers of a present day building in Dhaka, Bangladesh.

Literature study is done on the traditional architecture of Bangladesh and the Indian sub-continent region and present time architectural works in Bangladesh and drawing a link between the two. Study is done on green building guidelines of LEED and the concept of salutogenic architecture.

Analysis is done with the primary and secondary data.

III. PURPOSE STATEMENT

The traditional architectural elements representing regionalism are effective in achieving salutogenesis

IV. OBJECTIVE

Keeping salutogenesis in the forefront and how it can be achieved in design, the aim of this study is to unfold a layer of traditional wisdom which are effective.

In exploration of the various traditional architectural elements, anthropologically speaking, and exploring a present day case study where traditional values are injected into the design of the building.

This is a quest to draw a linkage between old ideologies' relevance to achieve new concepts.

V. SIGNIFICANCE OF THE STUDY & RESULTS

Architecture of a place speaks of the time, place, tradition, culture of the place. There is a reason for why the architecture varies from climate to climate and region to region. The significance of this study is to establish the fact that traditional beliefs and architectural practices in this Bengali and South East Asian region are still and will always be relevant in order to achieve salutogenesis and create modern day green building. It delves into the importance of holding onto our roots and drawing the inference that the traditional wisdom is our guide.

Regionalism

Regional priority addressing geography specific environmental priorities gets rewarded by up to 4 points in LEED Green building Certification.

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Ishita Mouri Rahman, Institute of Energy, Dhaka University, Bangladesh (E-mail: ishtarahman@hotmail.com)

LINKAGE BETWEEN TRADITIONAL ARCHITECTURAL ELEMENTS REPRESENTING REGIONALISM AND ACHIEVING SALUTOGENESIS

Western impact on the architecture of this region is on the rise in Bangladesh. Fixed glass window is a concept adopted from western countries which responds to the climate of those regions mainly with cold wind and snowfall or heat waves in desert zones. Such projects have a high cost in maintenance with mechanical cooling system and high electricity consumption.

We need not discard a layer of the cultural context and regional essence while laying down our plans. A western model would not work in terms of regional climate or in terms of addressing the Bengali cultural needs.

Climate and culture responsiveness need to be addressed.

Salutogenesis

This study draws the linkages between traditional architectural practices and achieving salutogenesis

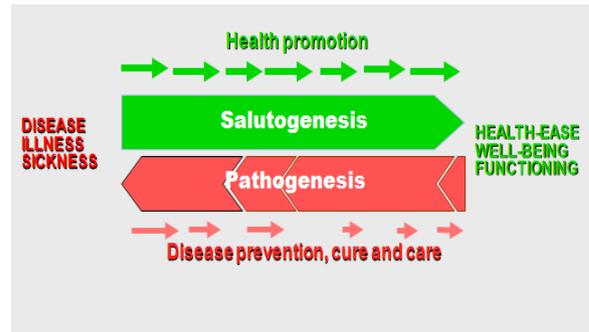
Salutogenesis is an approach coined by Aaron Antonovsky focusing on factors that support human health and well-being. As defined by the World Health Organization (WHO) health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

The concept of salutogenesis can be incorporated in buildings through design decisions which are good for the dwellers physical and mental health. Salutogenesis is being incorporated in health care premises in recent times, and also needs to be made an integral part of all architectural edifice.

Pathogenesis vs salutogenesis:

Broadly, salutogenesis is the opposite of pathogenesis. Pathogenesis is the development of a disease and the chain of events leading to that disease. Salutogenesis is the model which helps in health promotion, disease prevention and cure. It is one degree ahead because salutogenesis enables well being.

circulation, the dwellers are likely to have a healthy body and mind. As a fact, Vitamin D found directly through exposure to sunlight plays a role in stronger bones and stronger immunization in the dwellers and wards off a list of ailments.



Graph by Univ.-Prof. Dr. Horst Noack, PhD, Medizinische Universität Graz

Green building

In current times, there is an escalation in green buildings in order to reduce our energy consumptions along with costs. It significantly plays a role in reducing national energy consumption level and in turn save energy on a global level.

These energy, water and resource efficient buildings are environmentally responsive and actualizing a sustainable community.

Enabler:

A good design can enable an enhanced indoor environment quality which can gain 15 points in the LEED (Leadership in energy and environmental Design) rating point system with the input of thermal comfort, daylight and views and increased ventilation.

Newer concepts of sharing parking space with neighbours are introduced to maximize the open space according to LEED. Reducing impervious cover and increasing on site infiltration for storm water control is a must. Water use reduction by 20% is required to achieve green building. Reducing mechanical ventilation, use of electricity and water consumption is the aim. Both natural ventilation and natural lighting goals achievement are recommended for achieving green building standards even in non domestic buildings. Regularly occupied spaces must be day lighted.

Green building checklist

- Energy Conservation and Efficiency
- Materials and Resources
- Footprint and Community Impact
- Indoor Air Quality
- Water Conservation and Management
- Innovation and Design
- Cost Effectiveness of Construction
- Presentation and Other Considerations

SALUTOGENESIS

through **Healthy Buildings** ... focusing on factors that support human health & well-being ... rather than on factors that reduce ill health ...

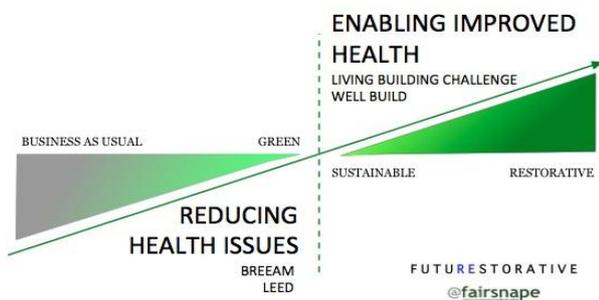


image: www.fairsnape.com

Design can play the role of a vehicle that promotes salutogenesis. For instance, a poorly ventilated and dark house will result in bad health and depressive condition for the dwellers. While on the other hand, when a house is designed with provisions for ample sunlight and air

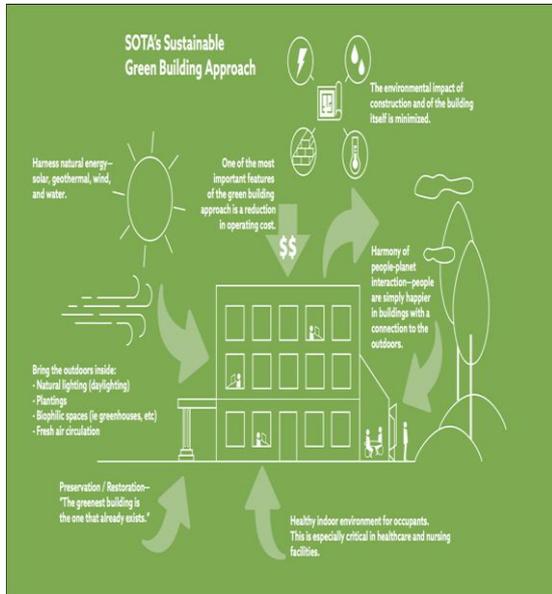


Image: www.sotaconstruction.com

techniques focusing on data publishing and talk about back- ground knowledge and also problems of privacy preserving data publisng.

Traditional architectural Elements

The climate of Bangladesh and South East Asian region is that of a tropical /monsoon. Traditional architecture of this region or that of any other region tells the language of that place and is a byproduct of hundreds of years of their adaptation to the soil, wind and custom of that area.

In search of roots of Bengal, a list of traditional architectural elements is as following:

i. Waterfront (ghaat): waterfront has a cultural value where people swim, socialize and do various activities. Waterfront can be part of a homestead or a public amenity.



Result: helps to achieve a cooler microclimate

ii. Vegetation: increasing green vegetation shrubs and tress in a homestead can reduce temperature upto 4 degree celcius.

Result This helps in achieving a good micro climate

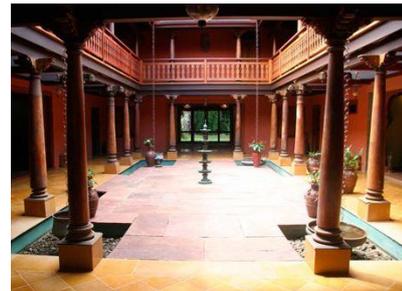
iii. Perforated Screen (Jali): Jali is an architectural element of the South East Asia region which is vanishing with time in modern buildings. Even till the 80's buildings had jail in the form of ventilators.



iv. Extended veranda corridor/ Entry Foyer (Dawa): this space is atypical to a village residence of Bangladesh and the Indian sub continent, a space which is often used for guests or doing light work like weaving.



v. Courtyards: Courtyards have long existed in sub continental rural areas and have also found place as Mughal courtyards.



vi. Overhead roof (chhajja): reduction of heat island by the use of overhead shading device.



TSC building is a good example of venture effect in double layered overhead roof.

vii. Wooden Façade treatment (khirki) : wooden window panels have become non-existent in Bangladesh with the rise in extinction of old buildings. Wooden window panels keep the house cooler in comparison to its glass counterpart.



viii. Teracotta: found in the Bengal region as early as 700 AD at Paharpur, Bangladesh. Teracotta walls and sculptures have been present in temples of the region.

LINKAGE BETWEEN TRADITIONAL ARCHITECTURAL ELEMENTS REPRESENTING REGIONALISM AND ACHIEVING SALUTOGENESIS



Fig: Kantaji Mandir, Dinajpur, Bangladesh

A Case Study: Meghna Residence, Dhaka, Bangladesh



Photo courtesy: Hassan Saifuddin Chandan

Meghna Residence is a single extended family house situated in on a bustling street of Dhanmondi, Dhaka, Bangladesh. The house has been conceived in three layers: its surrounding context, the climate and traditional typology. The courtyard is the predominant traditional element of the project along with a waterfront (*ghaat*), ample vegetation and water body.

This building has been taken under consideration for survey to achieve a wholesome feedback of the dwellers of a house in the heart of the chaotic city with traditional architectural elements intrinsic to Bengali culture.

The designer (Shatotto – Architecture for Green Living) intends to unravel the lost history and heritage of Bangladesh and revive the missing links of its urban and rural culture. In an attempt to bridge the gap between architectural values of the past and present, this family residence was born.

Dweller (Ashraf) states about the impact of flora and fauna in the residence. He says that many birds come around in the different seasons specially on the rooftop garden and water body. They come to have fruits and water. He adds that it becomes difficult to maintain the swimming pool because of the birds littering.

Dweller (Mr. Kamal) has reported to become nostalgic to his early days in village when he sits in the calm rooftop area adorned with green and a water body, amidst the chaotic city.

VI. CONCLUSION

Salutogenesis encompasses the wellbeing of human beings which embodies both mental and physical health. Generating environments that enhance wellbeing for its dwellers is the aim of the modern day green building and salutogenic architecture. Reinstalling the lost cultural inferences in architecture which have time- tested acceptability for generations, enhances the wellbeing for the dwellers in present times.

VII. LIMITATIONS AND DELIMITATIONS:

Only one sample survey has been conducted. This leaves scope for researchers to collect more information from dwellers in both vernacular architectural structures and concrete city structures in the future. There is scope for further study on more traditional architectural elements found in Bangladesh and the Indian sub-continent region which is not limited to only those listed in this study.

VIII. RECOMMENDATIONS

Salutogenesis is being incorporated in health care premises, but I feel that this principle needs to be made an integral part of all architectural edifices. Practitioners need to adopt the concept of salutogenesis in their work. Cultural elements of the region need to be given importance in design decision.

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