

Conference and Exhibition Reports

International Seminar on Sustainable Building Design Liverpool, UK - July 28-29, 2008

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The International Seminar on “Sustainable Building Design” held at Liverpool, UK on July 28-29, 2008 was jointly organized by Edge Hill University (EHU) Lancashire UK and National College of Arts (NCA) Lahore Pakistan. It was in conjunction with the two institutions aiming at the development of a collaborative M. Arch. program in Sustainable Design to respond to the current and future demand for sustainable design professionals. This initiative is supported by British Council and Higher Education Commission Pakistan under the Joint Education Links Program. Objective of the Seminar was to share the experiences and lessons in sustainable design from different parts of the World that may be used as part of the teaching and research material for the intended M. Arch. programme.

Venue for the seminar was the conference hall of Community Technical Services Agency (COMTECHSA), which has wealth of experience of designing and construction of community buildings with a focus on sustainability. The two days seminar was followed by a three days workshop at Edge Hill University Lancashire on the curriculum development.

The Seminar was an outcome of over six months of hard work done jointly by Muhammad Ali Tirmizi link coordinator at NCA and Tasleem Shakur, link coordinator at Edge Hill University. Thirty three papers were received, out of which thirteen were presented at the Seminar. The papers came from seven different countries: Pakistan (19), United Kingdom (07), Iran (03), Algeria (01), India (01), Netherlands (01), and Nigeria (1). Twenty four papers out of thirty three came from universities and nine from practice.

Under the three major themes of ‘Sustainable Building Design and Construction’, ‘Urban Eco-Environment’ and ‘ Macro Sustainable Development’, Thirteen papers that were presented at the Seminar were the following:

Keynote “*Are You Green?*” jointly by Fauzia Qureshi and Babar Khan Mumtaz (NCA Lahore Pakistan); “*Sustainability and the Global Built Environment: Readings in the 21st Century and the Implications for the Future*” by Tasleem Shakur (Edge Hill University Lancashire UK); “*Sustainable Islamic Architecture in an Urban Setting*” by Andre Morrall (Director Brand Architecture UK); “*Sustainable Neighborhood Renewal in Oldham*” by Jamie Halsall (University of Huddersfield UK); “*Romancing Sustainable Architecture – The Academic*”

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Approach and Practice in Pakistan” by Faisal Sajjad (NCA Lahore Pakistan); *“Community Development and Sustainable Architecture”* by Galib Khan (Community Architect COMTECHSA UK); *“Performance of Wind Catchers Integrated with Solar Powered Thermoelectric Cooler”* by Liben Jiang (University of Central Lancashire UK); *“Total Building Performance – A Holistic Approach”* by Muhammad Barkat Ullah (University of Central Lancashire UK); *“Appropriating Traditional Wisdom for Sustainable Building Design”* by Shakeel Qureshi (NCA Lahore Pakistan); *“Sustainable Energy-Efficient Lighting in Built Environment”* by Dr. Rusdy Hartungi (University of Central Lancashire UK); *“Myth of Sustainability: Sixty Years of Architecture in Pakistan”* by Ar. Rizwan Azeem (University of the Punjab Lahore Pakistan); *“Sustainable Context of Roof Gardens in Lahore”* by Khalid Yar Khan (NCA Lahore Pakistan); *“Sustainable Low Carbon Communities through Reflexive Architecture”* by Majid Saeed Khan (NCA Lahore Pakistan).

Figure 1: Galib Khan (COMTECHSA, Liverpool) Ali Tirmizi (NCA Lahore), Tasleem Shakur (Edge Hill University) and Shakeel Qureshi(NCA Lahore).



Remaining twenty papers although could not be presented at the Seminar, but made valuable contribution to the subject¹.

The presentations and deliberations at the seminar addressed various dimensions of sustainable building design, and offered a comprehensive view of this important issue.

Tasleem Shakur pointed out that architectural practice has historically been shifting its focus from one aspect to another: from catering mainly for the rich and the establishment to barefoot architects facilitating self-help architecture. There have also been paradigm shifts from modernism (1940s onward) to post-modernism (1970s onward), and then sustainability (1980s onward). In this 21st century, we are confronting the challenge of implementing global agenda for sustainability in our local environments. Rizwan Azeem was of the opinion that sustainability is just a myth; Building practices as we see have least considerations of it.

Referring to the historical context of our present concern with sustainability, Fauzia Qureshi said that technological developments after the industrial revolution, and more specifically developments during the 20th century in the industrialized countries caused massive environmental damage and depletion of natural resources. Shakeel Qureshi added that after

the oil embargo in the 1970s, there was a strong realization that non-renewable resources – such as fossil fuels – that are over-used to support the development process will be soon no longer available. Even many renewable resources – such as forests – that are over-exploited will be soon exhausted and incapacitated to regenerate themselves in order to meet the development needs. This realization brought a paradigm shift in the development discourse with a consensus on the need for any development to be sustainable. Sustainable development was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” International organizations such as IUCN -International Union for the Conservation of Nature and Natural Resources - in 1980, WCED - World Commission on Environment and Development - in 1987, and UNCED - United Nations Conference on Environment and Development - in 1992 progressively broadened the scope of concerns in the definition of sustainability.

Figure 2: A group of seminar delegates on a guided field trip to Liverpool Dock.



With reference to sustainability at urban level, Andre Morrall referred to the high street culture that has completely changed from the past with disappearing local retailing due to supermarkets and big brands. He said that appropriate mixed land-use is crucial for sustainable urban development. Cross-cultural experiences of China Town in Liverpool and the Curry Mile in Manchester are examples of such a mixed development in the direction of reenergizing urban areas. He presented a case study of a mosque whose approval was integrated with local retailing in order to blend different socio-cultural and economic activities in the Islamic culture with the British. He reported that amazing results were achieved in this case with reference to sustainable urban design.

How polarization of the urban poor may challenge the sustainability of urban design was highlighted by Jamie Halsall in his presentation of the case study of Oldham. He said that various social and economic problems that started in the 60's like high level of migration, the poor and deprived community, unemployment, and racial riots, followed by the terraced housing development and the white flight from the area made Oldham the most segregated Asian concentration society in Britain. Galib Khan projected the role of community organizations such as COMTECHSA in developing building safety systems and performing feasibility studies in housing regeneration projects.

With reference to sustainable building design, Shakeel Qureshi said that most of the buildings constructed in Pakistan in the last 50 years are energy-intensive as they rely heavily on mechanical means for achieving thermal comfort. Thus, a substantial portion of the total energy of the country is wasted in making modern buildings workable depriving other sectors of the economy from making productive use of the energy. Traditional buildings constructed centuries ago, on the other hand, are energy-efficient; they remain comfortable without requiring air-conditioning or other mechanical means. Thermal comfort against harsh weather conditions in these buildings achieved by passive means through intelligent and innovative designs of forms, fabrics, fenestrations, and other architectural features – making the best use of local materials and construction techniques. Fauzia Qureshi added that sustainable design principles are embedded in traditional building practices. Unfortunately, colonization and subsequent globalization broke the link with our cultural roots.

From pedagogical stance, Faisal Sajjad questioned the persisting belief in the traditional or existing body of knowledge in providing theoretical and epistemological basis of a new studio practice based course. He said that taking it as a universal truth is theoretically not a very sustainable idea. Each problem needs to be addressed in its specific context.

Shakeel Qureshi stressed that instead of copying solutions from the past, there is a need to appropriate traditional wisdom in order to develop energy-efficient sustainable building designs for today. To demonstrate its feasibility, he presented a case study of a house at Lahore, which he designed using earth cooling tubes under floors and gardens on roofs. The house remains comfortable throughout the year in severe weather conditions without requiring air-conditioners in summers or heaters in winters. Khalid Yar Khan explained the functional, social, and environmental aspects of roof gardens. He said that they provide excellent insulation, and offer pleasant environment to the inhabitants for a variety of functions in different parts of the year. Another example of appropriating traditional wisdom was the integration of wind catchers and thermoelectric coolers presented by Liben Jiang. Thermoelectric coolers control temperature of the air coming in through wind catchers. Air is cooled in summer and heated in winter, simply switching the direction of electric input in the coolers. He said that this unit can also be powered by solar panels.

Advanced technology, where available, can also be used in designing sustainable buildings, as long as they adhere to the basic philosophy and principles of sustainability. Rusdi Hartungi explained how energy could be saved through efficient lighting system by way of a) integration of daylight with artificial lighting, b) use of energy efficient lamps and luminaries, and c) use of light demand simulators and controls to eliminate wastage. Barkat Ullah presented the concept of “Intelligent Buildings” from an engineering and design viewpoint. He said energy simulation for total building performance in different conditions including indoor air quality and ventilation system can lead to high-tech. sustainable building design. On the same lines, Majid Saeed explained the concept of “Reflexive Architecture” which involves its users in experiencing, experimenting, reflecting, and sharing a built environment in which thermal comfort is achieved through computer simulation.

There was a consensus among the participants that there are no universal solutions or standard objective measures of sustainability. They are relative and subjective to each situation. Fauzia Qureshi said that sustainable development in any part of the world involves actions from social, environmental, and economic aspects, which vary from country to country. Therefore, sustainable development in general, and sustainable building design in particular, have to be designed and assessed with reference to the specific context in which

they are located. Based on this very successful international seminar, a special journal issue and/or an edited volume are going to be published in the near future. For further details on the seminar (including all the abstracts) do click to the website <http://nca.edu.pk/SBD08.htm>.

End Notes

¹ List of remaining twenty papers that could not be presented in the Seminar, but made valuable contribution to the subject:

“*Vision for a Sustainable Future*” by Ar. Ayesha Noorani from NCA Lahore Pakistan; “*Aspects of Sustainability for Architecture in Pakistan*” by Ar. Muhammad Ali Tirmizi from NCA Lahore Pakistan; “*Towards a Low Energy Sustainable Interior Design and Construction*” by Fatima A. Faisal from Government Islamia College for Women Lahore Pakistan; “*Muslim Shrines - The Net Zero Buildings*” by Ar. Ghafer Shahzad from Auqaf Department Government of the Punjab Pakistan; “*Innovation and Sustainability in the Buildings Foundation Engineering*” by Ammad Hassan Khan from University of Engg. and Technology Lahore; “*Use of Computer Simulation for Sustainable Architecture Design in the New Millennium*” by Ar. Kamran Mufti from NCA Lahore Pakistan; “*Sustainable Building Design and Construction*” by Ar. Saqib Bashir from Lahore Pakistan; “*Role of Environmental Psychology in Sustainable Community Design*” by Suhail Ishaq, student of Architecture NCA Lahore Pakistan; “*Urban Eco-Environment*” by Ar. Summana Abbas from Lahore Pakistan; “*Sustainable Building Design and Construction*” by Ar. Usman Ahmed from Lahore Pakistan; “*Sustainable Building Design and Construction*” by Zafar Haider Gilani from Multan College of Arts Pakistan; “*The Myth of Sustainability and the Modern Technology*” by Ar. Syed Fawad Hussain from NCA Lahore; “*The Industry’s Growing Sustainability Ethics – An Integrated Approach*” by Ar. Silwat Afzal from NED University of Engg. and Technology Karachi Pakistan; “*Human’s Cognition and Sustainable Architecture*” by Vida Makani from Ministry of Housing and Urbanism Iran; “*Estate of Safavi Architects Utilization from Garden Making to Keep Sustainable Architecture*” by Amir Moradi, student of Architecture at Sari Payam Nour University Iran; “*Wind Tower – A Natural Cooling System in Iranian Architecture*” by Jamila Pishehvar, student of Architecture at Sari Payam Nour University Iran; “*Return to Palm Plantation of Ziban as Element of Sustainable Urban Organization*” by Soumia B. Lalouanil and Dr. Djamel Alkama from Med Khider-Biskra University Algeria; “*Climate Responsive Traditional Architecture of Lucknow*” by Mohamad Arif Kamal from Aligarh Muslim University India; “*What is Hanoi Housing Style in the Future?*” by Nguyen M. Anh, Dr. M. Van Dorst, and Prof. C. Duijvestein from Delft University of Technology the Netherlands; and “*The Effect of Environmental Variables on Building Materials Choice*” by Adebayo Abimbola from Federal Polytechnic Ado-Ekiti Nigeria.