

Living and Sustainability: An Environmental Critique of Design and Building Practices, Locally and Globally

1. Paper / Proposal Title:

Computer Aided Studies on Flexibility on Housing Design

2. Format:

Written paper & conference presentation

3. Author(s) Name:

Belinda Torus

4. University or Company Affiliation:

Bahçeşehir University, Faculty of Architecture and Design

5. Abstract:

Housing is an important component in the sustainable development of cities. Sustainable housing embraces many inter-related aspects of housing, such as environmental, social, cultural and economic issues. With the help developing technologies, studies and applications for various purposes are designed and developed in order to address sustainability issues. The flexibility of the housing units may lend support to extension the life duration of the housing as well as user satisfaction. There are also various tools that support and provide help for purposes such as building sustainability assessment, energy efficiency, etc. In Turkey TOKI is the biggest housing supplier, producing more than 500.000 houses between 2002-2011. TOKI is criticized for constructing houses which do not support flexibility and have similar plan schemes.

Therefore a flexible approach will also be helpful. The approaches in the early design phase need to be designed so that sustainable houses can be achieved with minimum modifications. There are computational tools developed for early design phases which support the flexibility in the housing for long term. This paper specifically investigates the concepts of new technologies and tools mostly in Turkey, in order to support flexibility within the housing context focusing on the early design phases and approaches.

6. Author(s) Biography (200 words each):

She was born in Istanbul, Turkey. She received her bachelor degree in architecture from Mimar Sinan Fine Arts University. She completed her master's thesis in Yıldız Technical University, Computer Aided Architecture Program with the title of "A Ruled-based Software Model in the Preliminary Design Phase of Housing: Example of Mardin." She received her PhD in Istanbul Technical University, in Architectural Design Computing Program. The title of her PhD thesis is "Generating Customized Housing Plan Layouts In Computer Environment Using Tunnel Form Structures". She has been working as first as TA, then as an instructor in Bahçeşehir University since 2007.