Drivers of Contemporary Housing Research and Design

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Summary

• Contemporary Housing
  – Definition and Evolution

• Sustainable Design
  – Concepts and Application

• Inclusive Design
  – Principles, Tools and Contexts

• Community Participation
  – Definition and what to know about it!

• Emerging Designs in Contemporary Housing
  – Examples
Contemporary Housing: Definition?

• Civic Housing?
  – Support for home ownership – middle class

• Social housing?
  – Rent support (Social housing needs)

• Vernacular Architecture?
  – Unique to “Time & Place”
Contemporary Housing

- Summary of Literature Review Results
Contemporary Housing: Definition

No EU Level Housing Policy, so...

“... needs of the present occupants, while being environmentally sustainable, socially responsive and, at the same time, affordable...”

Beyond Time & Place... Current & Dynamic!
Contemporary Housing: Evolution

The Contemporary Housing Timeline

Post-war Europe (1950-1960)
- Mass-housing needs
- Quantity vs. Quality
- Easy to build
- Speedy construction

Oil Crisis (1970-1980)
- Rising cost of fuel
- Self-sufficiency
- Energy efficiency
- Technology

Sustainability (1990-2007)
- Greenhouse Gas Emission
- Global Warming
- Environmental concerns
- Corp. Soc. Responsibility

Financial Crises (2008-present)
- Resource efficiency
- Demographic Trends
- Lifestyles
- Living Arrangements
- Economics...
Design Principles

• Sustainable Design
• Inclusive Design
• Community Participation
Sustainable Design

- Cradle-to-cradle
- Eco-systemic
- Compact building
- Socio-integrative
Sustainable Design

- Cradle-to-cradle design concept
Sustainable Design

- Cradle-to-cradle design concept

NOT SUSTAINABLE

Raw Materials

Waste
Sustainable Design

- Cradle-to-cradle design concept
Sustainable Design

• Cradle-to-cradle design concept - summary
  – Lifecycle Impact Assessment
  – ‘Designing out’ waste in building construction process
  – Sustainable building materials
  – Sustainable sources of building materials
  – Appropriate building construction technology
  – Resource & Energy consumption in usage stage
  – Deconstruction as opposed to Demolition
Sustainable Design

- Eco-systemic design concept
  - Design for symbiotic relationships
Sustainable Design

• Eco-systemic design concept
  – Design for Natural Equilibrium
Sustainable Design

• The Compact building design concept
  – Urban development
  – Economies of scale
  – Access to green areas
  – Privacy and socialisation
  – Ethnic and Community identity
  – Social conflicts
Sustainable Design

• Socio-integrative design concept
  – Recognises individual needs
  – Establishes social inclusion
  – Fosters individual - societal Interrelationship
Inclusive Design

• What is it?

• Why the need?

• Principles

• Tools

• Contexts
Inclusive Design

• What is it?
• Accessibility: Barrier-free Built environment…,

…but NOT stigmatising!!!
Inclusive Design

• Why the need?
  – Demographic trends – ageing population
  – Living arrangements – multi-generational living, lone-parenthood
  – Social status and circumstances – income level, marital status
  – Diverse user groups – gender differences & requirements
Inclusive Design

• **Principles**

• **The Environment:**
  – Requires no effort, special treatment or separation
  – Offers freedom to access, use and participate in its activities
  – Accommodates individual needs
  – Embraces diversity and differences
  – Legible and predictable
  – Flexible and safe to use regardless of age, gender, etc.
Inclusive Design

• Tools
  – Post-Occupancy Evaluation (Retrospective)
  – Building Information Modelling (Proactive)
  – Design Guidelines (e.g. Lifetime Homes in UK)
  – Bespoke Design Frameworks

Active Collaboration between Stakeholders
Inclusive Design

- **Contexts**
  - Cater for marginalised user groups
  - Focus NOT diverted from majority of users
  - Appreciates and resolves ‘conflicts’ among user groups’ needs
  - Considers environment and settings where it is being applied
  - Available resources
  - Idealistic vs. Realistic goals
Community Participation

- Definition
- Wheel of Participation
- What to know about Community Participation
Community Participation

• DEFINITION:

“…decentralisation of urban management by spreading decision-making among local entities and community involvement in the development of urban policies…” (Davidson et al., 2007)
Community Participation

The wheel of participation
(Source: Heritage & Dooris, 2009)
Community Participation

- **Macro Scale Projects**
  - Urban planning and reconstruction
- **Multi-lateral and multi-dimensional collaboration**
  - Involving various stakeholders
- **Complementary to Sustainable and Inclusive Design**
  - Not viable on a stand-alone-basis
- **Systems Approach**
  - Interconnectivity with other elements of the system
- **Conflict Resolution**
  - Compromises and concessions
Emerging Designs in Contemporary Housing

- Freiburg’s Vauban District Project, Germany
  - 300-citizen participation in Forum Vauban
  - Home to 5,000 people and offers 600 jobs
  - Car-reduced residential area
  - UN HABITAT acclaimed “German Best Practice”
  - Several passive houses
Emerging Designs in Contemporary Housing

- **Beddington Zero Energy Development**
  - (BedZED) Housing Project, UK
  - First UK’s large-scale sustainable community
  - Completed 2002
  - Houses 220 people + office space for 100 people
  - Homes range from studio to 4-bed apartments
  - 100% renewable energy
Conclusion

• Three mutually reinforcing design principles driving contemporary housing research and design
• Socio-economic challenges are threats and opportunities
• Involvement and Participation of all stakeholders is essential – user-centred
• Research and Practice may lead to better Contemporary Housing
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