RP1017

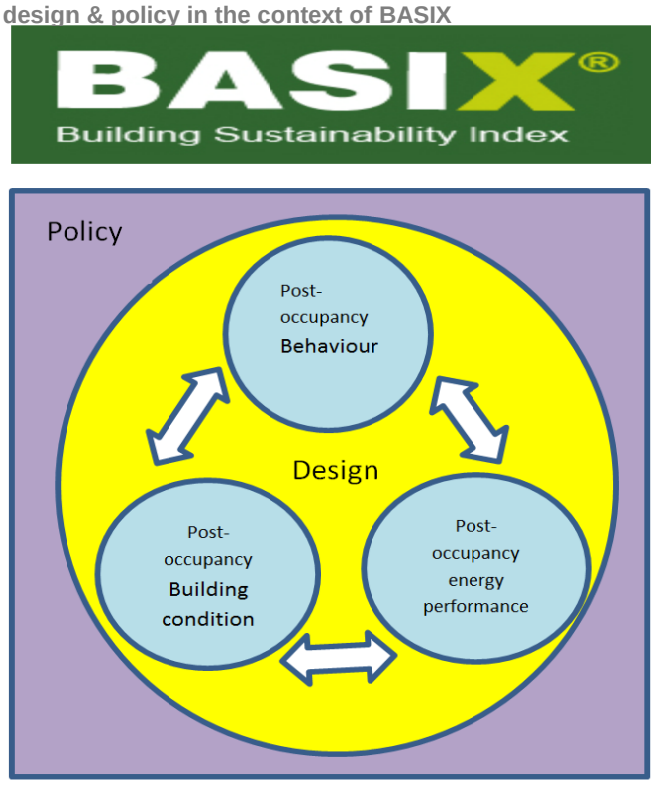
DEVELOPMENT OF EVIDENCE-BASED BEHAVIOUR MODELS TO SUPPORT SUSTAINABILITY ASSESSMENT OF BUILDING DESIGNS & POLICY DECISIONS

(in the context of BASIX)

Problem

Most incentives in the sustainability programmes pay less attention to the human factors in a context, where household energy, water and other resource consumption practices are part of the rituals, habits and routines of everyday life. Even most of the Building Sustainability Assessment tools, which play a very important role in maintaining sustainability standards in the field of sustainable development has neglected the human factor. Investigations reveal that this may result a vast disparity between predicted and the actual sustainability assessment outcomes, which impose doubts on the accuracy of sustainability assessments tools in practice.

Figure 1: Exploring the relationship between post-occupancy behaviour, building condition, building energy performance, design & policy in the context of BASIX



Solution

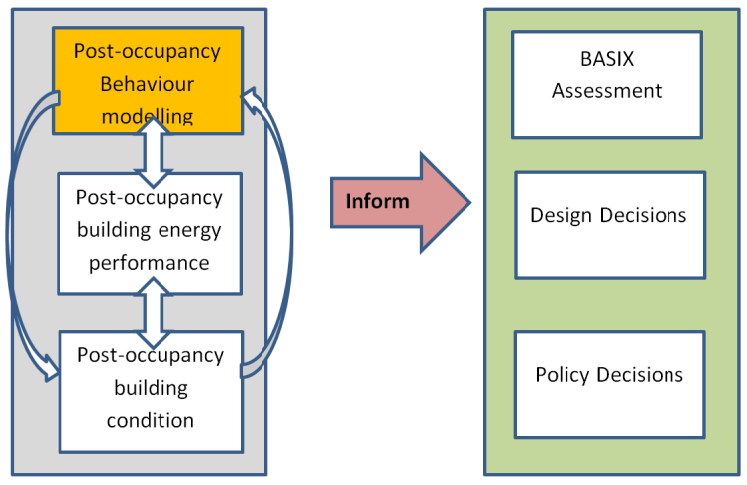
In the journey of finding a solution for the above mentioned problem, this research intends to develop a model based on evidence based behaviour that could be applied in energy consumption section of sustainability assessments.

As shown in figure 1 & 2, the behaviour model would be developed, exploring the interconnections between post-occupancy building energy consumption, condition of the building envelop and the post-occupancy user behaviour. Ultimately, the study would attempt to investigate the connection between user behaviour and the energy consumption to inform BASIX assessment model, design decisions and policy making.

This would provide benefits for developers, designers, occupiers and decision makers in identifying appropriate strategies to reach high in built environment sustainability.

This study is a key component of "Validating and Improving the BASIX Energy Assessment Tool for Low-Carbon Dwellings' project, funded by CRC for Low Carbon Living. The project is led by UNSW and partners with NSW Planning and Environment, Department of Industry, and Council of City of Sydney.

Figure 2: Research components and the process of finding a solution



Post-occupancy behaviour should be a very important consideration in sustainability assessments as it leads to 'real-life environment' sustainability.

Benefits

The findings of this study will assist to identify areas for improvement of Building Sustainability Index (BASIX), establish the links between government regulations, design options and post-occupancy behaviour and inform future sustainability design strategies and policy.

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