



How SuBET Promoted Sustainability in Built Environment Projects

The Sustainable Built Environment Tool (SuBET) is a package that helps to ensure the environmental, social and economic sustainability of a built environment project. It has its roots in the SUE consortium IDCOP, and was developed into a commercial tool by IDCOP researchers and engineering consultancy Hilson Moran. The result of this collaboration is that SuBET has been used to foster sustainability in construction projects across the world.



SUE SUCCESS STORY

Innovation in Design, Construction & Operation of Buildings for People (IDCOP) July 2004 – February 2009, was a multi-institutional research programme funded under the Engineering and Physical Sciences Research Council (EPSRC) Sustainable Urban Environment (SUE) programme. The research aim was to investigate how to achieve a more sustainable urban environment which would benefit people, the inhabitants and users of these environments, creating a higher quality of life.

One activity, in particular, within the IDCOP project has expanded beyond the project into the on-going development of the Sustainable Built Environment Tool (SuBET) tool by Matt Kitson of Hilson Moran and two of the researchers, Professor Derek Clements-Croome (University of Reading) and Dr Husam Al Waer (now a lecturer at the University of Dundee). Hilson Moran is a multi-disciplinary engineering consultancy for the built environment. The tool has gone from theory to practice because of their shared interest in urban sustainability. There was a clear gap in the industry, a need for masterplanning to address sustainability and carbon mitigation issues. SuBET is a sustainable masterplanning tool which will be used to guide the future design of exemplar planning and development schemes.

Upon the completion of the project Clements-Croome and Al Waer invited Kitson of Hilson Moran to critically review the various frameworks developed for the built environment, sustainable intelligent buildings and shopping centres. A series of workshops were run at Hilson Moran providing information on the outcomes of the ongoing projects at that time. At this point Matt Kitson, driven by his interest in sustainability in masterplanning, saw the potential of taking the work further. Strong, on-going relationships have been formed between the three collaborators, as the tool development process took place over several years. The tool has gone from theory to practice because of the shared interest of Kitson, Al Waer and Clements-Croome in urban sustainability.

The SuBET tool can uncover missed opportunities in a masterplan. It assesses the sustainability of a development masterplan at an early stage and can then be reapplied throughout the design cycle. The SuBET tool incorporates over 70 indicators of environmental, social, cultural and economic impacts. Its focus ranges from the micro scale (water, energy and so on), to the meso scale (such as land use, site selection and planning considerations), out to the macro scale (such as greenhouse gas emissions from all energy used for the built environment, transport and infrastructure, together with wider urban and regional planning issues), right up to the global scale to tackle the impact on sustainability at national and international levels. The assessment framework developed at the University of Reading was applicable to individual intelligent buildings. Al Waer's assessment framework developed during his PhD research focussed on the sustainability, or otherwise, of retail outlets and shopping centres. Kitson perceived that masterplanning needed to address sustainability and carbon mitigation and that these requirements could not be met by building design alone. In fact, all the protagonists were aware that there was a big gap in the market, there was a need for a framework for sustainable masterplanning. There were hardly any methodologies around the world that addressed this issue, which includes urban regeneration and economic, social and cultural aspects of city design.



It was a marriage of Hilson Moran's own research and interests, and that of the two academics. They have since worked together over the last three years developing the methodology that they have now called SuBET along with Andrea Vosgueritchian of Hilson Moran, who has become an important part of the on-going practical development.

KEYS TO SUCCESS

The IDCOP (2010) project had in-built dissemination routes. However the researchers and academics involved in IDCOP were keen to further develop their urban sustainability ideas and raised their visibility through conversations with practitioners and the distribution of reports and papers. Kitson of Hilson Moran had an existing interest in the sustainability of urban environments and his contact with Clements-Croome went back over several years. Kitson had many colleagues when he first started work who had attended Clement-Croome's course at the University of Bath which encompassed a different way of thinking about architecture and engineering in relation to the built environment. At Reading University Clements-Croome has since developed a MSc in Intelligent Buildings, an IGDS course funded for 5 years by EPSRC, and has built up a lecturing team of some 100 professionals from industry to enable students to have contact with existing case studies and to think creatively about change and the future.

Kitson is one of these lecturers and it was after such a lecture that he mentioned to Clements-Croome his interest in sustainable masterplanning. This led Clements-Croome to inform him about the work they had been doing on IDCOP and to ask him to critically review the final report for EPSRC, and the various developed protocols and frameworks developed for the built environment by Clements-Croome and Al Waer. These personal connections and the alignment of interests led to formal engagement and on-going relationships between the three protagonists. Kitson now lectures at both Reading and Dundee Universities and by giving up his time in this way maintains contact with the research undertaken by Ph.D students and research teams at these Universities.

This collaboration demonstrates how having a wide network of contacts, and engaging with those contacts regularly, can achieve significant impact.

LESSONS LEARNED

> Make and maintain relationships with experts in different sectors

Make the most of them by staying in contact and sharing ideas. Having a large network of contacts is worthwhile only if it is put to productive use.

> Connecting with people and sharing ideas can have unexpected consequences

Areas of mutual interest can often be revealed through discussions on a completely different topic.

> Knowledge exchange can be beneficial for both researchers and practitioners

Researchers can have the satisfaction of seeing work used in real world applications, and practitioners can have the chance to build on cutting edge research.