The “triple bottom line” of economic development, social development, and environmental protection has increasingly become the goal of those who design cities, neighborhoods, and buildings. This integrated view of sustainability considers political, economic, and cultural innovations, as well as technological ones, better integrating behavior and design with the protection of our environment.

Planning for a sustainable future requires a clear vision of where we are in order to identify the best opportunities for integration, but most of the sustainability assessment tools available to planners and architects are poorly integrated themselves. Few of these tools consider the powerful social and economic opportunities for change alongside the environmental and technological ones.

Beginning with a doctoral thesis on applying a new kind of sustainability assessment to regional shopping centers in the UK, Husam Al-Waer, an architect and lecturer at the University of Dundee (UK), has been investigating how current sustainability assessment tools could better address the triple bottom line (Al-Waer et al 2008). He has also been a spirited ambassador of this emerging holistic mindset at conferences and universities around the globe. With David Kirk, head of Town and Regional Planning at the University of Dundee, Al-Waer has examined how well each of the world’s 23 most widely used sustainability assessment tools relate to truly integrated sustainability (Al-Waer and Kirk). The short answer is: Not at all.

Unfortunately the human element, place specificity, and urban scale have been largely neglected in the assessment tools surveyed. In addition, the current state of assessment tools is a hodgepodge of methods and varied agendas. LEED (Leadership in Energy and Environmental Design, developed by US Green Building Program) favors sustainability in materials and energy, while marginalizing water concerns. Green Star (AUS) favors energy and water, virtually ignoring pollution. Many assessment tools entirely dismiss concerns that figure prominently in others. Few function well outside of the country in which they were designed, or at the scale where they might prove most useful, that of urban planning projects. “Of more than 650 sustainable building assessment systems,” Al-Waer asserts, “you can count the number that are applicable at the master planning scale on your hands” (Al-Waer 2011a). Most of the systems rate the sustainability of buildings only before they are occupied.

To remedy this, Al-Waer developed the Sustainable Built Environment Tool (SuBET), a unique framework for assessing the sustainability of urban landscapes at all scales, in partnership with Derek Clements-Croome of the University of Reading (UK) and...
engineering firm Hilson Moran. SuBET brings a holistic dynamic to assessing sustainability, combining typical concerns including energy efficiency and carbon reduction with community participation and sustainable place-making (Hilson Moran 2010). SuBET includes an “engagement initiative,” bringing stakeholders together to build the assessment to suit a particular project and place. It also considers social and economic sustainability and evaluates the extent to which a building provides “well-being” (Al-Waer and Kirk). In addition, “Offering a unique level of flexibility, the tool’s framework approach can be adapted to incorporate different countries’ requirements in terms of land, culture and climate” (Hilson Moran 2011).

The Sustainable Built Environment Tool (SuBET) is a unique framework for assessing the sustainability of urban landscapes at all scales.
Other sustainability rating systems typically define several indicators to be measured, and a client earns points toward a total score by increasing the use or number of sustainable features in their building. The amount of energy from solar panels, or the extent to which water-permeable paving is utilized, are common considerations, but the technological enthusiasm often obscure human dimensions. Few seek to evaluate “community cohesion” or “local prosperity,” as the SuBET framework does, due in part to the difficulty of measuring such indicators (Al-Waer and Clements-Croome 2010; Hilson Moran 2010).

Al-Waer contends, “Many other sustainability assessment tools are a ‘hunting point system’ [and] they are not transparent. It is not clear to the client why he is getting a particular score or where he has the opportunity to improve it” (Al-Waer 2011). For SuBET, he explains, “We used as many as 50 sources to develop some of the qualitative indicators. Even so, it’s difficult to determine a number for how well a client has performed in a subjective area like creating a ‘socially inclusive community,’ but it is possible to establish an acceptable level for each area through a consensus-based value judgment” (Al-Waer 2011).

This manner of defining and weighting indicators is one of the framework’s most unique features. The relative importance of 80 different scored areas is decided in a workshop that includes everyone involved in the building process. The meaning of each indicator is clearly explained, as well as how the process works, and what its goals are. Planners, architects, engineers, and most notably, members of the community affected by planning or construction, decide together how prominently each area will figure in the assessment’s calculation of an overall score for the sustainability of a project. These stakeholders also determine the benchmarks for each indicator, the maximum and minimum values which determine the most and least points a project can earn in an area (Al-Waer and Clements-Croome 2010).

In contrast, LEED determines the selection of indicators, as well as their relative importance, through a national network of architectural and construction experts. While LEED includes “opportunities for stakeholder comment and review,” this does not occur at the local level or in relation to specific projects (USGBC 2011).

By drawing upon local experts and the entire “community of practice,” as Al-Waer calls it, the SuBET final score for sustainability reflects the local culture and customs, and shows planners and architects where they have locally relevant opportunities for sustainable improvement (Al-Waer 2011). As a result, the framework is both internationally applicable and locally relevant. The framework also allows for comparison between planning and construction projects throughout the world, in contrast to most other rating systems that are specific to the values of a country or region. As the firm Hilson Moran describes it, the tool “integrates a much wider range of considerations into the master planning mix, including the influence of urban form on climate, energy, water and waste impacts. It analyses the varying impacts of urban makeup on employment, optimised land use and the development of multi-functional landscapes and
mixed-use centres. The details of street design and the creation of social hubs are integrated as crucial elements in the overall sustainability” (Hilson Moran 2011).

SuBET has been applied in a variety of contexts including a master-planning tool in Greenwich (UK), Riyadh (SAU), and Milan (ITA), and as a guideline in developing a proposal for an architectural competition in Riyadh. In each instance, the process is adjusted to continually refine and update it (Hilson Moran 2010). In the future, Al-Wear and Hilson Moran plan to expand SuBET’s applicability by integrating the software component of the tool with the ArcGIS program, the ubiquitous planning and geographical information system. “At the end of the day,” says Al-Waer, “true sustainability is about altering behavior …. We should be working toward ‘integral urbanism,’ not ‘sustainable urbanism’” (Al-Waer 2011).

References


Identified by the United Nations’ 2005 World Summit as the three pillars of sustainable development (UN 2006).

SuBET is © Copyright of Hilson Moran Partnership Ltd, Dr. Husam Al Waer of Dundee University and Professor Derek Clements-Croome of Reading University.