Editorial

Integrating novel methods and technologies into the planning for sustainable urban development

The fast-evolving development trends around the globe pose many challenges to professionals those who involve in the making of built-environments for human habitat. Amidst hard and painful experiences that they bring in, these challenges also provide numerous opportunities for us to thrive knowledge and skills when we are ready to face them with a clear mindset and focused attention to the problem situations. This is important because we are overwhelmed with a myriad of information flows and rattled fields of conflicting forces and limited capacities to manage them. Christoper Alexander, from his early works, has highlighted the need of the design professionals to first trace the (design) problem to its earliest functional origins and be able to find some sort of pattern in them, in order to turn a problem situation into form (that resolves the problem). Unlike laymen those who respond to situations intuitively, professionals involve with problem situation with self-consciousness and therefore, they should have the ability to make explicit maps of the problem's structure, and to invent a conceptual framework for such maps (Alexander, 1965). In that sense, knowledge and skills that enables to capture relevant information and to comprehend patterns reflected in such information is not an option, but an all-time necessity to panners, architects and the other professionals engaged with human habitats to deal with complex problem situations. Novel methods associated with advancing technologies and the integration of widely accepted concepts of sustainability provide needy support towards such endeavor. This issue of Bhumi presents four research papers supportive of this statement.

In planning, stakeholder consultation is widely acknowledged as a good practice and in many occasions, it is a mandatory requirement. Statutory provisions, volumes of advocatory literature and numerous case studies provide a whole gamut of knowledge from around the world, but the current practices have yet to bring in the desired level of benefits of stakeholder consultations, as they are constrained by both technical and ideological limitations. The use of Artificial Intelligence (AI) may be a worthy attempt to capture human responses in an interactive manner, avoiding personal differences and unnecessarily biased interpretations. The AI based Chatbot exercise for public consultation, presented in the first paper can be regarded as a sign of new area of knowledge developing in the field of urban planning and built environment. Even though the study presented therein is at an early stage of its development, it provides many insights into possibilities that remains unexperimented.

Environment related concerns are increasingly highlighting their importance in modern day urban developments. It is phenomenal that rapidly growing urban areas are also sites for highly sensitive and critically important ecosystems. The juxtaposition of the demand for development and the environmental sensitivity in many urban peripherals necessitates planners to negotiate between the economics of best use and the values of conservation of lands that are in demand for urban development. Important with this regard is the thorough assessment of the situation of the lands earmarked for urban expansions. The second paper of this issue on the assessment of the environmental sensitivity of the coastal zone in Negombo town in Sri Lanka provides an example for an adoptive framework for this purpose.

Residential condominiums are inevitable commodity of the emerging urban developments around the globe. The demand for residential units is determined by many aspects, among

which the availability and the proximity to public amenities has been identified as vital and evidently play a significant role in market dynamics of property development in any context. Literature is not scare on conventional statistical methods such as correlations, regression models, factor analysis, etc., to identify the impact of various aspects of amenities on condominium prices, but modern methods such as machine learning, are novel to the field. Many scholars are ambitious of the competence of modern technologies such as machine learning, virtual reality and artificial intelligence, to capture important information and identify the subtle behaviors of urban dynamics with a higher precision than the conventional methods, even though it is too early to make definitive judgements. The third paper on residential condominium prices and the impact of public amenities is one attempt to justify the virtues of machine learning.

Sustainability is a global concern in every field of studies and sustainable practices are regarded as sino-qua-none in almost all professional engagements today. The construction industry, which leads urban development in any part of the world, is also responsible for a major share of sustainable development quest because of its high contribution to carbon emissions, environmental degradation, and righteous labour. Considering as many as possible aspects of sustainability for the evaluation of the feasibility of a construction project at the inception will be a way forward towards a better contribution towards sustainable urban development, according to the fourth paper presented in this issue.

In this manner this issue comes with a variety of the contents in the four papers; use of technological advancement in community consultation, mediation for environmental conservation and development, using novel methods to understand the impact of amenities on residential condominium prices, and sustainability aspects in the assessment of feasibility of construction projects. Yet, they all have touched nuances of the current discourse on technological advances to address sustainability issues.

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