Embracing New Construction Technologies by Sibani Sarma

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By Sibani Sarma

India is known as a land of opportunities; leads for those people who want to contribute their efforts in providing better quality affordable housing solution for common man. With such a high density of people in urban areas along with huge pressure on natural resources; it is a pertinent to provide affordable housing without reducing on sustainable approach towards environment.

Driven by improving urbanisation, rising incomes and decreasing household sizes, the residential demand in India has been on an upswing over the past few years. The Working Committee of the 11th Plan (2007-12) has concluded that the total shortage of dwelling units at the beginning of Eleventh Plan Period i.e. 2007 was 24.7 million with more than 70 per cent of the shortage of dwelling units is for middle and low income brackets. Unfortunately this figure is often overlooked by development agencies because of lower profitability as the construction cost of buildings built from conventional construction technologies is very expensive and affordable housing doesnâ€™t generate better returns for these agencies.

At present, our construction system is outdated and time consuming; since it takes long time to construct a building due to old and conventional techniques, the overall overall price of progression goes up which ultimately is borne by developers who ultimately have no choice except escalating the price of property; thus these properties are seldom affordable to people.

Solution to the above problem is development of a faster, more highly efficient, and sustainable technology to address Indiaâ€™s affordable housing shortage, one that could stimulate large scale industrialization of prefabricated technology in the housing industry. The major cost benefits of prefabricated structures derive from the speed of construction and the optimisation of raw material. Integrated engineering design and detailing enable prefabricated buildings to be erected at a fraction of the time than a conventional building. These time savings contribute to lower interest during construction and have the advantage of commencing commercial activities far earlier. The optimisation of raw material reduces the material cost of the building, and the lighterweight of the structures brings about significant savings in the foundation cost. Avoiding complexities, a pre engineered concrete building efficiently replaces conventional methodologies of constructing a building. Thus, with these modern methodologies, large buildings do not require years for construction and finishing.

The low cost construction technologies can be used in several affordable mass housing schemes such as Rajiv Awas Yojna (RAY) that have already been undertaken for urban areas. This beneficiary of this scheme is entitled to the financial assistance of Rs. 45000~ $1,000for the construction of house. In order to construct house at such a nominal cost requires an innovation breakthrough in construction technology. All over the world efforts are being made to design a house which is liveable, sustainable and involves low cost of construction. Recently, students in Massachusetts Institute of Technology attempted to design a low cost affordable house for people. They named this project as â€œ1K house.â€•

Projectwell Management Pvt. Ltd. along with the worldâ€™s renowned architecture firm KieranTimberlake proposed India Concept House (ICH) which is affordable, solid, sustainable, and quick-to-erect housing solution for Tier II and Tier III cities in Indiaâ€™s composite climate zone. The ICH addresses a new market, one that pairs a shortage of 19.4 million housing units with the need for sustainable growth. This is a single dwelling unit house in sizes of 38, 68 and 98 SqM, which are

modular, built from manufactured panels, with integrated services components like electrical and plumbing. The components of ICH include a wall panel, door panel, window panel, partition wall and roof plank. These components use precast concrete technology, designed to be factory made and assembled on site.

Thus, changing conventional technology to new quick-to-build technology in construction industry is the need to this hour and developers have also now started experimenting with these technologies. It is important to embrace these new technologies to projects in order to fill the housing gap in urban areas.

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