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Problems and prospects of building regulations in Shimla, India – A step towards achieving sustainable development

Ashwani Kumar^{a,*}, Pushplata^b^a Department of Architecture and Planning, Malaviya National Institute of Technology, Jaipur, India^b Department of Architecture and Planning, Indian Institute of Technology, Roorkee, India

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Abstract

The physical form and pattern of built environment in a city is the outcome of prevalent planning and design standards and building regulations. Many common issues of built environment are the consequence of existing building regulations in that settlement as building regulations are borrowed from other cities and adopted from one place to another across the country. Building regulations are mostly specified for various uses and apply to the particular size of a plot in India, generally, irrespective of the shape and topography of the plot. As a result, often while complying with the provisions of one regulation will lead to noncompliance of provisions of other regulations. This further aggravates the problems of noncompliance with the existing building regulations and often results in unauthorized development and enormous environmental impacts. An attempt is made to understand different issues associated with building regulations of Shimla. Further, the effects of plot proportions on the compliance of building regulations are also studied in the case of Shimla, being the largest hilltop town of northern India on ecologically sensitive topography.

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Keywords: Building regulations; Hill towns; Shimla; Plot proportions; Haphazard growth

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* Corresponding author.

E-mail address: ashwani.patiyal@gmail.com (A. Kumar).

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1. Building regulations: an overview

Building regulations are formulated and enforced with an aim to protect public health, safety, and general welfare, and the environment. Presently, these are the means by which development authorities can control the use of available land resources, buildings, infrastructure facilities to ensure proper spatial organization and environmental protection in the city (Ley, 2000). These also provide the necessary framework and statutory regulations for planning, design and construction of buildings and associated works, provisions for rendering safety of dangerous buildings and lands, and provision for matters connected to enforcement and approval authority (Gann et al., 1998; Hui, 2001). Built environment of an area is an outcome of enforced building regulations and thus, determine the pattern, built form, and character of a city.

In general, building regulations that are enforced in different countries/states/cities can be classified as, prescriptive building regulations and performance-based building regulations. Prescriptive building regulations are the oldest type of modern building regulations, which have their origin in the nineteenth century, and are simplest in terms of understanding, adoption, implementation and inspection/monitoring. These regulations focus on regulating the development through various legislated regulations related to volume, height, size, material specifications for building components and sometimes building aesthetics (ASCI, 2011). Different prescriptive building regulations are based on use/functional requirement of plot/area/zone as mentioned in the master plan or development plan. These rules can be enforced either at town level or zone/area level or site level depending upon the type and level of enforcement required and regulatory approach. The prescriptive approach worked well in the past when the level of sophistication of the use of the code was relatively small and when construction technology and social needs were changing very slowly. However, these are being combined with or replaced by performance-based regulations in different countries. Performance-based regulations require certain performance criteria to be met such as the overall strength of the structure, the level of insulation, energy efficiency, etc. (Gann et al., 1998).

Many issues of built environment in urban settlements are the consequence of prevailing building regulations in that settlement. These building regulations have been copied and adopted from one place to another across the country; and have an enormous impact on functioning, character, quality, safety and image of a settlement (Joseph, 2004). The scenario is worse in developing coun-

tries as, less than half of the urban population in developing countries can afford to build according to the prevailing standards (Yahya et al., 2001), this highlighting the need to reform/change the existing regulations/standards in developing countries like India.

2. Building regulations in India

Indian municipal legislation drew the spirit and content from the British municipal legislation that gave powers to local authority to formulate regulations and to exercise control over their adherence (ASCI, 2011). In the present context, the central government prepares guidelines, model laws and building codes, which act as suggestive documents to facilitate or guide the formulation of legislation in different states related to development. Various state governments are responsible for legislation related to development including building regulations. The power to formulate building regulations is delegated to local governing bodies like municipalities, development authorities and town planning departments by respective legislative bodies of states. These urban local governing bodies formulate building regulations for areas/zones within their jurisdiction, as per provisions specified in municipal legislations/acts of local government or development authority or the municipal acts of state governments. It is facilitated by the rules made under standard municipal law/act for the State, which also covers those urban areas that do not have separate building bye-laws (ASCI, 2011).

Development pattern and urban form of the cities/towns in India is regulated through prescriptive building regulations, which are robust and rigid (Sridhar, 2010), but are poorly enforced and monitored. The impacts of these building regulations are clearly reflected in the natural environment, type and pattern of development, urban infrastructure- its spatial allocation and distribution, urban built form and streetscape and overall townscape (Singh, 2010; Kumar, 2015).

Building regulations enforce in different towns and cities in India are mostly inspired from National Building Code, various IS Codes, Model Building Byelaws (prepared by Town and Country Planning Organisation, Government of India), and Delhi Master Plan(s). As per Indo-USAID FIRE (D) Project (2005), Building regulations enforced in Delhi have many inherent issues like, rigidity and uniformity. Similar issues are reflected in building regulations of other towns, where building regulations have been framed on the basis of building regulations of Delhi irrespective of their peculiar geo-environmental, social, cultural and infrastructural characteristics (Kumar and Pushplata,

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