
Preface

Recent societal transformations have given rise to the need to rethink community and dwelling design. Climate change, aging populations, persistent economic challenges, and new lifestyle trends are some of the factors that bring about an urgent need to plan different neighborhoods and homes.

The catalyst for such changes is also the realization that the development practices that prevailed after World War II, primarily in North America, had been overly wasteful. Such practices led to the consumption of vast amounts of agricultural and forested land, made commuting by fuel-consuming and polluting vehicles more common, and used ample valuable nonrenewable natural resources during the construction and after the occupancy of sprawling homes. It has become abundantly clear that this development path and consumption rate is unsustainable. If continued, future generations will lack the resources to support their own development needs.

Neighborhoods must be regarded as a vital block of society. Their successes will often determine how well a city and even a country will perform. Therefore, the need to include a social perspective in their conception needs to be a part of the planning process. In addition to economic successes and environmental considerations, a mark of a successful neighborhood will be an enriched web of social relations between residents, which serves as another mark of sustainability.

To reverse the current development trends and to achieve many of the goals that contribute to sustainable living, one needs to closely examine the notion of density. When more people live in closer proximity to one another, various services and amenities such as public transit become economically viable. Higher densities are not easy to introduce in places where people are accustomed to single-family homes on large lots. The challenge then becomes how to have higher densities while maintaining the basic draws of lower-density developments such as privacy and open spaces.

This book offers strategies for community design based on sustainable principles. The scale looked at here is that of a place whose size may vary according to location, yet it houses between 10,000 and 20,000 people. The first chapter sets the stage for the ones that follow by describing the roots, evolution, and ramifications of past developments, offering background and casting principles of sustainable development, listing key players in residential development and their potential contribution to attaining sustainability. Chapter 2 outlines principles of places whose

density exceeds 25 units per acre (10 units/ha). It offers yardsticks, forms and planning strategies for denser communities, introduces methods of waste management and district heating, and illustrates those principles using a design of a community.

Chapter 3 looks at how mobility and connectivity in neighborhoods can be planned to render a place more sustainable. By challenging conventional road design and parking standards and by examining how these can better accommodate everyday social interaction, healthy life style, and cost reduction, the chapter aims to introduce guidelines for creating residential streets and parking areas that serve multiple purposes. Chapter 4 offers a guide on how natural attributes should be considered and integrated to support development of sustainable neighborhoods. The subjects include ground related elements, aspects associated with the climatic conditions of the area and a demonstration project.

Higher-density communities are commonly perceived by the public as places with reduced public open spaces. Yet, when properly designed, such projects can have a variety of well-thought out outdoor places that address the recreational needs of all dwellers. In addition, the function that those spaces play and their physical arrangements and locations influence their success, and the character of the neighborhood. Chapter 5 focuses on streetscapes and open and edible lands as a means of defining the aesthetic, social qualities, and the sustainability of a community.

Chapter 6 discusses the desire for public reclamation of the water's edge and proposes sustainable design practices that meet the demands of near-shore residents without compromising public accessibility and enjoyment. Specific techniques elaborate the philosophies for preserving shoreline integrity and present strategies for sustainable form development. The chapter merges community and development objectives to produce holistically liveable shorelines.

Chapter 7 begins by discussing issues related to social capital and focuses on incorporating nonresidential spaces and activities into neighborhoods. By investigating traditional living patterns, the chapter aims to offer strategies for creating mixed-use transit-oriented neighborhoods. Chapter 8 focuses on the dwelling and begins by listing social transformations and applicable solutions that respond to the newly emerging needs in a sustainable way, lists architectural strategies for dense contemporary living, describes methods of construction for energy conservation, and the design of a multiunit demonstration structure for flexibility and adaptability.

This book is meant to bridge a gap between theoretical notions of environmental sustainability in community design and link them to practical examples. It is the hope that the outcome of this text will help guide current urban development practices to a more sustainable course.

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