PREFACE

The building and construction activities worldwide consume three billion tons of raw materials each year or 40 percent of total global use. The manufacturing process of building material contributes to Green House Gases such as CO_2 to the atmosphere to a great extent, which has adverse effects on the natural environment. Therefore, there is a great concern and necessity in reducing the GHG emission into environment in order to control adverse ecological effect. Considering the devastating effect of climate change it has now become crucial to reduce the magnitude of these problems by constructing 'Sustainable Buildings' that ensure basic living requirement without imposing stress on non-renewable resources. These buildings should be cost effective and time-efficient, while also being environmental friendly with maximum use of 'Sustainable Building Materials'. In the rapidly changing scenario of building sector, planners, architects, engineers and builders should search for new materials and technologies to adopt in future constructions that benefits like energy efficiency, resources and water conservation, improved indoor air quality, life cycle cost reduction and durability. Therefore, to attain these objectives, application of the latest advancements in various technologies including developments in material science, use of environment friendly building materials, obtaining energy efficiency while producing such materials are of prime concern. In today's contemporary architecture, the key challenge is to choose materials that can reduce burden on the environment. To reduce the energy consumption in buildings, a sound knowledge and understanding of operational and embodied energy of the building materials are essential. Using sustainable building materials promotes conservation of dwindling nonrenewable resources internationally. In addition, integrating sustainable building materials into building projects can help reduce the environmental impacts associated with the extraction, transportation, processing, fabrication, installation, reuse, recycling, and disposal of these building industry source materials. This special volume on 'Sustainable Building Materials and Materials for Energy Efficiency' contains of thirteen articles which are dedicated to a wide range of issues pertaining to building materials with reference to their energy efficiency and sustainability.